

## XINJE

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CANOPEN Ethernet XS Studio Ether Eth









# 2024

## All products catalog

PLC | HMI | Integrated controller | Industrial informatization | Servo system | Frequency inverter | Stepping system | Vision system

## **Company Introduction**

COMPANY INTRODUCTION

XINJE Electric Co., Ltd. is a prestigious company in China Mainland who dedicates to design, develop and manufacture the automation products and application systems.

Since its set up, the company insists the purpose of innovation, quick response and complete solutions to improve the enterprise competitiveness. Years of efforts get us numbers of patented technologies, which also help us to win many honors from government. They are High-Tech Enterprise Certificate, Leader of Innovation Enterprise Certificate and so on. We are also authorized to be Industrial Key Project Enterprise, Engineering Technology Research Center.

The company offers complete products line which covers PLC Programmable Logic Controllers, HMI Touch Panel Monitors, Servo Control Systems, Frequency Inverters, Vision Machine System, Robot Arms, Network products, etc. We make total automation solutions for customers. In this way, we help customers to improve their productivity, reduce production costs, maximize their profits, and promote their company's value. We XINJE Electric always grow together with our customers.

Up to now, XINJE Electric has more than 32 branches in China and more than 300 agents in China. We also have 1 branch in Germany and more than 20 distributors overseas. We sell our products all over the world, such as Europe, America, Asia, the Middle East and Africa etc. XINJE Electric has more than 2100 employees. The office building covers an area of 20000m2 and multiple factory buildings cover an area of 71000m2. We also have one R&D center, 4 laboratories, 42 training base. Our company cooperates with a number of universities in China, we established the University - XINJE Laboratory to train the technical engineers.

XINJE was also successfully listed at the Shanghai stock exchange in December, 2016. Our stock code is 603416. With the business philosophy of Innovation, Quality, Service, the company keeps developing and designing much qualified and reliable products, we aim to be a global automation solutions provider. We are committed to build a golden brand reputation in the industrial automation field.

32

BRANCHES

300 DOMESTIC 2100+

20000+

FLOOR AREA
OF OFFICE BUILDING

71000+

FLOOR AREA OF MULTIPLE INDEPENDENT FACTORY BUILDINGS



## Catalog

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# PLC

I<sup>2</sup>C·PLCopen·Small-sized·Medium-sized·Slim type

## **PLC Overview**

XS series [PLCopen standard controller]



XS series PLCopen standard controller, developed based on CODESYS platform, has two platform architectures of X86 and ARM, which can meet users requirements for high-speed and low-speed computing in various occasions.

XA series [Industrial intelligent controller]



XA series industrial intelligent controller, based on X86 high-performance processor, optimizes multi-core scheduling, and its motion control calculation is far more powerful than that of similar competitors. It integrates motion control, machine vision, HMI, information technology, and provides integrated and intelligent system solutions.

## 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.

## PLCopen standard controller

## XSA series, based on X86 platform architecture



### | Powerful basic functions

- Intel processor is selected, with the main frequency of 2.4GHz, the minimum execution time of instructions is as low as 5ns, and the minimum execution time of floating-point operation is 9ns.
- It is equipped with 2-channel encoder and 2-channel high-speed counting, which can carry out single-phase and AB-phase high-speed counting.
- Support multiple communication protocols including Modbus-TCP, TCP/IP, UDP, Ethernet/IP, OPC\_UA, etc.
- With SCADA screen, built-in super capacitor and UPS.
- It has 128M user program capacity, 128M user data capacity, and 6M power-down retention capacity.
- Two independent communication interfaces RS485 and RS232 facilitate communication with traditional equipment.

### | Superior EtherCAT control function

- The XSA330-W supports up to 64 nodes, and the synchronization cycle can reach 32-axis/1ms, 48-axis/2ms, and 64-axis/4ms.
- The XSA530-W supports up to 256 nodes, and the synchronization cycle can reach 64-axis/500us, 128-axis/1ms, and 256-axis/4ms.
- Based on EtherCAT bus IO, it can access DI/DO expansion and analog acquisition expansion.
- It supports complex motion control functions such as axis group motion (three-axis straight line, arc, spiral interpolation), electronic cam, follow cutting, fly cutting, CNC, robot, etc.

## XSDH/XSLH series, based on ARM platform architecture



## ■ High-speed operation

The main frequency of the main processor is up to 1GHz (800MHz for XS3), and the minimum execution time of instructions is as low as 33ns (42ns for XS3).

## High speed counting

The basic unit is equipped with 4-channel high-speed counting, which can carry out single-phase and AB-phase high-speed counting

### Abundant internal space

32M user program capacity, 32M data capacity, 6M power-off holding capacity.



## Rich extensions

The basic unit supports 16 different types and models of expansion modules. Through EtherCAT bus IO, DI/DO and AI/AO expansion modules can be accessed.

## ■ Multiple communication ports

Basic unit has RS232, RS485, LAN port, which can connect a variety of external devices. The LAN port supports access to LAN, EtherCAT communication, CANopen communication (only

## ■ Rich programming methods

Six programming languages that support the PLCopen

## **XS Studio**

XS Studio is a programming and configuration software for XS series developed by xinje based on CODESYS V3.5.

It integrates PLC programming, visual HMI, safety PLC, controller real-time core, field bus and motion control functions, provides a complete set of configuration, programming, debugging, monitoring environment, and can flexibly and freely process powerful IEC language.



## I<sup>2</sup>C Industrial intelligent controller

## Integrating motion control, machine vision, **HMI** and information

The I<sup>2</sup>C series industrial intelligent controller is based on the X86 platform and adopts Intel high-performance processor. It can integrate motion control, machine vision, HMI, and information functions to provide users with integrated and intelligent system solutions.



## | Highlight advantages

#### High performance

• Based on the X86 high-performance processor, it optimizes multicore scheduling, and its motion control computational power is far superior to that of its peers.

#### Motion control

- It supports EtherCAT bus and can access up to 256 axes with a minimum synchronization period of 250us
- Support complex motion control such as axis group motion (threeaxis straight line, arc, spiral interpolation), electronic cam, follow cutting, fly cutting, etc.

#### Communication mode

• Abundant interface types, including RJ45, CAN, RS232, RS485, I/O, display interface, support Ethernet communication, EtherCAT bus, Modbus communication, etc., and can also access digital and analog value through EtherCAT bus IO.

#### Efficient programming

• It is compatible with Xinje XDPro programming software and supports POU programming mode, which can significantly improve the users programming efficiency.

## | Application area

The I<sup>2</sup>C controller integrates machine vision, robot platform and PLC control, replacing the original industrial computer (vision)+robot controller+PLC electrical configuration with only one I<sup>2</sup>C controller, which greatly saves costs, reduces maintenance difficulties and improves equipment integration.

Facing the advanced manufacturing field and traditional industries with complex processes. Integrate motion control, machine vision, HMI, information, etc. to provide integrated and intelligent system solutions.



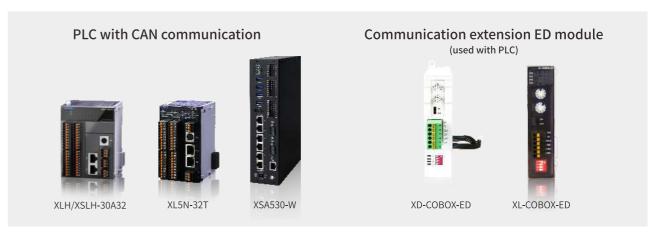




## CAN bus communication

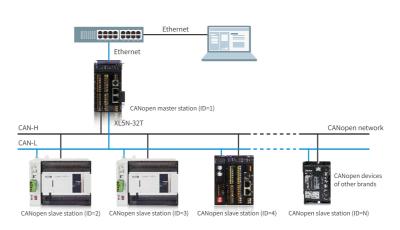
## Fast networking, simple wiring and strong anti-interference

CAN bus is a field bus commonly used in industrial control. At present, standards have been established in a wide range of industrial communications, such as mechanical engineering, drive systems and components, medical equipment, building automation, vehicles, etc.



### Network topology

XD/XL/XS series PLC needs to be used in conjunction with CANopen communication modules XD-COBOX-ED and XL-COBOX-ED when accessing CANopen network. This module can be used as the master station of CANopen network or as a slave station.



### | Communication specification

Item	Specification
Transmission mode	CAN
Electrical isolation	500VDC
Transmission cable	Two communication cables, one shielding cable and one grounding cable
Information type	PDO, SDO, SYNC, Emergency, NMT
Serial transmission rate	10 kbps~1 Mbps
Communication distance	10m~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/XLH-30A32 are equipped with  $120\Omega$  terminal resistance dial switch to enhance the reliability of CAN communication and eliminate the reflection interference of CAN bus terminal signal.

#### Communication nodes

Support up to 64 nodes. When 1M communication rate is adopted, the maximum distance between nodes is 10m.

#### Simple wiring

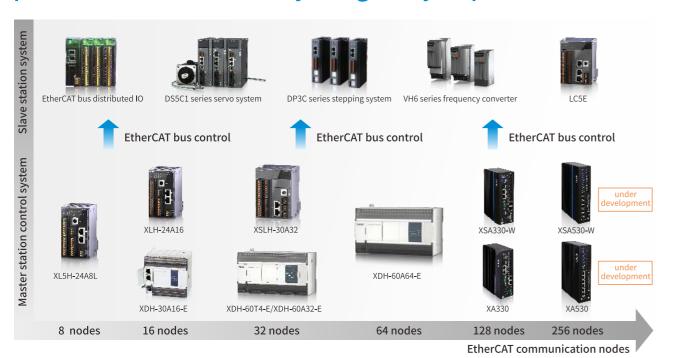
When accessing the CAN bus network, the linear topology is adopted. The communication can be established by connecting the CAN\_H terminal to CAN\_H and the CAN\_L terminal to CAN\_L.

#### Heartbeat protection

The power-on slave station periodically sends a message called heartbeat, so that the master station can confirm whether the slave station is faulty or disconnected 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 offline, and the error indicator will flash twice.

## 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 1ms below 32 axes.

\*Note: It is recommended that users use the industrial Cat6e network cable, which can also be purchased from our company.

#### Accuracy and reliability

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

#### Communication nodes

Up to 256 nodes communication is supported in an EtherCAT bus control system.

## 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.

#### Openness

EtherCAT is an open real-time Ethernet communication protocol. Any slave equipment probe function, position, speed, torque and other control modes, and is widely applicable to various industry applications.

#### The wiring is simple and low installation cost

Thanks to the simple linear structure of EtherCAT, EtherCAT control system does not need hub and supporting standard EtherCÁT communication switch, the wiring is very simple, the installation cost protocol can communicate with XDH, XLH, XG2, is low, the number of engineering design and XS series, XA series. It supports 2-channel touch drawings, the engineering time for laying cables and hardware management documents are reduced.

## Communication specification

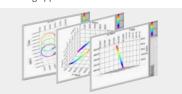
Item	Specification
Physical Layer	100BASE-TX(IEEE802.3)
Baud rate	100[Mbps] (full duplex)
Topology	Line
Connection cables	JC-CA twisted pair
Cable length	Max 100m between the nodes
Communication port	RJ45
Cyclic time (DC communication cycle)	500,1000,2000,4000[ µ s]
Communication object	SDO[service data 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 256 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, 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

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



#### 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.

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

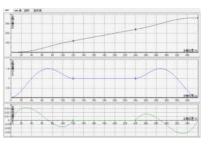
A\_PLSF, A-DRVI, A\_DRVA, A\_PLSR, A\_FOLLOW, A\_ZRN are added to the single axis motion control command, which perfectly inherits the writing habit of the PLC pulse axis motion control command, which is convenient for users to quickly understand the application.

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#### Electronic CAM

EtherCAT bus control

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.

#### Stator inner winding machine

The equipment adopts XDH series PLC to complete the control of 6 stations and 10 DS5C 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.



#### ■ 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

### \_

Bus distributed IO

## ntegrated controller

Industrial formatization

system

Frequency

Steppin

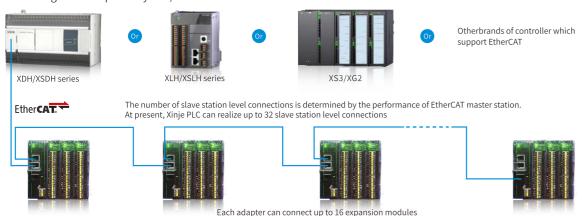
Vision

## 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)
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

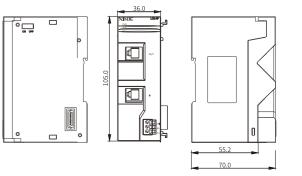
Model	Description
LC3-AP	EtherCAT communication adapter

#### ② Accessory

- ,	
Model	Description
XL-ETR	Terminal resistance. When the external expansion modules are greater than or equal to 5, the terminal resistance module XL-ETR 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.

## | Dimension (unit: mm)

#### LC3-AP



#### ③ XL series module

3 AL Series Illoud	ile			
It	em	Description		
NPN type	PNP type	Description		
XL-E8X8YR	XL-E8PX8YR	8 channels digital input, 8 channels relay output		
XL-E8X8YT	XL-E8PX8YT	8 channels digital input, 8 channels transistor output		
XL-E16X	XL-E16PX	16 channels digital input		
XL-E16YR		16 channels relay output		
XL-E16YT		16 channels transistor output		
XL-E16YT-A		16 channels transistor output, horn terminal structure		
XL-E32X	XL-E32PX	32 channels digital input, European terminal		
XL-E32X-A	XL-E32PX-A	32 channels digital input, horn terminal structure		
XL-E32YT		32 channels transistor output		
XL-E32YT-A		32 channels transistor output, horn terminal structure		
XL-E16X16YT	XL-E16PX16YT	16 channels digital input, 16 channels transistor output, European terminal		
XL-E16X16YT-A	XL-E16PX16YT-A	16 channels digital input, 16 channels transistor output, horn terminal structure		
XL-E4AD		4 channels analog input (14-bit), current/voltage optional		
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-E8AD-A-S		8 channels analog input (16-bit), current bipolar input		
XL-E8AD-V-S		8 channels analog input (16-bit), voltage bipolar input		
XL-E4DA		4 channels analog output (12-bit), current/voltage optional		
XL-E4PT3-P		4 channels PT100 temperature measurement, with PID function		
XL-E4TC-P		4 channels thermocouple temperature measurement, with PID function		
XL-E1WT-D		1 channel pressure measurement, -20~20mV, 23-bit conversion precision		
XL-E2WT-D		2 channels pressure measurement, -20~20mV, 23-bit conversion precision		
XL-E4WT-D		4 channels pressure measurement, -20~20mV, 23-bit conversion precision		

Ethernet communication

## Ethernet communication

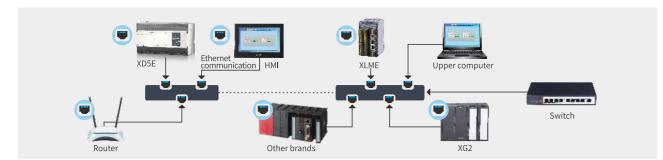
## Easily build industrial intelligent network

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.



XSDH	series	man v de
XSLH	series	
XSA	series	





### ■ Support access to multiple protocol devices

#### MODBUS-TCP, TCP/IP, UDP protocol

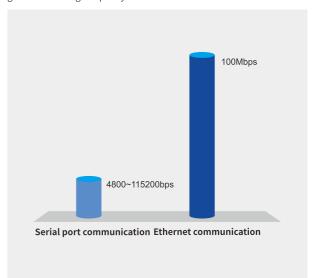
When PLC is the master station, it can establish communication with 32 Modbus-TCP or TCP/IP slave stations and 32 UDP slave stations at the same time for data interaction.





## ■ 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, highspeed and stable Ethernet networking also provides a strong guarantee for high-capacity data interaction.



## ■ Support access to XINJE Cloud

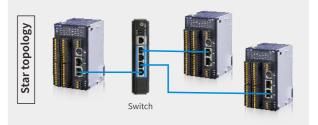
After the remote communication function of Ethernet PLC is enabled, the device can be added in Xinje Cloud to realize the functions of remote data monitoring, data storage, data analysis and so on.



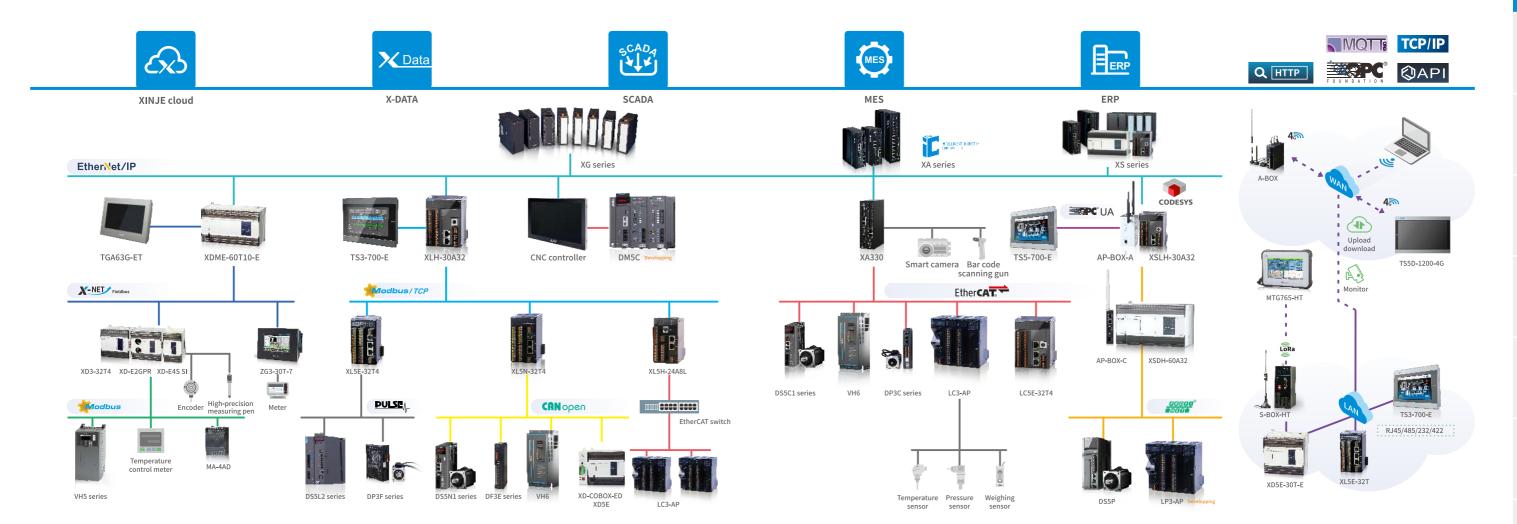
## ■ Flexible network topology

Support linear and star wiring, with high wiring freedom





## Integrated network structure diagram





#### **Testing equipment**

#### Packaging equipment

### Robot (multi-joint)

#### Workshop general control

## Weighing equipment

### Grinder equipment

#### Remote equipment monitoring

Integrated network structure diagram



Food processing













#### X-NET fieldbus

Xinje XL/XD series PLC supports X-NET fieldbus. It has the advantages of intelligence, digitization and strong stability. The maximum speed can reach 3M. It has the advantages of simple design, convenient wiring and easy reconstruction.

#### Modbus

It supports standard MODBUS serial port communication, can be easily integrated with devices of various brands, supports free format communication, and can cooperate flexibly according to the actual situation on

### EtherCAT communication

EtherCAT communication is a real-time Ethernet used for open network communication between master station and slave station. It has more axes than the traditional bus system, shorter control cycle, high bandwidth utilization and more flexible system structure. EtherCAT communication is currently mainly used in XG2, XDH, XLH, XS series PLC and can be widely used in various

#### Canopen communication

Xinje PLC system can support CANopen communication, with fast networking, simple wiring, strong anti-interference and easy expansion. CANopen has established standards in a wide range of industrial communications, such as mechanical engineering, drive systems and components, medical equipment, building automation, transportation, etc.

#### Ethernet communication

It supports Ethernet communication protocol. Automation equipment is interconnected through Ethernet, which can easily form an Ethernet control system, break the island state of traditional industrial automation, have higher communication performance and realize a wide open network.

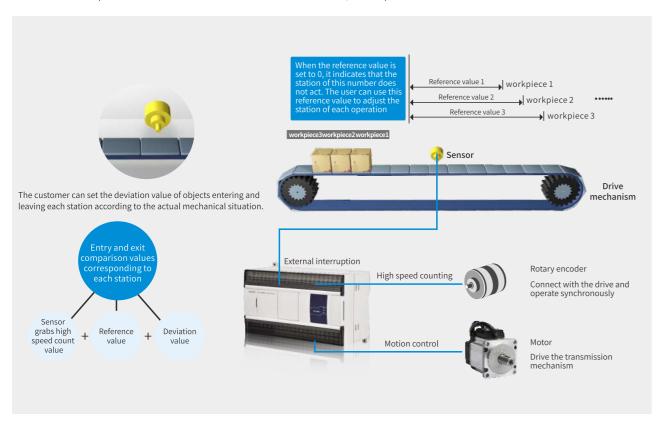
Rich specialfunctions

## Rich special functions

#### ■ MSC multistation control

Suitable model Punching equipment/labeling machine

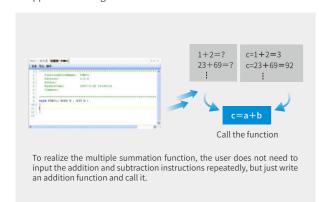
• Get the encoder value according to the trigger input, calculate and save the entry value and departure value of each station, compare the stored value of each workpiece of each station with the current value of the encoder, and output the result.



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

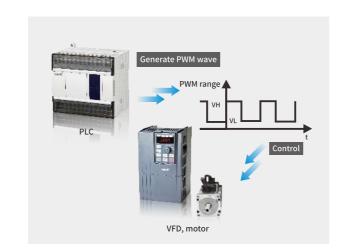
## ■ C language function block First in the industry

- 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
- Richer operation functions, including some functions supported by C language.
- Support local and global variables.



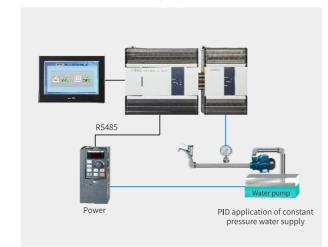
#### ■ PWM pulse width modulation

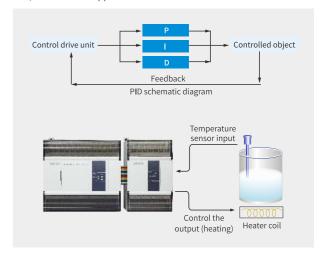
- Pulse width modulation can be realized by PWM command.
- The precision of pulse width subdivision can reach 1/65535.
- With this function, the frequency converter and DC motor can



#### ■ 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.





#### Precise timing

• TR instruction can realize accurate timing in 1ms, and the timing range is 1~2<sup>32</sup>. 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.

For example, in the application of filling machine, the filling capacity of liquid needs to be controlled by controlling the opening time of liquid valve. In order to improve the capacity accuracy of the liquid filled in the bottle, accurate timing can be used to control the opening time of the liquid valve.



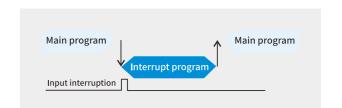
#### SD card storage Suitable model XD5(EXCEPT 16 POIN

- 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 capacity must not be greater than 32GB.



## ■ Interruption function

- XD, XL, XG 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

### | Positioning control

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



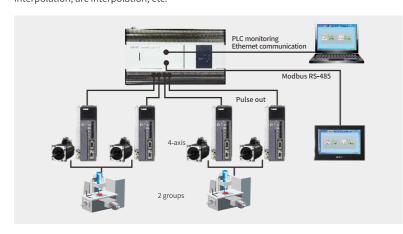
#### Application



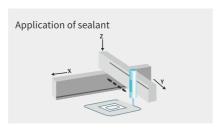


### | Motion control

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



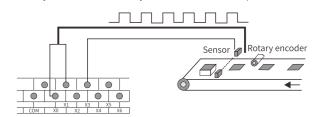
## Application



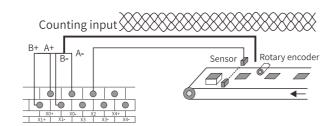


## | High speed counting input

PLC generally has 2 ~ 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

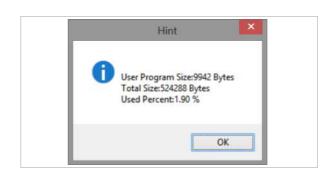
## ■ Flexible pulse function configuration

- 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



## ■ Calculation of program occupied space

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



## ■ IP adaptive function

 DPPro 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.



## 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.



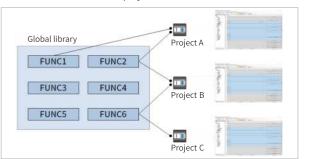
### Online download

- 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, XDH series, XLH series, XL5E-16T, XG2 series.



## ■ 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.

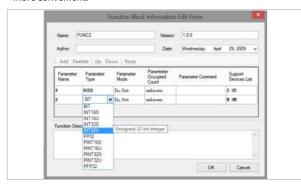


Programming software

## **XDPPro**

#### ■ 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.

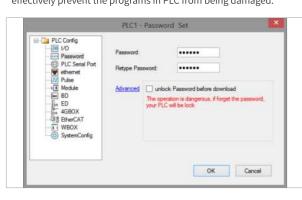


• The advanced saving function is added. You can choose whether to keep the program comments confidential. At the same time, using the advanced saving function can make the C function block written by the customer unable to upload, so as to enhance the confidentiality of the program.

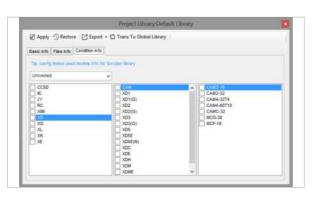
■ Multiple security functions



• 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.



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

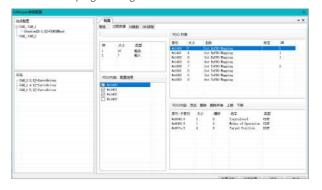


• In secret download mode, the PLC program will not be uploaded to protect the user's intellectual property rights.

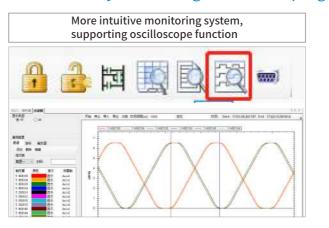


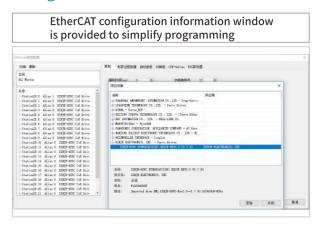
#### ■ CANopen system configuration interface

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



## ■ EtherCAT system configuration and programming interface





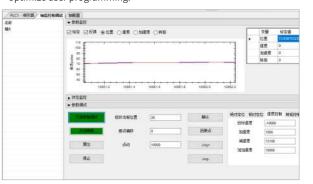
#### Axis complete configuration and monitoring function

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

PLC1 - Laider	Asis configuration					
The number of a	ses shown 11 🐧 Read = Write = System Sets	ings				
on 1	Basic configuration. Proba configuration	Link the configuration	Performance (ser	Apuration Deb	ection and alarm config	uration   Return t
uie 2	Parameter names	address	Office values	Online value	type	Parameter offec
alla S	- Staffige	SF08088	See and		ENUM	Power back on
els 6	- Command channel	SF06001	DRWCAT .		ENUM	Power back on
en 6	From the stand no.	5708062	0		RIT16U	Power tech in
49.7	-C ust	5F08003	pulse		BUM	Power back on
eis S eis S	Tumber of pulses per turn	5700004	8		MTSOV	Preser back on
ale 12	Exceder input port	9700000			MITTEU	Power back on
	- Quitty mode	SPD8087	to not enabled		DIAM	Power back on
	The arount of revenued per turn.	5F08088			F764	Power back on
	Start reduction goar	9708012	to not enabled		ENUM	Power tect on
	Side coefficient of gear reducer	5706014			MT320	Power back on
	- Side coefficient of reducer	5708816	8		NT320	Power back on
	- Creation of motion	5/04018	Do not reverse		ENUM	Power back on
	Position instruction Maring	5700019			NT16U	Power back on
	- Cauttype	SF08020	A streight line		ENUM	Power back on
	- Signer limit of rotation count	9700024			F764	Power back on
	Lower limit of rotation count.	SPERCOR	0.		F764	Power teck on
	- Sect psp compensation value	9708632			7764	Power back on

#### 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.



26

## **XDPPro**

### ■ POU function

#### Data type

• Standard data type list

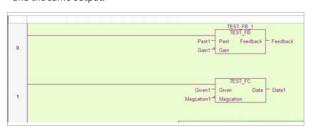
Data type	Type description
I ⊨ BIT	Bit (1 bit)
- BOOL	BOOL (8-bit)
SINT	Short integer (8-bit)
USINT	Unsigned short integer (8-bit)
INT	Integer (16-bit)
UINT	Unsigned integer (16-bit)
DINT	Dual integer (32-bit)
UDINT	Unsigned dual integer (32-bit)
LINT	Long integer (64-bit)
ULINT	Unsigned long integer (64-bit)
REAL	REAL (32-bit)
LREAL	Long real (64-bit)
BYTE	BYTE (8-bit)
WORD	WORD (16-bit)

• User data type calling

eststrbool1	bool1	-	
-mem0	BOOL		
-mem1	BOOL	100	
mem2	BOOL	-	
-mem3	BOOL	-	
- mem4	BOOL		
mem5	BOOL	100	

#### FB,FC

- Using encapsulated FB function block in programming can improve the efficiency of program development, reduce program errors and improve program quality.
- Function(FC) is an independently encapsulated program block. When a function is called with the same input parameters, the output result is the same. The important feature of the function is that its internal variables are static, there is no internal state storage, and the same output.



#### Variable monitoring

• You can drag the variable mouse in the global variable table into the free monitoring table. Reduce the operation steps in the process of debugging to facilitate data monitoring.

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Teather i						M Traper	Milk	810.	43
					STORES	\$100/7m	- 10	87	42
					RESIDEN	ME Thurlet	Male.	NIG	.42
					and the	M houtiget	No.16	80Q,	+2
						Mi torte	4	.87	82
					RESERVEN				

• User data type declaration



#### Instruction encapsulation

Timer, counter, motion control instruction encapsulation.

Classical instruction	POU instruction	Classical instruction	POU instruction
TMR	TMR_FB	DCNT	DCNT_FB
TMR_A	TMR_A_FB	CNT_D	CNT_D_FB
CNT	CNT FB	DCNT D	DCNT D FB



## PLCopen standard controller

Faster speed, stronger motion control ability

XS series PLCopen standard controller has faster operation speed, stronger motion control ability, and supports multiple programming languages, which can significantly improve the programming efficiency. The process library and instruction library continue to improve and upgrade, providing more solutions for customers and creating greater value.

#### | Function features

#### More types

• The XS series contains four sub-series XSA, XSLH, XSDH, XS3, with multiple appearances and richer use scenarios.

#### Higher performance

• Support up to 256 nodes (XSA530-W)

#### ■ Faster operation speed

• The main frequency reaches 2.4GHz, which can meet the requirements of high-speed operation. The minimum execution time of bit operation is 2ns, the minimum execution time of word operation is 2ns, and the minimum execution time of floating point operation is 2ns (XSA530-W).

#### ■ More communication modes

• Support multiple communication protocols including Modbus-TCP, TCP/IP, UDP, Ethernet/IP, OPC\_UA, etc.

## | System structure



### | XSA series

Based on the X86 platform, Intel high-performance processor, and the response speed is faster. The self-developed XS Studio programming platform, which can reference many standard function libraries, adopt the IEC61131-3 programming standard, support six programming languages (ST, SFC, FBD, CFC, LD, IL),

and develop Xinje proprietary function blocks, instruction libraries and system libraries, which can significantly improve user programming efficiency.

- 128M program capacity
   EtherCAT motion control
- ③ EtherCAT remote IO
- 4 Ethernet communication
- ⑤ Online downloading
- ⑥ Simulation function
- (7) With SCADA screen, built-in super capacitor and UPS



## | Performance specification

Product sei	ries XSA-		330-W	530-W			
Programmi	ing method		IL,LD,FBD,ST,SFC,CFC				
Program ca	apacity		128MB				
Data capac	ity		128MB (inclu	ide power-off holding 6MB)			
Power supp	ply		Rated vo	oltage DC24V			
	Total p	ooints	3	32			
	Input	NPN	16				
I/O	points	PNP	16				
	Output	Transistor	1	.6			
	points	Relay		-			
	Encoder	Single phase	2 chann	els (max 1MHz)			
High speed	sneed input	AB phase	2 channels (max 1MHz)				
input	OC input	Single phase	2 channels (max 200kHz)				
	OC IIIput	AB phase	2 channels (max 200kHz)				
Expansion	ability		Only support ECAT remote expansions				
Interrupt	External i	nterrupt	16				
Communica- tion function	Communication por		4 channels RJ45 (2 channels EtherCAT, 2 channels Ethernet) 2 channels USB2.0、2 channels USB3.0 2 channels RS232/RS485 (isolated) BIOS control	6 channels RJ45 (2 channels EtherCAT, 4 channels Ethernet, 4 channels USB3.0 2 channels RS232/RS485 (isolated) BIOS control			
	Communica	tion protocol	Modbus RTU, Modbus TCP, Ethernet IP, TCP,	/IP, UDP, OPC UA, free format protocol, etc.			
Bus functio	n		EtherCAT bus (128 nodes)	EtherCAT bus (256 nodes), CANopen bus			
Data power-off holding function		unction	Supp	ported			
RTC function	on		Supp	ported			
Matian	Single ax	is motion	Supp	ported			
Motion control	Axis grou	p motion	Supp	ported			
control	Electroni	c cam	Supr	ported			

<sup>\*</sup>Note: XSA series use EtherCAT remote expansion (LC3-AP).

## | XSA series product list

	Model						
AC power				DC power			
	Relay output	Transistor output	Transistor relay mixed output	Relay output	Transistor output	Transistor relay mixed output	
NPN	-	-	-	-	XSA330-W	-	
NPN	-	-	-	-	XSA530-W	-	
DND	-	-	-	-	XSA330-W	-	
PNP	-	-	-	-	XSA530-W	-	

## Slim (card type)

### | XSLH series

Support PLCopen programming specification, reference many standard function library functions, and develop proprietary function blocks and instruction libraries.

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



PLC open standard controller

## | Performance specification

Product series	s XSLH-	30A32
	Total points	30
I/O	Input points	14
	Output points	16
Max I/O points	S	542
High speed	Normal pulse output	4-axis (not supported temporarily)
positioning	Differential pulse output	-
High speed	Single/AB phase	4 channels
input	Input mode	2 channels differential signal + 2 channels OC
	Right expansion module	16
Expansion ability	Left expansion module	1
ability	BD board	-
External inter	rupt	10
Communicati	on Communication port	1 channel RS232, 1 channel RS485, 1 channel CAN port, 2 channels RJ45 port
function	Communication protocol	Standard Modbus ASCII/RTU, Ethernet IP, TCP/IP, UDP, OPC UA, free format protocol, CANbus
Bus function		EtherCAT bus control (max 32 nodes)
Programming	method	ST, SFC, FBD, CFC, LD, IL
Main processo	or	Cortex-A8, dominant frequency 1GHz
User program	capacity	32MB
Data capacity		32MB (include power-off holding 6MB)

<sup>\*</sup>Note: XSLH series use XL series expansion modules.

## | XSLH series product list

	Model					
AC power				DC power		
	Relay output	Transistor output	Transistor relay mixed output	Relay output	Transistor output	Transistor relay mixed output
NPN	-	-	-	-	XSLH-30A32	-

## Small-sized

#### XSDH series

Support PLCopen programming specification, reference many standard function libraries, and develop proprietary function blocks and instruction libraries.

- ① EtherCAT motion control
- ② EtherCAT remote IO
- 3 32 channels electronic cam
- 4 Ethernet communication5 Online downloading



## | Performance specification

Product series XSDH	l-	60A32		
	Total points	60		
I/O	Input points	36		
	Output points	24		
Max I/O points		572		
High speed	Normal pulse output	4-axis (not supported temporarily)		
positioning	Differential pulse output	•		
High speed	Single/AB phase	4 channels		
input	Input mode	OC		
	Right expansion module	16		
Expansion ability	Left expansion module	1		
ability	BD board	1		
External interrupt		10		
Communication	Communication port	1 channel RS232, 1 channel RS485, 2 channels RJ45 port		
function	Communication protocol	Standard Modbus ASCII/RTU, Ethernet IP, TCP/IP, UDP, OPC UA, free format protocol		
Bus function		EtherCAT bus control (max 32 nodes)		
Programming metho	bo	ST, SFC, FBD, CFC, LD, IL		
Main processor		Cortex-A8, dominant frequency 1GHz		
User program capac	ity	32MB		
Data capacity		32MB (include power-off holding 6MB)		

<sup>\*</sup>Note: XSDH series use XD series expansion modules.

## | XSDH series product list

	Model					
AC power			DC power			
	Relay output	Transistor output	Transistor relay mixed output	Relay output	Transistor output	Transistor relay mixed output
NPN	-	XSDH-60A32-E	-	-	-	-
PNP	-	XSDH-60PA32-E	=	-	-	-

## 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 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 kind of grounding (cannot be grounded with the strong current system)

## Input specification

#### XSA input specification

XSA supports NPN and PNP input mode.

Input signal voltage	DC24V±10%
Input signal current	7mA/DC24V
Input ON current	Below 4.5mA
Input OFF current	Above 1.5mA
Input response time	About 10ms
Input signal format	Contact input or NPN or PNP open collector transistor
Circuit insulation	Photoelectric coupling insulation

#### ■ XSLH input specification

XSLH support NPN and differential 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 response time	About 10ms
Input signal format	Contact input NPN open collector transistor
Circuit insulation	Photoelectric coupling insulation
Input action display	LED lights up when input ON

#### ■ XSDH input specification

XSDH supports NPN and PNP 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 response time	About 10ms
Input signal format	Contact input or NPN open collector transistor
Circuit insulation	Photoelectric coupling insulation
Input action display	LED lights up when input ON

## | Power supply specification

## ■ XSA, XSLH power supply specification

Item	Specification		
Rated voltage	DC24V		
Allowable range of voltage	DC21.6V~26.4V		
Input current (only for basic unit)	120mA DC24V		
Permissible instantaneous power-off time	10ms DC24V		
Impact current	10A DC26.4V		
Maximum power consumption	XSA is 60W~70W, XSLH is 30W,		
Power supply for sensor	24VDC±10%		

PLC open standard controller

#### ■ XSDH power supply specification

Item	Specification	
Rated voltage	AC100V~240V	
Allowable range of voltage	AC90V~265V	
Rated power	50/60Hz	
Permissible instantaneous power-off time	Interruption time≤0.5 AC cycle space≥1s	
Impact current	Max 40A 5ms/AC100V Max 60A 5ms/AC200V	
Maximum power consumption	XSDH is 30W	
Power supply for sensor	24VDC±10% 400mA	

\*Note: 1) Please use more than 2mm² wire for power cable to prevent voltage drop;

- (2) Even if there is a power failure within 10ms, the PLC can continue to work. When the power is cut off for a long time or the voltage drops abnormally, the PLC will stop working and the output will also be in the OFF state. When the power is restored, the PLC will automatically start running;
- The grounding terminals of the basic unit and expansion module are recommended to be connected with each other and reliably grounded.

#### 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 format	Differential input
Circuit insulation	Photoelectric coupling insulation
Input action display	LED lights up when input ON

#### PNP 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 response time	About 10ms
Input signal format	Contact input or PNP open collector transistor
Circuit insulation	Photoelectric coupling insulation
Input action display	LED lights up when input ON

## General specification

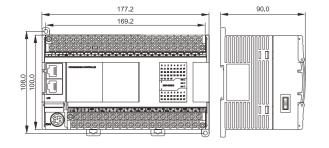
### Output specification

#### Transistor output

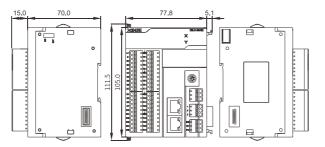
External power supply		Below DC5~30V	
Circuit insulation		Photoelectric coupling insulation	
Action indicator		LED indicator	
	Resistive load	0.3A	
Max load	Inductive load	7.2W/DC24V	
	Light load	1.5W/DC24V	
Min load		DC5V 2mA	
Open circuit leakage current		Below 0.1mA	
Response	OFF→ON	Below 0.2ms	
time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

## Dimension (unit:mm)

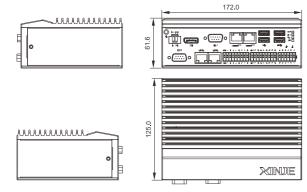
#### XSDH series dimension



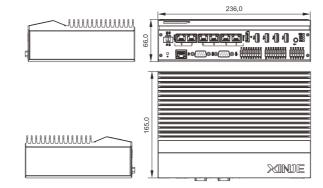
#### XSLH series dimension



#### XSA330-W series dimension



#### XSA530-W series dimension



## Industrial intelligent controller

## Integrated and intelligent solution

XA series I<sup>2</sup>C industrial intelligent controller focuses on advanced manufacturing fields and traditional industries with complex processes, integrates motion control, machine vision, HMI, information and other functions, and provides integrated and intelligent system solutions.



## **High performance**

### XA530

- Intel I5 processor
- EtherCAT bus control, up to 256 axes control system can be accessed
- 4 LAN ports, 2 EtherCAT ports
- 1 channel of CAN



## XA330

- Intel Celeron processor
- EtherCAT bus control, up to 128 axes control system can be accessed
- 2 LAN ports, 2 EtherCAT ports



## Entry

## XA310

- Intel Celeron processor
- EtherCAT bus control, up to 64 axes control system can be accessed
- 2 LAN ports integrated in X86, 1 EtherCAT port integrated in ARM

#### | Product features

### X-MAT platform

- Multi-accounting force scheduling.
- Reserve open computing resources.
- Motion control computing power, far superior to similar products.

#### Product compatibility

- Compatible with Xinje XDPro development
- Quickly realize project conversion.
- X-sight, TS Pro compatible applications.

### Basic platform

- Based on Intel X86 hardware platform
- Linux system (WIN under development)

## I<sup>2</sup>C Industrial intelligent controller

#### XA series

Intel high-performance X86 processor

XA series can integrate motion control, machine vision, HMI, information and other industrial automation applications to provide customers with integrated and intelligent system solutions. It is compatible with Xinje XDPPro programming platform, which supports POU programming mode and can significantly improve user programming efficiency.

- ① 4~8 channels 200KHz pulse output
- ② 2~4 channels 200KHz high speed counting
- 3 EtherCAT motion control
- 4 Support EtherCAT remote IO
- ⑤ Ethernet communication
- ⑥ Built-in UPS, support user-defined UPS function
- ② Support LD, IL, C language programming



## | Performance specification

Product series	XA310	XA330	XA530
CPU	Intel Celeron , 1.5GHz ARM Cortex A8	Intel Celeron , 1.5GHz	Intel I5 , 2.4GHz
Memory		DDR4-4G	
Display		DP, max resolution is 4096×2160@60Hz	7
Ethernet	3 LAN ports	2 LAN ports	4 LAN ports
TMP		2.0	
Storage	1xM.22280	) (128G)	1xM.22280 (256G)
USB	2xUSB2.0、2xUSB3.0		4xUSB3.0
Ю	12 inputs (NPN/PNP), 12 outputs 4 channels 200K high speed counting 4 channels 200K pulse output  116 inputs (NPN/PNP), 16 outputs 2 channels 200K high speed counting 8 channels 200K pulse output  Note		uts Inting *Note: pulse output is temporarily not supported.
Serial	RS485/RS232*1	RS485/RS232	*2(BIOS switching)
EtherCAT communication node	64	128	256
Motion control	Single axis, axis group, electronic cam		
CAN	Not support		1 channel: CAN2.0A/B
Power supply	24VI	uilt-in UPS	
power waste	20W(typical)~60W(max)		30W(typical)~70W(max)
Working temperature	0°C~60°C with 0.7m/s airflow	-25°C~60°C with 0.7m/s airflow	0°C~50°C with 0.7m/s airflow
Storage temperature	-10°C~60°C	-40°C~80°C	-20°C~60°C
Relative humidity	10~95%@40°C (non-condensing)		
ESD	Contact discharge ±4KV, air discharge ±8KV		
Protection level	IP30		
Certificate	CE/FCC	CE/FCC	CE/FCC CLASS A / TUV

<sup>\*</sup>Note: XA series use EtherCAT remote expansions.

#### I XA series model list

	Model					
AC power		DC power				
	Relay output	Transistor output	Transistor relay mixed output	Relay output	Transistor output	Transistor relay mixed output
	-	-	-	-	XA310	-
NPN&PNP	-	-	-	-	XA330	-
	-	-	-	-	XA530	-

## General specification

## | General specification

Item	Specification	
Anti-noise	Noise voltage 1000Vp-p 1us pulse 1 minute	
Air	No corrosive and combustible gas	
Working temperature	-25°C~60°C	
Storage temperature	-40°C~80°C	
Environment humidity	5%~95% (no condensation)	
Installation	DIN-rail mounting	
Grounding (FG)	The third grounding (cannot be grounded with the strong current system)	

## | Input specification

#### ■ XA310 input 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	Contact input or NPN or PNP open collector transistor
Circuit insulation	Photoelectric coupling insulation

#### ■ XA330, XA530 input 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	Low speed 0.1ms, high speed 5us
Input signal format	Bidirectional optocoupler
Circuit insulation	Photoelectric coupling insulation

## | Output specification

#### ■ XA310 output specification

#### Transistor output

External power supply		DC5~30V	
Circuit insulation		Optocoupler insulation	
Action indic	ator	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 0.1mA	
Response time	OFF→ON	Below 0.1mA	
	ON→OFF	Below 0.2ms	

#### High speed pulse output

High speed pulse output terminal	Y0~Y3
External power supply	DC5~30V
Action indicator	LED indicator
Max current	50mA
Max output frequency	100KHz

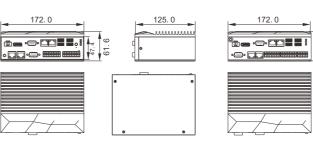
#### ■ XA330, XA530 output specification

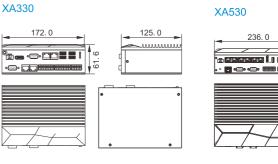
#### Transistor output

Output load max voltage	DC24V±10%
Maximum current of nominal load	100mA/DC24V
Short-circuit protection current	200mA
Output response time	NPN 0.2ms, NMOS is 5us
Output signal format	NMOS open circuit leakage current or NPN open collector
Circuit insulation	Photoelectric coupling insulation

## Dimension (Unit: mm)

XA310





Medium PLC -

## Medium PLC

# Overall improvement of speed, capacity and function

With faster processing speed, stronger motion control function, higher reliability and more compact structure, provides users with more perfect solutions and creates higher value.



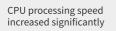
## | Function features

New appearance design, high space utilization

P

35

Ethernet port communication is convenient, fast, powerful and adaptable





Greater storage capacity









## | System composition



## 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
- 9 Follow up function10 Support differential input
- axes linear, arc interpolation
- 12 16 channels electronic CAM



## | Performance specification

Product series XG2-		26T4	
Main bady	Total points	26	
	Input points	18	
1/0	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	-	
саравшіцу	BD BOARD	-	
	External interrupt	12	
Interruption	Timing interrupt	20	
	Other interrupts	High speed counting interrupt, pulse interrupt	
Communica-	Communication port	1 RS232 port, 2 RS485 ports, 2 RJ45 ports	
tion function	Communication protocol	Standard Modbus ASCII/RTU communication, free format communication, Ethernet communicatio	
Bus function		EtherCAT bus control	
PWM pulse wic	Ith modulation	-	
Frequency mea	asurement	-	
Precise timing		-	
Multi-station co	ontrol	Support	
Program execution 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 function		6-bit ASCII password, secret downloading	

XG2 series model list

Medium PLC

## Basic unit general specification

	Model					
AC power		DC power				
	Relay output	Transistor output	Transistor&relay mixed output	Relay output	Transistor output	Transistor&relay mixed output
NPN	-	-	-	-	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	
	Flow	General S	80000 points S0~S79999	
	I tow	Power-off retentive HS	4000 points HS0~HS3999	
		Specification	100ms timer: 0.1~3276.7s, 10ms timer: 0.01~327.67s, 1ms timer: 0.001~32.767s	
Bit soft component	Timer	General T	50000 points T0~T49999	
component		Power-off retentive HT	8000 points HT0~HT7999	
		Precise timing	26 points ET0~ET25 (not supported right now)	
		Specification	16-bit counter: 0~32767 32-bit counter: -2147483648~+2147483647	
	Counter	General C	50000 points C0~C49999	
		Power-off retentive HC	8000 points HC0~HC7999	
		High speed counter	40 points HSC0~HSC39	
	Special coil for WAI	T instruction	32 points SEM0~SEM31	
		General D	700000 points HD0~SD699999	
D	Data register	Power-off retentive HD	100000 points SD0~SD99999	
Word soft		Special SD	10000 points SD0~SD9999	
component		Power-off retentive FD	65536 points FD0~FD65535	
	FlashROM register	Special SFD	10000 points SFD0~SFD9999	
		Security register FS	48 points FS0~FS47	

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

## | General specification

Item	Specification
Insulation voltage	Above DC500V 2M Ω
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
Grounding (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 series PLC input specification XG2 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 format	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 format	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

#### Transistor output

External power 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 0.1mA		
Response time	OFF→ON	Below 0.2ms		
	ON→OFF	Below 0.2ms		

#### High speed pulse output

0 1 1	
Model	T4 type
High speed pulse output terminal	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  $500\Omega$  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.

Medium PLC -

## Expansion unit

XG series medium-sized PLC can connect  $1\sim16$  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°C
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 output	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 include
XG-E64YT	64 channels transistor output	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 Input filter time 1~50ms optional
XG-E8X8YT	8 channels digital input 8 channels transistor output	R: output relay 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

## Expansion unit

## XG series analog expansion module

① 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% AD filter coefficient 0~254
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	Channel Input/output signal Specification		Specification
Model	Input	Output	input/output signat	Specification
XG-E4AD2DA	4	2	Voltage input: $0\sim5$ V/ $0\sim10$ V/ $-5\sim5$ V/ $-10\sim10$ V Current input: $0\sim2$ 0mA/ $4\sim2$ 0mA/ $-20\sim2$ 0mA Voltage output: $0\sim5$ V/ $0\sim10$ V/ $-5\sim5$ V/ $-10\sim10$ V (external load resistor 2K $\Omega\sim1$ M $\Omega$ ) Current output: $0\sim2$ 0mA/ $4\sim2$ 0mA (external load resistor less than $500\Omega$ )	Power supply for analog DC24V $\pm$ 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 $\pm$ 1% Channel enable bit is added

#### Analog output module (DA type)



Model	Output channel	Output signal	Specification
XG-E4DA-S	4	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 $500\Omega$ )	Power supply for analog DC24V $\pm$ 10%, 150mA Conversion speed 2ms/channel Resolution 1/65535 (16-bit) Comprehensive accuracy $\pm$ 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 (K type) (digital output range 0~13000, signed 16-bit, binary)	PT conversion speed 650ms/8 channels TC conversion speed 450ms/8 channels PT filter coefficient 0~254 8 groups of independent PID parameters, support self-tuning function

Medium PLC -

## 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.

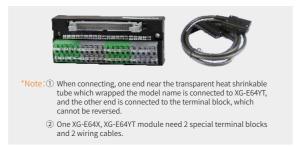
Item	Content
Rated voltage	AC100V~240V
Allowable voltage	AC90V~265V
Rated frequency	50Hz~60Hz
Allowable instantaneous power off time	Interruption time≤0.5 AC cycle, interval≥1s
Inches the comment	Max 40A below 5ms/AC100V
Impact current	Max 60A below 5ms/AC200V
Max consumption power	75W



### | 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	31-020	JC-TG26-NN15 (1.5m)
XG-E64X	JT-E32X	JC-TE32-NN05 (0.5m)
XG-E64YT	JT-E32YT	JC-TE32-NN10 (1.0m) JC-TE32-NN15 (1.5m)



## U-shaped connector XG-EUC-1, XG-EUCT-1

#### XG-EUC-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	Seren Comment
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)

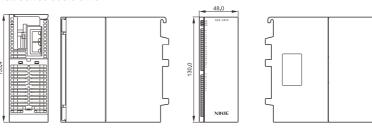
XG-EB-385(385mm), XG-EB-590 (590mm)

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

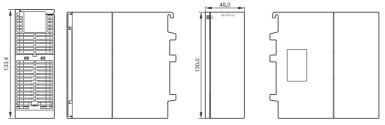


## Dimension (unit: mm)

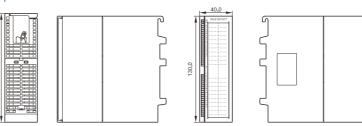
#### XG2 series basic unit



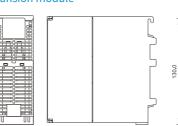
#### Power supply module



#### **Expansion module**



#### Expansion module





#### Suitable model

Module type	Digital value	nalog value				
	16X					
	32X					
Madal	16Y	All				
Model	32Y	All				
	8X8Y					
	16X16Y					

#### Suitable model

Module type	Digital value
Model	64X
Model	64Y

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

## 9 sub-series to meet various needs



# 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 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.

XDH series PLC has EtherCAT motion control master station function.

## 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).

## 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.

- Program capacity 256KB
   I/O sequential control
   Max I/O 32 points

- Basic instruction 0.02~0.05us
   RS232, RS485
- ⑥ X-NET fieldbus



## XD1 series model list

			Мо	del					
		AC power supp	ly	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	-			
NPN type	XD1-16R-E	XD1-16T-E	-	XD1-16R-C	-	-			
W W 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	-	-	-	-	-			

## | Performance specification

Product series XD	)1-	10R/T	16R/T	24R/T	32R/T				
	Total points	10	16	24	32				
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	-	-	-	-				
<b>.</b> .	Right expansion module	-	-	-	-				
Expansion ability	Left expansion module	-	-	-	-				
ability	BD board	-	-	-	-				
	External interrupt	3	6	10	10				
Interruption	Timing interrupt	20	20	20	20				
	Other interrupts	-	-	-	=				
Communication	Communication port	2 RS232 ports	2 RS232 ports	2 RS232 ports 1 RS485 port	2 RS232 ports 1 RS485 por				
function	Communication protocol	Standard Mo	odbus ASCII/RTU co	ommunication, free format comr	nunication				
Bus function		X-NET fieldb	us						
PWM pulse width	modulation	-							
Frequency measu	urement	-							
Precise timing		26 points ET	0~ET26 (Only even	numbers can be used)					
Multi-station con	trol	-							
Program execution	on mode	Cyclic scann	ing mode						
Programming me	ethod	Instruction,	ladder diagram, C l	anguage					
Power off holding	<u> </u>	Use FlashROM and lithium battery (3V button battery)							
Basic instruction	processing speed	0.02~0.05us							
	acity (secret download mode)	e) 256KB							

Product se	eries XD1-		10R/T	16R/T	24R/T	32R/T				
Security fu	unction		6-bit ASCII password	d encryption, secret do	wnloading	,				
Self-diagn	osis function		Power on self-test, monitoring timer, syntax check							
Real-time	clock		Built-in clock, Lithium battery power supply, with power down memory							
SD expans	sion card		-							
	Input relay (X)		896 points: X0~X77,	X10000~X11177, X2000	00~X20177, X30000~X3	0077				
	Output relay (Y)		896 points: Y0~Y77,	Y10000~Y11177, Y2000	0~Y20177, Y30000~Y30	0077				
		General M	8000 points M0~M79	999						
	Auxiliary relay	Power off holding HM	960 points HM0~HM	959						
		Special SM	2048 points SM0~SN	12047						
	Flow	General S	1024 points S0~S102	23						
	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							
	Timer	General T	576 points T0~T575							
		Power off holding HT	96 points HT0~HT95	j						
	Country	Specification	16-bit counter: 0~32 32-bit counter: -214	767 7483648~+214748364	7					
	Counter	General C	576 points C0~C575							
		Power off holding HC	96 points HC0~HC95	5						
	Special coil for WAI	T instruction	32 points SEM0~SEM	ИЗ1						
		General D	8000 points D0~D79	99						
M	Data register	Power off holding HD	1000 points HD0~H	999						
Word soft component		Special SD	2048 points SD0~SD2047							
component		Power off holding FD	5120 points FD0~FD5119							
	FlashROM register	Special SFD	2000 points SFD0~SFD1999							
		Security register FS	48 points FS0~FS47							

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

## 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, highspeed 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
- 7 2 channels 100KHz pulse output
- ® 3 channels high speed counting (single phase max 80KHz, AB phase max 50KHz)



## | Performance specification

Product series XD	)2-	16R/T/RT	24R/T/RT	32R/T/RT	42R/T/RT	48R/T/RT	60R/T/RT				
	Total points	16	24	32	42	48	60				
1/0	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	2 axes	2 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				
input	Input mode	OC	OC	OC	OC	OC	OC				
F .	Right expansion module	-	-	-	-	-	-				
Expansion ability	Left expansion module	1	1	1	1	1	1				
ability	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 M	odbus ASCII/RTU	J communication	n, free format cor	mmunication					
Bus function		X-NET fieldI	bus								
PWM pulse width	modulation	Support									
Frequency measu	ırement	Support									
Precise timing		26 points E	T0~ET25 (only ev	en numbers can	be used)						
Multi-station con	trol	-									
Program execution	on mode	Cyclic scanı	ning mode								
Programming me	ethod	Instruction, ladder diagram, C language									
Power off holding		Use FlashROM and lithium battery (3V button battery)									
Basic instruction	processing speed										
User program cap	acity (secret download mode)	256KB									

## XD2 series model list

			Mc	odel						
		AC power supp	ly	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 XD2-16RT-E			XD2-16R-C	XD2-16T-C	-				
	XD2-24R-E	XD2-24T-E	XD2-24RT-E	XD2-24R-C	XD2-24T-C	XD2-24RT-C				
NIDNI 41 mag	XD2-32R-E	XD2-32T-E	XD2-32RT-E	XD2-32R-C	XD2-32T-C	XD2-32RT-C				
NPN type	XD2-42R-E	XD2-42T-E	XD2-42RT-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 se	eries XD2-		16R/T/RT	24R/T/RT	32R/T/RT	42R/T/RT	48R/T/RT	60R/T/RT			
Security for	unction		6-bit ASCII բ	password encry	yption, secret d	ownloading					
Self-diagn	osis function		Power on self-test, monitoring timer, syntax check								
Real-time	clock		Built-in cloc	ck, Lithium batt	tery power sup	ply, with power	down memory				
SD expans	sion card		-								
Input relay (X)			896 points:	X0~X77, X1000	0~X11177, X200	000~X20177, X3	0000~X30077				
	Output relay (Y)			Y0~Y77, Y10000	0~Y11177, Y200	00~Y20177, Y30	0000~Y30077				
		General M	8000 points	M0~M7999							
	Auxiliary relay	Power off holding HM	960 points I	HM0~HM959							
		Special SM		SM0~SM2047							
	Flow	General S	1024 points	S0~S1023							
	T TOW	Power off holding HS	128 points HS0~HS127								
Bit soft component	Time	Specification	100ms timer: 0.1~3276.7s, 10ms timer: 0.01~327.67s, 1ms timer: 0.001~32.767s								
	Timer	General T	576 points T0~T575								
		Power off holding HT	96 points HT0~HT95								
	Country	Specification		ter: 0~32767 ter: -214748364	48~+214748364	-7					
	Counter	General C	576 points (	C0~C575							
		Power off holding HC	96 points H	C0~HC95							
	Special coil for WA	T instruction	32 points SI	EM0~SEM31							
		General D	8000 points	D0~D7999							
Word soft	Data register	Power off holding HD	1000 points	HD0~HD999							
component		Special SD	2048 points SD0~SD2047								
component		Power off holding FD	5120 points	FD0~FD5119							
	FlashROM register	Special SFD	2000 points	SFD0~SFD199	9						
		Security register FS	48 points FS	S0~FS47							

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

## 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, highspeed 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.

- Program capacity 256KB
   I/O sequential control
- 3 Max I/O 380 points
- 4 Basic instruction 0.02~0.05us
- ⑤ RS232, RS485
- ⑥ X-NET fieldbus
- ② 2~4 channels 100KHz pulse output (Y2, Y3 max pulse output frequency of XD3-24T4/32T4 are 20KHz)
- ® 3 channels high speed counting (single phase max 80KHz, AB phase max 50KHz)
- USB port high speed download (max 12Mbps)



## | Performance specification

Product series XI	)3-	16R/T/RT	24R/T/RT	24T4	32R/T/RT	32T4	42R/T/RT	48R/T/RT	60R/T/RT			
	Total points	16	24	24	32	32	42	48	60			
I/O  Max I/O points  High speed positioning  High speed input  Expansion ability  Interruption  Communication function  Bus function  PWM pulse width  Frequency measu  Precise timing  Multi-station cont  Program executio  Programming me  Power off holding  Basic instruction	Input points	8	14	14	18	18	24	28	36			
	Output points	8	10	10	14	14	18	20	24			
Max I/O points		336	344	344	352	352	362	368	380			
High speed	General pulse output	2 axes	2 axes	4 axes	2 axes	4 axes	2 axes	2 axes	2 axes			
positioning	Differential pulse output	-	-	-	-	-	-	-	-			
High speed	Single/AB phase mode	3channels	3channels	3channels	3channels	3channels	3channels	3channels	3channels			
input	Input mode	OC	OC	OC	OC	ОС	OC	OC	OC			
Evnancian	Right expansion module	10	10	10	10	10	10	10	10			
	Left expansion module	1	1	1	1	1	1	1	1			
ability	BD board	-	1	1	1	1	1	2	2			
	External interrupt	6	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	Standa	rd Modbus A	ASCII/RTU co	mmunicatio	n, free forma	it communic	ation				
Bus function		X-NET	fieldbus									
PWM pulse width	modulation	Suppo	rt									
Frequency measi	urement	Suppo	rt									
Precise timing		26 poir	nts ET0~ET25	only even	numbers car	be used)						
Multi-station con	trol	-										
Program execution	on mode	Cyclics	scanning mo	de								
Programming me	ethod	Instruction, ladder diagram, C language										
	<u> </u>	Use FlashROM and lithium battery (3V button battery)										
Basic instruction	processing speed	0.02~0.05us										
User program cap	acity (secret download mode)	256KB										

## | XD3 series model list

			Мо	odel			
		AC power supp	ly		DC powers	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	IPN type XD3-32R-E XD3-32T-E XD3-	XD3-32RT-E	XD3-32R-C	XD3-32T-C	XD3-32RT-C		
	-	XD3-32T4-E	-	-	-	-	
	XD3-42R-E	XD3-42T-E	XD3-42RT-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	

Product se	eries XD3-		16R/T/RT	, ,	24T4	32R/T/RT	32T4	42R/T/RT	48R/T/RT	60R/T/RT		
Security fo	unction		6-bit ASCII password encryption, secret downloading									
Self-diagn	osis function		Power on self-test, monitoring timer, syntax check									
Real-time			Built-in	clock, Lithiu	ım battery	power supp	ly, with po	ower down i	memory			
SD expans	sion card		-									
	Input relay (X)			nts: X0~X77,	X10000~X	11177, X2000	00~X2017	7, X30000~X	30077			
	Output relay (Y)			nts: Y0~Y77,	Y10000~Y	11177, Y2000	0~Y20177	, Y30000~Y3	0077			
		General M	8000 pc	oints M0~M7	999							
	Auxiliary relay	Power off holding HM	960 poi	nts HM0~HI	1959							
		Special SM	2048 pc	ints SM0~SI	M2047							
	Flow	General S	1024 pc	ints S0~S10	23							
	Tiow	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									
	Timer	General T	576 points T0~T575									
		Power off holding HT	96 points HT0~HT95									
	Counter	Specification		ounter: 0~32 ounter: -214		+2147483647	,					
	Counter	General C	576 poi	nts C0~C575	;							
		Power off holding HC	96 points HC0~HC95									
	Special coil for WA	IT instruction	32 poin	ts SEM0~SE	M31							
		General D	8000 pc	ints D0~D79	99							
W	Data register	Power off holding HD	1000 pc	ints HD0~H	D999							
Word soft component		Special SD	2048 points SD0~SD2047									
component		Power off holding FD	5120 pc	ints FD0~FD	5119							
	FlashROM register	Special SFD	2000 pc	ints SFD0~S	FD1999							
		Security register FS	48 poin	ts FS0~FS47								

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

## 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.

- Program capacity 512KB
   I/O sequential control
   Max I/O 592 points

- ④ Basic instruction 0.02~0.05us
- ⑤ RS232, RS485
- 6 X-NET fieldbus
- ⑦ 2~10 channels 100KHz pulse output
- 3~10 channels high speed counting (single phase max 80KHz, AB phase max 50KHz)
   USB port high speed download (max 12Mbps)



## | Performance specification

Product series XD5-		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
Max I/O points  High speed positioning  High speed	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	Single/AB phase mode	3channels	3channels	4channels	3channels	4channels	3channels	3channels	4channels	6channels	3channels	4channels	6channels	10channels	3channels
input	Input mode	OC	oc	oc	oc	OC	OC	OC	OC	OC	OC	OC	OC	OC	OC
	Right expansion module	16	16	16	16	16	16	16	16	16	16	16	16	16	16
	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 m	odulation	Supp	ort												
Frequency measure	ment	Supp	ort												
Precise timing		26 pc	26 points ET0~ET25 (only even numbers can be used)												
Multi-station contro	l	Supp	oort												
Program execution i	mode	Cycli	c scannin	ig mode											
Programming metho	od	Instr	uction, la	dder diag	gram, C la	nguage									
Power off holding		Use FlashROM and lithium battery (3V button battery)													
Basic instruction pro	ocessing speed	0.02~	-0.05us												
User program capacit	y (secret download mode)	512K	В												

## XD5 series model list

			Mod	el			
		AC power supp	ly		DC powers	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	-	
NDN type	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	-	-	-	-	
	XD5-48R-E	XD5-48T-E	XD5-48RT-E	XD5-48R-C	XD5-48T-C	XD5-48RT-C	
NPN type	-	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	-	
	XD5-80R-E	XD5-80T-E	-	-	-	-	
	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	
DND to on a	-	-	-	-	XD5-32PT4-C	-	
PNP type	-	-	XD5-48PRT-E	-	-	-	
	-	XD5-48PT6-E	-	-	XD5-48PT6-C	-	
	XD5-60PR-E	-	-	-	XD5-60PT-C	-	
	-	-	-	-	XD5-60PT6-C	-	

Product serie	s XD5-		16	24	24T4	32	32T4	42	48	48T4	48T6	60	60T4	60T6	60T10	80
Security func							1 1						10011	00.0	00110	
Self-diagnosi			6-bit ASCII password encryption, secret downloading Power on self-test, monitoring timer, syntax check													
Real-time clo							attery po				wer do	wn m	emorv			
SD expansion	card						ot supp									
· ·	Input relay (X)			,			0000~X1	,	(20000	~X2017	7, X300	00~X3	30077			
	Output relay (Y	")	1280	points	: Y0~Y7	7, Y10	000~Y11	.177, Y	20000	~Y2017	7, Y300	00~Y3	0077			
		General M	7000	0 point	ts M0~M	6999	9									
	Auxiliary relay	Power off holding HM	1200	0 point	ts HM0-	HM1	1999									
		Special SM	5000	points	SM0~S	M499	9									
	Flow	General S	8000 points S0~S7999													
Dit coft	Flow	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													
		General T	5000	points	T0~T49	999										
		Power off holding HT	2000 points HT0~HT1999													
		Specification			ter: 0~3 ter: -21		648~+2	147483	3647							
	Counter	General C	5000	points	C0~C49	999										
		Power off holding HC	2000	points	HC0~H	C199	9									
	Special coil for	WAIT instruction	32 points SEM0~SEM31													
		General D	7000	0 point	ts D0~D	69999	)									
	Data register	Power off holding HD	2500	0 point	ts HD0~	HD24	999									
Word soft		Special SD	5000	points	SD0~S	D4999	)									
component	FlashROM	Power off holding FD	8192	points	FD0~FI	08191										
	register	Special SFD			SFD0~		999									
	-8	Security register FS	48 pc	oints F	S0~FS47	7										

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

## 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.

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



## | Performance specification

Product series XD	5-	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	Input mode	2 channels	4 channels				
Europoion	Right expansion module	16	16				
Expansion ability	Left expansion module	1	1				
ability	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 measu	rement	Support					
Precise timing		26 points ET0~ET25 (only even numbers can	be used)				
Multi-station cont	rol	Support					
Program executio	n 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)	512KB					

## | XD5 differential series model list

	Model										
		AC power supp	ly	DC power supply							
	Relay output	Transistor output	Transistor relay mixed output	Relay output	Transistor output	Transistor relay mixed output					
NDN + ma	-	XD5-24D2T2-E	-	-	-	-					
NPN type	-	XD5-48D4T4-E	-	-	-	-					

Product serie	s XD5-		24D2T2	48D4T4				
Security func	tion		6-bit ASCII password encryption, secret down	loading				
Self-diagnosis	s function		Power on self-test, monitoring timer, syntax cl	heck				
Real-time clo	ck	Built-in clock, Lithium battery power supply, with power down memory						
SD expansion card			Support					
Input relay (X)		1280 points: X0~X77, X10000~X11177, X20000~	-X20177, X30000~X30077					
	Output relay (Y	)	1280 points: Y0~Y77, Y10000~Y11177, Y20000~	Y20177, Y30000~Y30077				
		General M	70000 points M0~M69999					
	Auxiliary relay	Power off holding HM	12000 points HM0~HM11999					
		Special SM	5000 points SM0~SM4999					
	Flow	General S	8000 points S0~S7999					
Dit coft	Flow	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					
		General T	5000 points T0~T4999					
		Power off holding HT	2000 points HT0~HT1999					
	Country	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 pointsD0~D69999					
	Data register	Power off holding HD	25000 points HD0~HD24999					
Word soft		Special SD	5000 points SD0~SD4999					
component	Fl. I. DOM	Power off holding FD	8192 points FD0~FD8191					
	FlashROM register	Special SFD	6000 points SFD0~SFD5999					
	register	Security register FS	48 points FS0~FS47					

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

## 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.

- Program capacity 512KB~1.5MB
   I/O sequential control
- 3 Max I/O 572 points
- Basic instruction 0.02~0.05us
- ⑤ RS232, RS485
- ⑥ X-NET fieldbus
- ⑦ 4~10 axes 100KHz pulse output
- $\ \, \mbox{$\$$} \ \, \mbox{$4{\sim}10$ channels high speed counter (single phase up to $0KHz, AB phase up to 50KHz)}$
- Follow-up function
- (III) USB port high speed download (max 12Mbps)
- ① Linear/arc interpolation



## | Performance specification

Main body I/O         Total points         24         32         60         60           Input points         14         18         36         36           Output points         10         14         24         24           Max I/O points         536         544         572         572           High speed positioning         General pulse output         4 axes         4 axes         4 axes         4 axes           Differential pulse output         -         -         -         -         -	60 36								
Output points         10         14         24         24           Max I/O points         536         544         572         572           High speed positioning         General pulse output         4 axes         4 axes         4 axes         4 axes           Differential pulse output         -         -         -         -         -	20								
Max I/O points 536 544 572 572  High speed positioning Differential pulse output	36								
High speed General pulse output 4 axes 4 axes 4 axes 4 axes 5 output 5 output 5 output 6 output 7 outp	24								
positioning Differential pulse output	572								
1 0 2 merendat pares carpar	10 axes								
	-								
High speed Single/AB phase mode 4 channels 4 channels 4 channels 4 channels	10 channels								
input Input mode OC OC OC OC	OC								
Right expansion module 16 16 16 16	16								
Expansion ability Left expansion module 1 1 1 1	1								
BD board 1 1 2 2	2								
External interrupt 10									
Interruption Timing interrupt 20	20								
Other interrupts High speed counting interrupt, pulse interrupt	High speed counting interrupt, pulse interrupt								
Communication Communication port 1 RS232 ports, 1 RS485 port, 1 USB port	1 RS232 ports, 1 RS485 port, 1 USB port								
function Communication protocol Standard Modbus ASCII/RTU communication, free format communicati	on								
Bus function X-NET fieldbus	X-NET fieldbus								
PWM pulse width modulation Support									
Frequency measurement Support									
Precise timing 26 points ET0~ET25 (only even numbers can be used)	26 points ET0~ET25 (only even numbers can be used)								
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)	Use FlashROM and lithium battery (3V button battery)								
Basic instruction processing speed 0.02~0.05us	0.02~0.05us								
User program capacity (secret download mode) 512KB (XDM-60T4L:1.5MB)									

## XDM series model list

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

Product serie	s XDM-		24T4	32T4	60T4	60T4L	60T10			
Security func	tion		6-bit ASCII passw	ord encryption, se	cret downloading					
Self-diagnosis	s function		Power on self-test, monitoring timer, syntax check							
Real-time clock			Built-in clock, Lit	hium battery powe	er supply, with pow	er down memory				
SD expansion card			Support							
	Input relay (X)		1280 points: X0~>	(77, X10000~X1117	7, X20000~X20177,	X30000~X30077				
	Output relay (Y)		1280 points: Y0~Y	77, Y10000~Y1117	7, Y20000~Y20177,	Y30000~Y30077				
		General M	70000 points M0 <sup>-</sup>	-M69999						
	Auxiliary relay	Power off holding HM	12000 points HM0~HM11999							
		Special SM	5000 points SM0~SM4999							
	Flow	General S	8000 points S0~S7999							
Ditcoft	Flow	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							
		General T	5000 points T0~T	4999						
		Power off holding HT	2000 points HT0~HT1999							
	Country	Specification	16-bit counter: 0- 32-bit counter: -2	~32767 2147483648~+2147	483647					
	Counter	General C	5000 points C0~C	24999						
		Power off holding HC	2000 points HC0~HC1999							
	Special coil for	WAIT instruction	32 points SEM0~	SEM31						
		General D	70000 pointsD0~	D69999						
	Data register	Power off holding HD	25000 points HD0	0∼HD24999						
Word soft		Special SD	5000 points SD0~	SD4999						
component	Fl. I DOM	Power off holding FD	8192 points FD0~	FD8191	·					
	FlashROM register	Special SFD	6000 points SFD0	~SFD5999	<u> </u>		<u> </u>			
	register	Security register FS	48 points FS0~FS	47						

\*Note: ①Only the PLC with transistor output has high speed positioning function; ②The "-" in the table indicates that this model doesn't have this function.

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

## Ethernet communication type

## XD3E series

In addition to all the functions of XD3 series (except SD card function), it has faster processing speed, supports RS232, RS485 serial port communication and Ethernet communication, and supports the connection of right expansion module, BD board and left expansion ED module.

- Program capacity 256KB
   I/O sequential control
   Max I/O 536 points

- 4 Basic instruction 0.02~0.05us
- ⑤ RS232, RS485, RJ45
- ⑥ X-NET fieldbus
- ② 2 axes 100KHz pulse output
- ® 3 channels high speed counter (single phase up to 80KHz, AB phase up to 50KHz)



## XD3E series model list

	Model											
		AC power supp	ly	DC power supply								
	Relay output	Transistor output	Transistor relay mixed output	Relay output	Transistor output	Transistor relay mixed output						
NPN type	-	XD3E-24T-E	-	-	-	-						

## | Performance specification

Product series XD	3E-	24T
	Total points	24
Main body I/O	Input points	14
	Output points	10
Max I/O points		536
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	10
Expansion ability	Left expansion module	1
ability	BD board	1
	External interrupt	10
Interruption	Timing interrupt	20
	Other interrupts	High speed counting interrupt, pulse interrupt
Communication	Communication port	1 RS232 port, 1 RS485 port, 2 Ethernet ports
function	Communication protocol	Standard Modbus ASCII/RTU communication, free format communication
Bus function		X-NET fieldbus
PWM pulse width	modulation	Support
Frequency measu	rement	3 channels
Precise timing		Support
Multi-station cont	rol	-
Program executio	n mode	Cyclic scanning mode
Programming met	thod	Instruction, ladder diagram, C language
Power off holding		Use FlashROM and lithium battery (3V button battery)
Basic instruction p	processing speed	0.02~0.05us
User program capa	ncity (secret download mode)	256KB

Product serie	s XD3E-		24T				
Security func	tion		6-bit ASCII password encryption, secret downloading				
Self-diagnosis	s function		Power on self-test, monitoring timer, syntax check				
Real-time clo	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, X20000~X20177, X30000~X30077				
	Output relay (Y	′)	896 points: Y0~Y77, Y10000~Y11177, Y20000~Y20177, Y30000~Y30077				
		General M	8000 points M0~M7999				
	Auxiliary relay	Power off holding HM	960 points HM0~HM959				
		Special SM	2048 points SM0~SM2047				
	Flow	General S	1021 points S0~S1023				
Bit soft	Flow	Power off holding HS	128 points HS0~HS127				
component	Timer	Specification	100ms timer: 0.1~3276.7s, 10ms timer: 0.01~327.67s, 1ms timer: 0.001~32.767s				
		General T	576 points TO~T575				
		Power off holding HT	96 points HT0~HT95				
	Country	Specification	16-bit counter: 0~32767 32-bit counter: -2147483648~+2147483647				
	Counter	General C	576 points C0~C575				
		Power off holding HC	96 points HC~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				
component	El. I DOM	Power off holding FD	5120 points FD0~FD5119				
	FlashROM register	Special SFD	2000 points SFD0~SFD1999				
	register	Security register FS	48 points FS0~FS47				

<sup>\*</sup>Note: ①The "-" in the table indicates that this model doesn't have this function; ②Special 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
- Basic instruction 0.01~0.03us
- ⑤ RS232, RS485, RJ45
- ⑥ X-NET fieldbus
- ② 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 XD5	5E-	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	OC	OC	OC	OC	OC	OC	OC	OC		
	Right expansion module	16	16	16	16	16	16	16	16		
Expansion ability	Left expansion module	1	1	1	1	1	1	1	1		
ability	BD board	1	1	1	2	2	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, 2 RJ45 ports									
function	Communication protocol	Standard	l Modbus AS0	CII/RTU comn	nunication, fr	ee format co	mmunication	, Ethernet co	mmunication		
Bus function		X-NET fi	eldbus								
PWM pulse width r	modulation	Support									
Frequency measur	rement	Support									
Precise timing		26 points ET0~ET25 (only even numbers can be used)									
Multi-station contr	rol	Support									
Program execution	n mode	Cyclic sc	anning mod	е							
Programming met	hod	Instructi	on, ladder d	iagram, C lar	nguage	·	·				
Power off holding		Use Flas	hROM and li	thium batter	y (3V button	battery)					
Basic instruction p	processing speed	0.01~0.03us									
User program capa	city (secret download mode)	1MB									

### XD5E series model list

			Mod	del			
		AC power supp	ly	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	-	-	
	XD5E-30R-E	XD5E-30T-E	-	-	-	-	
	-	XD5E-30T4-E	=	-	XD5E-30T4-C	-	
NDN 4	XD5E-48R-E	XD5E-48T-E	=	-	-	-	
NPN type	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-30PR-C	-	-	
	-	XD5E-30PT4-E	-	-	-	-	
NPN type	-	-	-	XD5E-48PR-C	-	-	
иги суре-	-	-	-	-	XD5E-60PT-C	-	
	-	XD5E-60PT6-E	-	-	-	-	
	-	-	-	-	XD5E-60PT10-C	-	
Bipolar	XD5E-60NPR-E	-	=	-	-	-	

Product serie	s XD5E-		24R/T         30R/T         30T4         48R/T         60R/T         60T4         60T6         60T10							60T10
Security func	tion		6-bit ASCI	l password e	encryption, s	secret down	loading			
Self-diagnosis	function		Power on	self-test, mo	onitoring tim	er, syntax c	heck			
Real-time clo	ck		Built-in clo	ock, Lithium	battery pov	ver supply, v	with power	down mem	ory	
SD expansion card			-							
Input relay (X)		1280 poin	ts: X0~X77, >	(10000~X111	.77, X20000	~X20177, X3	30000~X300	77		
	Output relay (Y	")	1280 poin	ts: Y0~Y77, Y	′10000~Y111	77, Y20000~	Y20177, Y3	0000~Y3007	7	
		General M	70000 poi	nts M0~M69	999					
	Auxiliary relay	Power off holding HM	12000 poi	nts HM0~HI	И11999					
		Special SM	5000 poin	ts SM0~SM4	.999					
	General S 8000 pc				1					
Bit soft	Power off holding HS 1000 points HS0~HS999									
component		Specification		ner: 0.1~327 : 0.001~32.7	6.7s, 10ms ti ′67s	mer: 0.01~3	27.67s,			
	Timer	General T	5000 poin	ts T0~T4999	)					
		Power off holding HT	2000 points HT0~HT1999							
	Carreton	Specification		nter: 0~3270 nter: -21474	67  83648~+214	7483647				
	Counter	General C	5000 poin	ts C0~C4999	)					
		Power off holding HC	2000 poin	ts HC0~HC1	999					
	Special coil for	WAIT instruction	32 points	SEM0~SEM3	31					
		General D	70000 poi	ntsD0~D699	99					
	Data register	Power off holding HD	25000 poi	nts HD0~HD	24999					
Word soft		Special SD	5000 poin	ts SD0~SD49	999					
component	FleebDOM	Power off holding FD	8192 poin	ts FD0~FD81	191					
	FlashROM register	Special SFD	6000 poin	ts SFD0~SF[	)5999					
	10613001	Security register FS	48 points	FS0~FS47						

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

## Ethernet communication type

## | XDME series

In addition to all the functions of XDM series, it has faster processing speed (about 2 ~ 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
- Basic instruction 0.01~0.03us
   RS232, RS485, RJ45
- X-NET fieldbus
- ⑦ 4~10 axes 100KHz pulse output
- ® 4~10 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 XD	ME-	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	OC	OC	ОС		
	Right expansion module	16	16	16		
Expansion	Left expansion module	1	1	1		
ability	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 c	ommunication, free format comm	nunication, Ethernet communication		
Bus function		X-NET fieldbus				
PWM pulse width	modulation	Support				
Frequency measu	rement	Support				
Precise timing		26 points ET0~ET25 (only even numbers can be used)				
Multi-station cont	rol	Support				
Program executio	n mode	Cyclic scanning mode				
Programming me	thod	Instruction, ladder diagram, C language				
Power off holding		Use FlashROM and lithium ba	attery (3V button battery)			
Basic instruction	processing speed	0.01~0.03us				
User program capa	acity (secret download mode)	1MB				

## | XDME series model list

	Model								
		AC power supp	ly	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	-	-	-	-			

Product serie	s XDME-		30T4	60T4	60T10			
Security func	tion		6-bit ASCII password encryption, secret downloading					
Self-diagnosis	s function		Power on self-test, monitoring	Power on self-test, monitoring timer, syntax check				
Real-time clo	ck		Built-in clock, Lithium battery	power supply, with power dow	n memory			
SD expansion card			-					
Input relay (X)		1280 points: X0~X77, X10000~	X11177, X20000~X20177, X3000	0~X30077				
	Output relay (Y	")	1280 points: Y0~Y77, Y10000~Y	Y11177, Y20000~Y20177, Y30000	)~Y30077			
		General M	70000 points M0~M69999					
	Auxiliary relay	Power off holding HM	12000 points HM0~HM11999					
		Special SM	5000 points SM0~SM4999					
	Flow	General S 8000 points S0~S7999						
Bit soft	Flow	Power off holding HS	S 1000 points HS0~HS999					
component		Specification	100ms timer: 0.1~3276.7s, 10r 1ms timer: 0.001~32.767s	ms timer: 0.01~327.67s,				
	Timer	General T	5000 points T0~T4999					
		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 pointsD0~D69999					
	Data register	Power off holding HD	25000 points HD0~HD24999					
Word soft		Special SD	5000 points SD0~SD4999					
component	FleebDOM	Power off holding FD	8192 points FD0~FD8191					
	FlashROM register	Special SFD	6000 points SFD0~SFD5999					
	613661	Security register FS	48 points FS0~FS47					

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

## 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
- Basic instruction 0.01~0.05us
- ⑤ RS232, RS485, RJ45
- ⑥ X-NET fieldbus
- ① 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
- ① 16 channels electronic CAM (XDH-30A16L cannot support)



## | Performance specification

	H-	30A16	30A16L	60T4	60A32	60A64	
	Total points	30	30	60	60	60	
Main body I/O	Input points	16	16	36	36	36	
	Output points	14	14	24	24	24	
Max I/O points		542	542	572	572	572	
High speed	General pulse output	4 axes	4 axes	4 axes	4 axes	4 axes	
positioning	Differential pulse output	-	-	-	-	-	
High speed	Single/AB phase mode	4 channels	4 channels	4 channels	4 channels	4 channels	
input	Input mode	OC	OC	OC	OC	OC	
	Right expansion module	16	16	16	16	16	
Expansion ability	Left expansion module	1	1	1	1	1	
ability	BD board	0	0	1	1	1	
	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					
C. C. C. C.		Standard Modbus ASCII/RTU communication, free format communication, Ethernet communicatio					
function	Communication protocol	Standard Modbus	ASCII/RTU communic	cation, free format co	mmunication, Etherr	net communicati	
Bus function	Communication protocol	EtherCAT bus con XDH-30A16, XDH- electronic CAM fu	trol 60A32, XDH-60T4, XI	DH-60A64: support s	single axis, axis grou	p motion and	
		EtherCAT bus con XDH-30A16, XDH- electronic CAM fu	trol 60A32, XDH-60T4, XI nction.	DH-60A64: support s	single axis, axis grou	p motion and	
Bus function	modulation	EtherCAT bus con XDH-30A16, XDH- electronic CAM fu XDH-30A16L: supp	trol 60A32, XDH-60T4, XI nction.	DH-60A64: support s	single axis, axis grou	p motion and	
Bus function  PWM pulse width	modulation	EtherCAT bus con XDH-30A16, XDH- electronic CAM fu XDH-30A16L: supp Support	trol 60A32, XDH-60T4, XI nction.	DH-60A64: support s	single axis, axis grou	p motion and	
Bus function  PWM pulse width Frequency measu	modulation rement	EtherCAT bus con XDH-30A16, XDH- electronic CAM fu XDH-30A16L: supp Support	trol 60A32, XDH-60T4, XI nction. port single axis, axis	DH-60A64: support s	single axis, axis grou	p motion and	
Bus function  PWM pulse width Frequency measu Precise timing	modulation rement	EtherCAT bus con XDH-30A16, XDH- electronic CAM fu XDH-30A16L: supp Support - 26 points ET0~ET:	trol 60A32, XDH-60T4, XI nction. port single axis, axis 25 (only even numbe	DH-60A64: support s	single axis, axis grou	p motion and	
Bus function  PWM pulse width  Frequency measu  Precise timing  Multi-station cont	modulation rement rrol n mode	EtherCAT bus con XDH-30A16, XDH- electronic CAM fu XDH-30A16L: supp Support - 26 points ET0~ET: Support Cyclic scanning m	trol 60A32, XDH-60T4, XI nction. port single axis, axis 25 (only even numbe	group motion (Note	single axis, axis grou	p motion and	
Bus function  PWM pulse width Frequency measu Precise timing Multi-station cont Program executio	modulation rement rrol n mode thod	EtherCAT bus con XDH-30A16, XDH- electronic CAM fu XDH-30A16L: supp Support - 26 points ET0~ET: Support Cyclic scanning m	trol 60A32, XDH-60T4, XI nction. oort single axis, axis 25 (only even number	group motion (Note	single axis, axis grou	p motion and	
PWM pulse width Frequency measu Precise timing Multi-station cont Program executio Programming me	modulation rement rol n mode thod	EtherCAT bus con XDH-30A16, XDH- electronic CAM fu XDH-30A16L: supp Support - 26 points ET0~ET: Support Cyclic scanning m Instruction, ladde	trol 60A32, XDH-60T4, XI nction. oort single axis, axis 25 (only even number	group motion (Note	single axis, axis grou	p motion and	

### XDH 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				
	-	XDH-30A16-E	-	-	-	-				
	-	XDH-30A16L-E	-	-	XDH-30A16L-C	-				
NPN type	=	XDH-60T4-E	-	-	XDH-60T4-C	-				
	=	XDH-60A32-E	-	-	-	-				
	=	XDH-60A64-E	-	-	-	-				
	=	XDH-30PA16-E	-	-	-	-				
	=	XDH-30PA16L-E	-	-	XDH-30PA16L-C	-				
NPN type	=	XDH-60PT4-E	-	-	-	-				
	=	XDH-60PA32-E	-	-	-	-				
	=	XDH-60PA64-E	=	-	-	=				

Product serie	s XDH-		30A16	30A16L	60T4	60A32	60A64
Security func	tion		6-bit ASCII passv	vord encryption, se	cret downloading		
Self-diagnosi	s function		Power on self-te	st, monitoring time	r, syntax check		
Real-time clo	ck		Built-in clock, Lit	thium battery powe	er supply, with pov	ver down memory	
SD expansion	card		-				
Input relay (X)			1280 points: X0~	X77, X10000~X1117	7, X20000~X20177	, X30000~X30077	
Output relay (Y)			1280 points: Y0~	Y77, Y10000~Y1117	7, Y20000~Y20177,	Y30000~Y30077	
		General M	200000 points M	0~M199999			
	Auxiliary relay	Power off holding HM	20000 points HN	10~HM19999			
		Special SM	50000 points SM	0~SM49999			
	Flow	General S   20000 points HS0~HS19999					
	Flow						
Bit soft	Specification		100ms timer: 0.1 1ms timer: 0.001	~3276.7s, 10ms tim ~32.767s	ner: 0.01~327.67s,		
component	Timer	General T	20000 points T0~T19999				
		Power off holding HT	2000 points HT0~HT1999				
		Specification	16-bit counter: 0 32-bit counter: -	~32767  2147483648~+2147	483647		
	Counter	General C	20000 points CO	~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 D	0~D499999	10	000000 points D0~D9	99999
	Data register	Power off holding HD	50000 points HD	0~HD49999	10	00000 points HD0~HI	099999
Word soft	Data register	Special SD	65488 points SD	0~SD65487			
component	FlashROM	Power off holding FD	65536 points SFI	00~SFD65535			
	register	Special SFD	50000 points SFI				
	613(61	Security register FS	48 points FS0~FS	547			

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

## 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
- 9 2 axes 100KHz pulse output



## | Performance specification

Main body I/O         Total points         32         60           Input points         18         36           Output points         14         24           Max I/O points         544         572           High speed positioning         General pulse output         2 axes         2 axes           Positioning         Differential pulse output         -         -           High speed input         Single/AB phase mode         4 channels         4 channels           Input mode         OC         OC           Right expansion module         16         16           Left expansion module         1         1					
Output points 14 24  Max I/O points 544 572  High speed positioning Differential pulse output					
Max I/O points     544     572       High speed positioning     General pulse output     2 axes     2 axes       Positioning     Differential pulse output     -     -       High speed input     Single/AB phase mode     4 channels     4 channels       Input mode     OC     OC       Right expansion module     16     16					
High speed positioning Differential pulse output 2 axes 2 axes  Differential pulse output					
positioning Differential pulse output High speed input Input mode OC OC Right expansion module 16 16					
High speed input Single/AB phase mode 4 channels 4 channels input Input mode OC OC Right expansion module 16 16					
input Input mode OC OC Right expansion module 16 16					
Right expansion module 16 16					
F					
Expansion Left expansion module 1					
ability 1					
BD board 1 2					
External interrupt 10	10				
Interruption Timing interrupt 20	20				
Other interrupts High speed counting interrupt, pulse interrupt	High speed counting interrupt, pulse interrupt				
Communication Communication port 2 RS232 ports (COM1 is X-NET communication by default), 1 RS485 port	2 RS232 ports (COM1 is X-NET communication by default), 1 RS485 port				
function Communication protocol Standard Modbus ASCII/RTU communication, free format communication	Standard Modbus ASCII/RTU communication, free format communication				
Bus function X-NET fieldbus, X-NET motion bus					
PWM pulse width modulation Support					
Frequency measurement Support					
Precise timing 26 points ET0~ET25 (only even numbers can be used)					
Multi-station control -	-				
Program execution mode Cyclic scanning mode	Cyclic scanning mode				
Programming method Instruction, ladder diagram, C language	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 capacity (secret download mode) 384KB					

## | CCSD series model list

	Model							
		AC power supp	ly		DC powers	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	-		
ive iv type	-	CCSD-C60T-E	-	-	CCSD-C60T-C	-		

Product series	s CCDS-		C32T	C60T			
Security funct	tion		6-bit ASCII password encryption, secret downloading				
Self-diagnosis	Self-diagnosis function		Power on self-test, monitoring timer, syntax check				
Real-time clo	ck		Built-in clock, Lithium battery power supply, v	with power down memory			
SD expansion	card	ard -					
Input relay (X)			1280 points: X0~X77, X10000~X11177, X20000-	~X20177, X30000~X30077			
	Output relay (Y	′)	1280 points: Y0~Y77, Y10000~Y11177, Y20000~	~Y20177, Y30000~Y30077			
		General M	70000 points M0~M69999				
	Auxiliary relay	Power off holding HM	12000 points HM0~HM11999				
		Special SM	5000 points SM0~SM4999				
	Flow	General S	8000 points S0~S7999				
Bit soft	Flow	Power off holding HS	1000 points HS0~HS999				
component	T	Specification	100ms timer: 0.1~3276.7s, 10ms timer: 0.01~3 1ms timer: 0.001~32.767s	327.67s,			
	Timer	General T	5000 points T0~T4999				
		Power off holding HT	2000 points HT0~HT1999				
	Country	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 pointsD0~D69999				
	Data register	Power off holding HD	25000 points HD0~HD24999				
Word soft		Special SD	5000 points SD0~SD4999				
component	FlashROM	Power off holding FD	8192 points FD0~FD8191				
	register	Special SFD	6000 points SFD0~SFD5999				
		Security register FS	48 points FS0~FS47				

<sup>\*</sup>Note: ①The "-" in the table indicates that this model doesn't have this function; ②Special 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)			

<sup>\*</sup>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.

## Input specification

### ■ NPN type

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

## ■ PNP type

DC power supply

Allowable voltage range
Rated frequency

Allowable instantaneous

Power supply for sensor

Rated voltage

power off time Impulse current

Maximum power consumption

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
	·

Specification

15W (16 points)/ 30W (24 points and up)

24VDC±10% 16 points max 200mA

DC24V

DC21.6V~26.4V

120mA DC24V

10ms DC24V

10A DC26.4V

#### ■ Differential type

67

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

## Output specification

### ■ Relay output

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

#### ■ Transistor output

External powers	supply	DC5~30V
Circuit insulation	า	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 leal	kage current	Below 0.1mA
Dognance time	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			

<sup>\*</sup>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	n	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  $10 \sim 16$  right expansion modules,  $1 \sim 2$  BD boards and 1 left expansion module of different types.



The compact expansion card can be directly installed on the basic unit, does not

occupy excess space, and can

complete the communication

expansion function.

## | 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.

## | 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.	

## 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		Function description	Specification	
NPN input type	PNP input type	runction description	Specification	
XD-E8X	XD-E8PX	8 channels digital input, DC24V power supply	Land Charter 1 50	
XD-E16X	XD-E16PX	16 channels digital input, DC24V power supply	Input filter time 1~50ms External wiring method: terminal block	
XD-E32X-E	XD-E32PX-E	32 channels digital input, AC220V power supply	Wiring method: same to PLC unit	
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	R: relay output
XD-E8YT	8 channels transistor output, no need power supply	T: transistor output
XD-E16YR	16 channels relay output, no need power supply	R response time below 10ms
XD-E16YT	16 channels transistor output, no need power supply	T response time below 0.2ms R max load: resistive 3A, inductive 80VA
XD-E32YR-E	32 channels relay output, AC220V power supply	T max load: max output current of each
XD-E32YR-C	32 channels relay output, DC24V power supply	point is 0.3A
XD-E32YT-E	32 channels transistor output, AC220V power supply	External wiring method: terminal block
XD-E32YT-C	32 channels transistor output, DC24V power supply	Wiring method: same to PLC unit

#### ■ Digital I/O module

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

Small-sized PLC

# Expansion unit

# | 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
XD-E8AD-A	8	Input current: 0~20mA/4~20mA/-20~20mA	Channel enabit bit is added AD channel has the functions of short circuit,
XD-E8AD-V	8	Input voltage: 0~5V/0~10V/-5~5V/-10~10V	open circuit and over range detection
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 2ms/channel Resolution 1/4095 (12 bits)	
XD-E4DA	4	Output voltage: 0~5V/0~10V Output current: 0~20mA/4~20mA	Comprehensive accuracy ±1% Channel enabit bit is added	

### ■ Temperature control module (PT&TC)

Model	Channel	Input signal	Specification
XD-E4PT3-P	4	Pt100, PT1000 Platinum thermistor Temperature range -100°C~500°C (digital output range -1000~5000, signed 16 bits, binary)	Power supply for analog DC24V±10%, 50mA Control precision ±0.5% Resolution 0.1°C
XD-E6PT-P	6	Pt100, PT1000 Platinum thermistor Temperature range -100°C~500°C (digital output range -1000~5000, signed 16 bits, binary)	Comprehensive accuracy ±1% (relative max value) PT conversion speed 80ms/channel TC conversion speed 80ms/channel PT3 conversion speed 450ms/4 channels
XD- E2TC-P	2	They make uplative K. C. F. N. D. T. Lead D.	PT filter coefficient 0~254 Each channel has independent PID parameters and support self-tuning function Optional sampling period Isolation between XD-EGTC-P-H channels
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)	
XD-E6TC-P-H	6	(,,,,,,,	20.07 (Foldamete

# ■ Analog I/O hybrid module (nADxPTmDA type)

Model	Channel		I/O signal	Specification	
Model	Input	Output	I/O signat	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	1.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± 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		
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 Conversion speed 2ms/channel Input resolution 1/1023 (10-b AD filter coefficient 0~254 PT channel resolution 0.1°C Comprehensive accuracy ±1% (relative max value) PT conversion speed 2ms/chan 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.

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

### ■ 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
- 6 The real-time data communicates with PLC at high speed through the bus, which does not affect the conversion speed

Item	Specification	
Model	XD-E1WT-D,XD-E2WT-D,XD-E4WT-D	
Analog input range	DC-20~20mV	
A/D actual resolution	1/8388607 (23Bit)	
Max display resolution	1/500000	
Nonlinear	0.01%F.S0.01%F.S	
Conversion speed	150 times/s, 300 times/s, 450 times/s optional	
Power supply	DC24V±10%	
Sensor excitation power supply	5VDC/120mA, four 350Ω load cells can be connected in parallel	
Software version	V3.5.3 and up	



1~2 channels weighing

4 channels weighing

Small-sized PLC

# Expansion unit

### SSI encoder measurement module XD-E4SSI

### ■ Module features

- ① Support 4-channel absolute encoder position or displacement sensor detection
- ② Suitable for  $10 \sim 31$  bits SSI encoder, supporting 125KHz  $\sim 1$ MHz 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



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%



# 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	Power supply for the module: DC24V±10%, 150mA	
XD-4DA-V-ED	4 channels voltage output: 0~5V/0~10V	Conversion speed: 10ms (all the channels)	
XD-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)	
XD-2AD2DA-V-ED	2 channels voltage input: 0~5V/0~10V 2 channels voltage output: 0~5V/0~10V	Current/voltage output resolution: 1/1023 (10-bit) AD/DA conversion comprehensive accuracy: ±1%	
XD-2AD2PT-A-ED	2 channels current input: 0~20mA/4~20mA 2 channels temperature input: PT100 platinum thermistor	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	
XD-2PT2DA-A-ED	2 channels temperature input: PT100 platinum thermistor 2 channels current output: 0~20mA/4~20mA	istor PT channel comprehensive accuracy: ±0.8% of the full scale	
XD-2PT2DA-V-ED	2 channels temperature input: PT100 platinum thermistor 2 channels voltage output: 0~5V/0~10V		
XD-1TC-ED	K, S, E, N, B, T, J and R type thermocouple Temperature measuring range 0°C ~ 1300°C (K type) (digital output range 0~13000, signed 16-bit, binary)	Power supply for analog is DC24V±10%, 50mA Resolution: 0.1°C Integrated precision ±1% (relative max value) TC conversion speed 80ms/channel	
XD-4PT-ED	Pt100, PT1000 Platinum thermistor Temperature measuring range -100°C ~ 500°C (digital output range -1000~5000, signed 16-bit, binary)	Power supply for analog is DC24V±10%, 50mA 4 channels Control precision ±0.5% Resolution: 0.1°C 1ntegrated precision ±1% (relative max value) PT conversion speed 80ms/ channel  Power supply for analog is 4 channels 9Tf iller coefficient 0~254 Each channel has independent 9ID parameters Support self-tuning function Optional sampling period	

### | 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.

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■ 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
- Support GPS positioning function 6 As the left expansion ED module of XD series PLC, the transmission rate can reach 1M T Support fieldbus (X-NET) and deep optimization
- of data monitoring Some 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).

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■ XD-COBOX-ED CANopen communication module



1) The communication rate can reach 1Mbps

① Support 2.4GHz wireless WLAN technology

② Support AP (wireless hotspot) and STA mode

③ XD-WBOX-ED is left expansion TTL interface

technology

S XD series PLC provides data support for

③ Support X-NET communication protocol,

support Xinje Cloud accesscess

4 Support wireless hotspot (same SSID) roaming

⑤ Support Modbus-TCP communication protocol

- ② 64 communication nodes
- 3 Support master and slave modes
- 4 The reliability of the system is improved
- ⑤ Heartbeat protection
- 6 Easier wiring

■ XD-WBOXL-ED Left expansion WIFI module

XD-WBOX-FD

(up to 4 connections)

# Expansion unit

# **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
Terminal block	А	485+
	В	485-
Terrificat Diock	SG	Signal ground
	•	Vacant terminal
Terminal resistance dialing switch		Select whether terminal resistance is required through the dial switch (120Ω)

### ■ 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
Terminal block	TX	Signal sending terminal
	RX	Signal receiving terminal
	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.



# 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.





Small-sized PLC -

# | 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		

# | 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 T: output transistor R response time below 10ms T response time below 0.2ms R max load: resistive 3A inductive 80VA T max load: max output current of each point 0.3A External wiring mode: terminal block	
CCSD-E16X16YR-C	16 channels digital input, 16 channels relay output, DC24V power supply		
CCSD-E16X16YT-E	16 channels digital input, 16 channels transistor output, AC220V power supply		
CCSD-E16X16YT-C	16 channels digital input, 16 channels transistor output, DC24V power supply	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

Small-sized PLC

# Expansion unit

# | Analog I/O module CCSD-nADmDA

Model	Channels		I/O output signal	Specification	
Model	Input	Output	1/O output signat	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		I/O output 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%, 50mA Control precision: ±0.5% Resolution 0.1°C Comprehensive accuracy ±1% (relative max value) PT 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)	TC conversion speed 80ms/channel 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

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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	
Terminal block	А	485+	
Terminal Dlock	В	485-	
SG		Signal ground	
•		Vacant terminal	
Terminal resistance dialing switch		Select whether terminal resistance is required through the dial switch (120 $\Omega$ )	

# 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).	

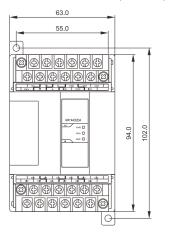
# | Temperature control module MA-nPT-P/MA-nTCA-P

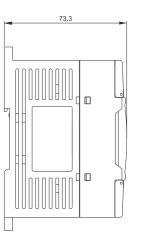
Model	Explanation
MA-6PT-P	6 channels PT100 input, PID for each channel, 6 channels output. 1mA constant current output, not affected by the external environment changing
MA-6TCA-P	6 channels thermocouple input, PID control for each channel, 6 channels output.



# | Dimension drawing

(Unit: mm)





Small-sized PLC -

# **Parts**

### List of basic unit accessories

# 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).



# ■ Communication/programming ■ USB to serial port convertor

### USB-COM

For interface conversion between DB9 female port and USB port.



### ■ X-NET fieldbus cable

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

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



### ■ Relay module

Suitable for all the RS485 communication occasions.



# ■ Program downloader

- $\ensuremath{\textcircled{1}}$  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

\*Note: Please refer to the manual for specific use. XDH, XC series PLC is not supported temporarily.

# 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.



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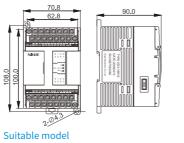
### ■ XD series terminal resistance

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.



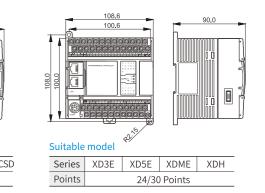
# Dimension drawing (Unit: mm)

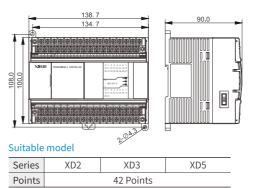
### | XD series basic unit

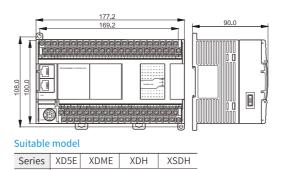


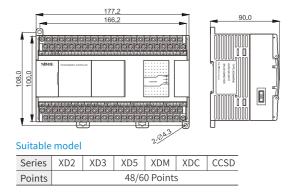
Points

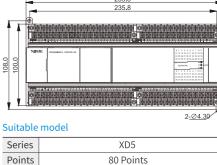


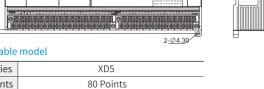




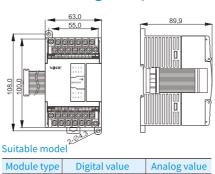






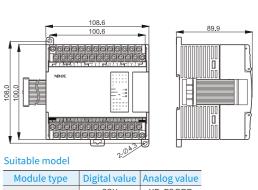


# | XD series right expansion module



60 Points

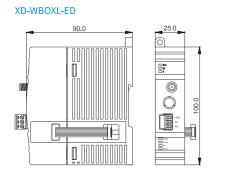
Module type	Digita	l value	Analog value			
	8X	16X				
Model	8Y	16Y	All			
	8X8Y					

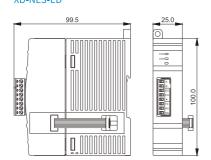


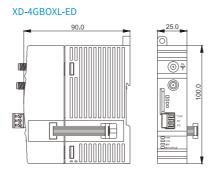
Module type	Digital value	Analog value	
Model	32X	XD-E2GRP	
	32Y	XD-E4WT-D	
	16X16Y		

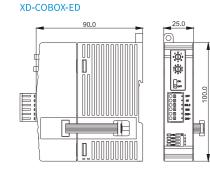
# Dimension (Unit: mm)

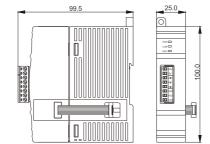
# | XD series left expansion ED module

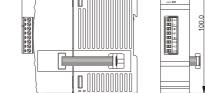






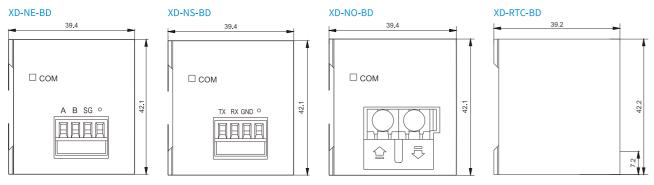






XD analog ED module

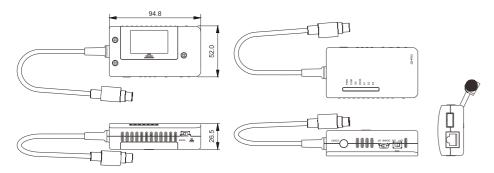
# | XD series expansion BD board



### Host accessories



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# 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.

- ① Slim appearance, small and practical
- ② Strong compatibility
- 3 Strong expansion ability
- 4 Outstanding cost performance
- Save more installation space



XL1 series



XL3 series



XL5 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

- Program capacity 256KB
   I/O sequential control
   Max I/O 16 points
   Basic instruction 0.02~0.05us
- ⑤ RS232, RS485
- ⑥ X-NET fieldbus
- ① USB port high speed download (max 12Mbps)



# | Performance specification

Product series XL	.1-	16T 16T-U				
Main body I/O Input 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	-	-			
Expansion	Right expansion module	-	-			
ability	Left expansion module	-	-			
	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 format communication				
Bus function		X-NET fieldbus				
PWM pulse width	modulation	-				
Frequency measu	urement	-				
Precise timing						
Multi-station con	trol	-				
Program execution	on mode	Cyclic scanning mode				
Programming me	ethod	Command, ladder chart, C language	·			
Power off holding		FlashROM and lithium battery (3V button batte	ry)			
Basic instruction	processing speed	0.02~0.05us				
User program cap	acity (secret download mode)	256KB				

# XL1 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	-	-	-	-	XL1-16T	-			
иги суре	-	-	-	-	XL1-16T-U	-			

Product series XL1-		16T	16T-U				
Security func	tion		6-bit ASCII password encryption, secret downloading				
Self-diagnosi	elf-diagnosis function		Power on self-test, monitoring timer, syntax	check			
Real-time clo	ck		Built-in clock, Lithium battery power supply,	with power down memory			
SD expansion	card		-				
	Input relay (X)		896 points: X0~X77, X10000~X11177, X20000	~X20177, X30000~X30077			
	Output relay (Y	()	896 points: Y0~Y77, Y10000~Y11177, Y20000~	Y20177, Y30000~Y30077			
		General M	8000 points M0~M7999				
	Auxiliary relay	Power off holding HM	960 points HM0~HM959				
		Special SM	2048 points SM0~SM2047				
	Flow	General S	1024 points S0~S1023				
Bit soft	Flow	Power off holding HS	128 points HS0~HS127				
component		Specification	100ms timer: 0.1~3276.7s, 10ms timer: 0.01~327.67s, 1ms timer: 0.001~32.767s				
	Timer	General T	576 points T0~T575				
		Power off holding HT	96 points HT0~HT95				
	Constant	Specification	16-bit counter: K0~32767 32-bit counter: -2147483648~+2147483647				
	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				
component	FlashDOM	Power off holding FD	5120 points FD0~FD5119				
	FlashROM register	Special SFD	2000 points SFD0~SFD1999				
	register	Security register FS	48 points FS0~FS47				

<sup>\*</sup>Note: ①The "-" in the table indicates that this model doesn't have this function; ②Special 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.

- Program capacity 256KB
   I/O sequential control
   Max I/O 352 points

- 4 Basic instruction 0.02~0.05us
- ⑤ RS232, RS485
- ⑥ X-NET fieldbus
- 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 XL	.3-	16R/T	32R/T			
Total points		16	32			
Main 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			
Expansion	Right expansion module	10	10			
ability	Left expansion module	1	1			
	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				
PWM pulse width	modulation	Support				
Frequency measu	urement	Support				
Precise timing		26 points ET0~ET25 (Only even numbers can b	e used)			
Multi-station con	trol	-				
Program execution	on mode	Cyclic scanning mode				
Programming me	ethod	Command, ladder chart, C language				
Power off holding	5	FlashROM and lithium battery (3V button batte	ery)			
Basic instruction	processing speed	0.02~0.05us				
User program cap	acity (secret download mode)	256KB				

# XL3 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			
-	-	-	XL3-16R	XL3-16T	-			
-	-	-	XL3-32R	XL3-32T	-			
-	-	-	XL3-16PR	-	-			
-	-	-	XL3-32PR	-	-			
	Relay output		AC power supply  Relay output Transistor output Transistor relay mixed output	AC power supply  Relay output Transistor output Transistor relay mixed output Relay output  XL3-16R  XL3-32R  XL3-16PR	AC power supply Relay output Transistor output Transistor relay mixed output Relay output Transistor output  XL3-16R XL3-16T  XL3-32R XL3-32T  XL3-16PR			

Product series XL3-			16R/T	32R/T			
Security func	ty function 6-bit ASCII password encryption, secret downloading		rnloading				
Self-diagnosis	s function		Power on self-test, monitoring timer, syntax	check			
Real-time clo	ck		Built-in clock, Lithium battery power supply	, with power down memory			
SD expansion	card		-				
	Input relay (X)		896 points: X0~X77, X10000~X11177, X20000	~X20177, X30000~X30077			
	Output relay (Y	7)	896 points: Y0~Y77, Y10000~Y11177, Y20000~	-Y20177, Y30000~Y30077			
		General M	8000 points M0~M7999				
	Auxiliary relay	Power off holding HM	960 points HM0~HM959				
		Special SM	2048 points SM0~SM2047	_			
	Flow	General S	1024 points S0~S1023				
Bit soft	Flow	Power off holding HS	128 points HS0~HS127				
component		Specification	100ms timer: 0.1~3276.7s, 10ms timer: 0.01~327.67s, 1ms timer: 0.001~32.767s				
	Timer	General T	576 points T0~T575				
		Power off holding HT	96 points HT0~HT95				
	Co. also	Specification	16-bit counter: K0~32767 32-bit counter: -2147483648~+2147483647				
	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 pointsD0~D7999				
	Data register	Power off holding HD	1000 points HD0~HD999				
Word soft		Special SD	2048 points SD0~SD2047				
component	El. I-DOM	Power off holding FD	5120 points FD0~FD5119				
	FlashROM register	Special SFD	2000 points SFD0~SFD1999				
	register	Security register FS	48 points FS0~FS47				

<sup>\*</sup>Note: ①The "-" in the table indicates that this model doesn't have this function; ②Special refers to system occupancy, 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.

- Program capacity 512KB
   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)
- ® 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 XL	.5-	16T	32T	32T4	64T10		
Total points  Main body I/O Input points		16	32	32	64		
Main 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	OC	OC	OC	OC		
Expansion	Right expansion module	16	16	16	16		
ability	Left expansion module	1	1	1	1		
	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 measu	urement	Support					
Precise timing		26 points ET0~ET25 (Only even numbers can be used)					
Multi-station con	trol	-					
Program execution	on mode	Cyclic scanning mode					
Programming me	ethod	Command, ladder chart, C language					
Power off holding	5	FlashROM and lithium battery (3V button battery)					
Basic instruction	processing speed	0.02~0.05us					
User program cap	acity (secret download mode)	512KB	·				

# XL5 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	-	-	-	-	XL5-16T	-			
	-	-	-	-	XL5-32T	-			
	-	-	-	-	XL5-32T4	-			
	-	-	-	-	XL5-64T10	-			
NPN type	-	-	-	-	XL5-32PT4	-			

Product series XL5-			16T	32T	32T4	64T10	
Security func	tion		6-bit ASCII password	encryption, secret do	wnloading		
Self-diagnosi	s function		Power on self-test, m	onitoring timer, synta	x check		
Real-time clo	ck		Built-in clock, Lithiun	n battery power supp	y, with power down memo	ory	
SD expansion	card		-				
	Input relay (X)		1280 points: X0~X77,	X10000~X11177, X200	00~X20177, X30000~X3007	7	
	Output relay (Y	7)	1280 points: Y0~Y77,	Y10000~Y11177, Y200	00~Y20177, Y30000~Y3007	7	
		General M	70000 points M0~M69	999			
	Auxiliary relay	Power off holding HM	12000 points HM0~H	M11999			
Flow	Special SM	5000 points SM0~SM4	1999				
	Elow	General S	8000 points S0~S7999				
	Power off holding HS	1000 points HS0~HS999					
component		Specification	100ms timer: 0.1~327 1ms timer: 0.001~32.		1~327.67s,		
	Timer	General T	5000 points C0~C499	9			
		Power off holding HT	2000 points HC0~HC1	1999			
		Specification	16-bit counter: K0~32767 32-bit counter: -2147483648~+2147483647				
	Counter	General C	5000 points C0~C499	9			
		Power off holding HC	2000 points HT0~HT1	.999			
	Special coil for	WAIT instruction	32 points SEM0~SEM	31			
		General D	70000 pointsD0~D699	999			
	Data register	Power off holding HD	25000 points HD0~HI	24999			
Word soft		Special SD	5000 points SD0~SD4	999			
component	El. I-DOM	Power off holding FD	8192 points FD0~FD8	191			
	FlashROM register	Special SFD	6000 points SFD0~SF	D5999			
	register	Security register FS	48 points FS0~FS47			·	

<sup>\*</sup>Note: ①The "-" in the table indicates that this model doesn't have this function; ②Special 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.

- Program capacity 1MB
   I/O sequential control
- 3 Max I/O 576 points
- Basic instruction 0.01~0.03us
- ⑤ RS232, RS485, RJ45
- ⑥ X-NET fieldbus
- 7 2~10 channels 100KHz pulse output
- ® 3~10 channels high speed counter (single phase up to 80KHz, AB phase up to 50KHz)



# XL5E series model list

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

# | Performance specification

Product series XL5E-		16T	32T	32T4	64T6	64T10		
Total points		16	32	32	64	64		
Main body I/O	Input points	8	16	16	32	32		
-	Output points	8	16	16	32	32		
Max I/O points	<u> </u>	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	ОС	ОС	OC	OC		
Expansion	Right expansion module	16	16	16	16	16		
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 con	trol	Support						
Program execution	on 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 cap	acity (secret download mode)	1MB						

Product series XL5E-			16T	32T	32T4	64T6	64T10	
Security function		6-bit ASCII password encryption, secret downloading						
Self-diagnosis	s function		Power on self-tes	t, monitoring time	er, syntax check			
Real-time clo	ck		Built-in clock, Lit	hium battery pow	er supply, with pow	ver down memory		
SD expansion	card		-					
	Input relay (X)		1280 points: X0~>	<77, X10000~X1117	77, X20000~X20177	, X30000~X30077		
	Output relay (Y	′)	1280 points: Y0~Y	777, Y10000~Y1117	7, Y20000~Y20177,	Y30000~Y30077		
		General M	70000 points M0 <sup>-</sup>	-M69999				
	Auxiliary relay	Power off holding HM	12000 points HM	0~HM11999				
		Special SM	5000 points SM0	~SM4999				
	Flow	General S	8000 points S0~S7999					
Ditcoft	Flow	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					
		General T	5000 points C0~C	24999				
		Power off holding HT	2000 points HC0	-HC1999				
		Specification	16-bit counter: K 32-bit counter: -2	0~32767 2147483648~+2147	7483647			
	Counter	General C	5000 points C0~C	C4999				
		Power off holding HC	2000 points HT0~HT1999					
	Special coil for	WAIT instruction	32 points SEM0~SEM31					
		General D	70000 pointsD0~	D69999				
	Data register	Power off holding HD	25000 points HD0	0~HD24999				
Word soft		Special SD	5000 points SD0~	-SD4999				
component	51 1 5011	Power off holding FD	8192 points FD0~	FD8191	·	·		
33p 3116116	FlashROM register	Special SFD	6000 points SFD0	~SFD5999				
	register	Security register FS	48 points FS0~FS	47				

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

# 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.

- Program capacity 1MB
   I/O sequential control
- 3 Max I/O 544 points
- Basic instruction 0.01~0.03us
- ⑤ RS232, RS485, Rj45
- © 2 channels CAN communication, support CANopen and CAN free format communication
- Support Ethernet communication
- ® 2 channels 100KHz pulse output
- 3 channels high speed counter (single phase up to 80KHz, AB phase up to 50KHz)



# | Performance specification

Product series XL5N-		32T
	Total points	32
Main 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
Expansion	Right expansion module	16
ability	Left expansion module	1
	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
Bus function		CANbus control, X-NET fieldbus
PWM pulse width	n modulation	Support
Frequency measu	urement	Support
Precise timing		Support
Multi-station con	trol	Support
Program execution	on mode	Cyclic scanning mode
Programming me	ethod	Command, ladder chart, C language
Power off holding	g	FlashROM
Basic instruction	processing speed	0.01~0.03us
User program cap	acity (secret download mode)	1MB

# XL5N series model list

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

Product serie	s XL5N-		32T
Security func	tion		6-bit ASCII password encryption, secret downloading
Self-diagnosis	s function		Power on self-test, monitoring timer, syntax check
Real-time clo	ck		Built-in clock, Lithium battery power supply, with power down memory
SD expansion	card		-
	Input relay (X)		1280 points: X0~X77, X10000~X11177, X20000~X20177, X30000~X30077
	Output relay (Y	)	1280 points: Y0~Y77, Y10000~Y11177, Y20000~Y20177, Y30000~Y30077
		General M	200000 points M0~M199999
	Auxiliary relay	Power off holding HM	20000 points HM0~HM19999
		Special SM	5000 points SM0~SM4999
	Flow	General S	2000 points S0~S19999
Bit soft	Tiow	Power off holding HS	2000 points HS0~HS1999
component	Timer	Specification	100ms timer: 0.1~3276.7s, 10ms timer: 0.01~327.67s, 1ms timer: 0.001~32.767s
		General T	20000 points C0~C4999
		Power off holding HT	2000 points HC0~HC1999
		Specification	16-bit counter: K0~32767 32-bit counter: -2147483648~+2147483647
	Counter	General C	20000 points C0~C19999
		Power off holding HC	2000 points HC0~HT1999
	Special coil for	WAIT instruction	32 points SEM0~SEM31
		General D	500000 pointsD0~D499999
	Data register	Power off holding HD	50000 points HD0~HD49999
Word soft		Special SD	50000 points SD0~SD49999
component	El. I DOM	Power off holding FD	65536 points FD0~FD65535
	FlashROM register	Special SFD	50000 points SFD0~SFD49999
	register	Security register FS	48 points FS0~FS47

<sup>\*</sup>Note: ①The "-" in the table indicates that this model doesn't have this function; ②Special 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.

- Program capacity 1MB
   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
- 4~10 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			
Main 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			
Expansion	Right expansion module	16	16			
ability	Left expansion module	1	1			
	BD board	-	-			
	External interrupt	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, Ethernet 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 con	trol	Support				
Program execution	on 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 cap	acity (secret download mode)	1MB				

### XLME series model list

Model									
		AC power supp	ly	DC power supply					
	Relay output	Transistor output	Transistor relay mixed output	Relay output	Transistor output	Transistor relay mixed output			
NPN type	-	-	-	-	XLME-32T4	-			
NPN type –	-	-	-	-	XLME-64T10	-			

Product serie	s XLME-		32T4	64T10		
Security function			6-bit ASCII password encryption, secret downloading			
Self-diagnosis	s function		Power on self-test, monitoring timer, syntax	check		
Real-time clo	ck		Built-in clock, Lithium battery power supply	, with power down memory		
SD expansion	card		-			
	Input relay (X)		1280 points: X0~X77, X10000~X11177, X2000	0~X20177, X30000~X30077		
	Output relay (Y	7)	1280 points: Y0~Y77, Y10000~Y11177, Y20000	0~Y20177, Y30000~Y30077		
		General M	70000 points M0~M69999			
	Auxiliary relay	Power off holding HM	12000 points HM0~HM11999			
		Special SM	5000 points SM0~SM4999			
	Flow	General S	8000 points S0~S7999			
Bit soft	TIOW	Power off holding HS	1000 points HS0~HS999			
component	Timer	Specification	100ms timer: 0.1~3276.7s, 10ms timer: 0.01~327.67s, 1ms timer: 0.001~32.767s			
		General T	5000 points C0~C4999			
		Power off holding HT	2000 points HT0~HT1999			
		Specification	16-bit counter: K0~32767 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 pointsD0~D69999			
	Data register	Power off holding HD	25000 points HD0~HD24999			
Word soft		Special SD	5000 points SD0~SD4999			
component	El. I.DOM	Power off holding FD	8192 points FD0~FD8191			
a a series	FlashROM register	Special SFD	6000 points SFD0~SFD5999	<u> </u>		
	register	Security register FS	48 points FS0~FS47			

<sup>\*</sup>Note: ①The "-" in the table indicates that this model doesn't have this function; ②Special 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.

- Program capacity 2~4MB
   Max I/O 542 points
- 3 Basic instruction 0.01~0.05us
- ④ RS232, RS485, RJ45
- ⑤ Ethernet communication
- ⑥ X-NET fieldbus
- ② EtherCAT bus control
- 8 4 channels 100KHz pulse output
- 9 4 channels high speed counter (up to 200KHz)
- Follow-up function
- ① 3 axes linear/acr interpolation
- ① 16 channels electronic CAM (XLH-24A16L cannot support)



# | Performance specification

Product series XLH-		24A16	24A16L	30A32		
	Total points	24	24	30		
Main 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	-	-	-		
112.1	Single/AB phase mode	4 channels	4 channels	4 channels		
High speed input	Input mode	ОС	ОС	2 channels differential signal 2 channels OC		
	Right expansion module	16	16	16		
Expansion ability	Left expansion module	1	1	1		
ability	BD board	-	-	-		
	External interrupt	10	10	10		
Interruption	Timing interrupt	20	20	20		
	Other interrupts	High	speed counter interrupt, pulse in	iterrupt		
	Communication port	1 RS232 port, 1 RS485 port, 2 RJ45 ports				
Communication function	Communication protocol	Standard Modbus ASCII/RTU communication, CAN commu	communication, free format com nication (only 30A32 support)	munication, Ethernet		
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	Support				
Frequency measu	rement	-				
Precise timing		26 points ET0~ET25 (cannot support this function)				
Multi-station cont	rol	Support				
Program execution mode		Cyclic scanning mode				
Programming met	thod	Command, ladder chart, C language				
Power off holding		FlashROM	<u> </u>	<u> </u>		
Basic instruction	processing speed	0.02~0.05us	0.02~0.05us	0.01~0.03us		
Haari araa araa aa aa aa	acity (secret download mode)	2MB	2MB	4MB		

# XLH series model list

Model									
		AC power supp	ly	DC power supply					
	Relay output   Transistor output   Transistor relay mixed output			Relay output	Transistor output	Transistor relay mixed output			
	-	-	-	-	XLH-24A16	-			
NPN type	-	-	-	=	XLH-24A16L	-			
	-	-	-	=	XLH-30A32	-			
	-	-	-	-	XLH-24PA16	-			
PNP type	-	-	-	-	XLH-24PA16L	-			
	-	-	-	-	XLH-30PA32	-			

Product series XLH-		24A16	24A16L	30A32			
Security func	Security function		6-bit ASCII password protection	on, secret download			
Self-diagnosi	s function		Power on self-test, monitoring	g timer, syntax check			
Real-time clo	ck		Built-in clock, Lithium battery	, power off memory			
SD expansion	card		-				
	Input relay (X)		1280 points: X0~X77, X10000~	X11177, X20000~X20177, X3000	0~X30077		
	Output relay (Y	)	1280 points: Y0~Y77, Y10000~	Y11177, Y20000~Y20177, Y30000	)~Y30077		
		General M	200000 points M0~M199999				
	Auxiliary relay	Power off holding HM	20000 points HM0~HM19999				
		Special SM	50000 points SM0~SM49999				
	Flow	General S	20000 points S0~S19999				
	Flow	Power off holding HS	2000 points HS0~HS1999				
Bit soft	Timer	Specification	100ms timer: 0.1~3276.7s, 10ms timer: 0.01~327.67s, 1ms timer: 0.001~32.767s				
component		General T	20000 points T0~T19999				
		Power off holding HT	2000 points HT0~HT1999				
		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		
	Data register	Power off holding HD	50000 points HD0~HD49999	50000 points HD0~HD49999	100000 points HD0~HD99999		
Word soft		Special SD	50000 points SD0~SD49999				
component		Power off holding FD	65536 points FD0~FD65535				
	FlashROM register	Special SFD	50000 points SFD0~SFD49999	)			
	register	Security register FS	48 points FS0~FS47				

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

# EtherCAT bus type

# XL5H series

It is compatible with most functions of XL5E, supports EtherCAT bus, is equipped with RS232, RS485 and RJ45 ports, supports 2-channel pulse output, 3-channel high-speed counting, and supports the connection of right expansion module and left expansion module.

- Program capacity 1M
   Max I/O 536 points
- 3 Basic instruction 0.01~0.05us
- ④ RS232, RS485, RJ45
- ⑤ Ethernet communication
- ⑥ X-NET fieldbus
- ① EtherCAT bus control
- ® 2 channels 100KHz pulse output
- 9 3 channels high speed counter (single phase max 80K, AB phase max 50K)
- 10 Follow-up function
- ① Online downloading



# | Performance specification

Product series XL	5H-	24A8L		
	Total points	24		
Main body I/O	Input points	12		
	Output points	12		
Max I/O points		536		
High speed	General pulse output	2 axes		
positioning	Differential pulse output	-		
High speed	Single/AB phase mode	3 channels		
input	Input mode	OC		
Expansion	Right expansion module	16		
ability	Left expansion module	1		
	BD board	-		
	External interrupt	10		
Interruption	Timing interrupt	20		
	Other interrupts	High speed counting interrupt, pulse interrupt		
Communication	Communication port	1 RS232 port, 1 RS485 port, 1 EtherCAT port, 1 Ethernet port		
function	Communication protocol	Standard Modbus ASCII/RTU, free format communication, Modbus-TCP Client/Server, TCP/UDP		
Bus function		X-NET fieldbus, EtherCAT bus		
PWM pulse width	modulation	Support		
Frequency measu	urement	3 channels		
Precise timing		Support		
Multi-station con	trol	Support		
Program execution	on 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	0.01~0.05us		
User program cap	acity (secret download mode)	1MB		

# | XL5H 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	-	-	-	-	XL5H-24A8L	-				

Duaduatassia	• VI FII		24A8L	
Product series XL5H-			6-bit ASCII password protection, secret download	
Security func			Power on self-test, monitoring timer, syntax check	
Self-diagnosis			Built-in clock, Lithium battery, power off memory	
Real-time clo			Built-in clock, Litnium battery, power on memory	
SD expansion				
	Input relay (X)	0	1280 points: X0~X77, X10000~X11177, X20000~X20177, X30000~X30077	
	Output relay (Y		1280 points: Y0~Y77, Y10000~Y11177, Y20000~Y20177, Y30000~Y30077	
		General M	70000 points M0~M69999	
	Auxiliary relay	Power off holding HM	12000 points HM0~HM11999	
		Special SM	5000 points SM0~SM4999	
	Flow	General S	8000 points S0~S7999	
	- 1011	Power off holding HS	1000 points HS0~HS999	
Bit soft	Timer	Specification	100ms timer: 0.1~3276.7s, 10ms timer: 0.01~327.67s, 1ms timer: 0.001~32.767s	
component		General T	5000 points T0~T4999	
		Power off holding HT	2000 points HT0~HT1999	
		Precise timing	40 points ET0~ET39	
		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	
		High speed counter	40 points HSC0~HSC39	
	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	
component		Power off holding FD	8192 points FD0~FD8191	
	FlashROM	Special SFD	6000 points SFD0~SFD5999	
	register	Security register FS	48 points FS0~FS47	

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

# EtherCAT bus type

# LC5E series

It is compatible with most functions of XL5E, supports EtherCAT slave station. It can interact with the master station and supports Ethernet communication, EtherCAT bus, supports the connection of expansion module and ED module.

- Program capacity 1M
   Max I/O 544 points
- 3 Basic instruction 0.03us
- ④ RS232, RS485, RJ45
- ⑤ Ethernet communication
- ⑥ X-NET fieldbus
- ① EtherCAT bus control
- 8 4 channels 100KHz pulse output
- 9 4 channels high speed counter (single phase max 80K, AB phase max 50K)
- ① Online downloading



# | Performance specification

Product series LC5E-		32T4	
	Total points	32	
Main body I/O	Input points	16	
	Output points	16	
Max I/O points		544	
High speed	General pulse output	4 axes	
positioning	Differential pulse output	-	
High speed	Single/AB phase mode	4 channels	
input	Input mode	OC	
Expansion	Right expansion module	16	
ability	Left expansion module	1	
	BD board	-	
	External interrupt	10	
Interruption	Timing interrupt	20	
	Other interrupts	High speed counting interrupt, pulse interrupt	
Communication	Communication port	1 RS232 port, 1 RS485 port, 2 EtherCAT port, 1 Ethernet port	
function	Communication protocol	Standard Modbus ASCII/RTU, free format communication	
Bus function		X-NET fieldbus, EtherCAT bus	
PWM pulse width	n modulation	Support	
Frequency measi	urement	4 channels	
Precise timing		Support	
Multi-station con	trol	Support	
Program execution	on mode	Cyclic scanning mode	
Programming me	ethod	Command, ladder chart, C language	
Power off holding	g	FlashROM and lithium battery (3V button battery)	
Basic instruction	processing speed	0.03us	
User program cap	acity (secret download mode)	1MB	

# LC5E 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	-	-	-	-	LC5E-32T4	-

Product series LC5E-			32T4	
Security func	tion		6-bit ASCII password protection, secret download	
Self-diagnosi	s function		Power on self-test, monitoring timer, syntax check	
Real-time clo	ck		Built-in clock, Lithium battery, power off memory	
SD expansion	card		•	
	Input relay (X)		1280 points: X0~X77, X10000~X11177, X20000~X20177, X30000~X30077	
	Output relay (Y)		1280 points: Y0~Y77, Y10000~Y11177, Y20000~Y20177, Y30000~Y30077	
		General M	70000 points M0~M69999	
	Auxiliary relay	Power off holding HM	12000 points HM0~HM11999	
		Special SM	5000 points SM0~SM4999	
	Flow	General S	8000 points S0~S7999	
	Flow	Power off holding HS	1000 points HS0~HS999	
Bit soft	Timer	Specification	100ms timer: 0.1~3276.7s, 10ms timer: 0.01~327.67s, 1ms timer: 0.001~32.767s	
component		General T	5000 points T0~T4999	
		Power off holding HT	2000 points HT0~HT1999	
		Precise timing	40 points ET0~ET39	
		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	
		High speed counter	40 points HSC0~HSC39	
	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	
component		Power off holding FD	8192 points FD0~FD8191	
	FlashROM register	Special SFD	6000 points SFD0~SFD5999	
	register	Security register FS	48 points FS0~FS47	

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

# 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 1 1 1 1	
Item	Specification
Rated voltage	DC24V
Allowable voltage range	DC21.6V~26.4V
Rated frequency	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

■ Differential mode

Input max frequency 1MHz

Specification

Photoelectric coupling

insulation

Input action display LED lights when input is ON

5V differential signal

Item

Circuit insulation

Input signal

# Input specification

Input signal voltage DC24V±10%

Input signal current 7mA/DC24V

Input OFF current Below 1.5mA

Input response time | About 10ms

### ■ NPN mode Item

Input ON current

Input signal format

Circuit insulation

### ■ PNP mode

Input action display | LED lights when input is ON | Input action display | LED lights when input is ON

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

Note: XL5/XL5E/XLME series 64 points models have no "input ON current", "input OFF current", and its input
ON voltage is below 9V, input OFF voltage is above 19V.

# | Output specification

### ■ Relay output

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

### ■ Transistor output

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

### High speed pulse output

- mgm speed palse output				
Model	Т	T4	T6	T10
High speed pulse output terminal	Y0~Y1	Y0~Y3	Y0~Y5	Y0~Y11
External power supply	Belov	v DC5~	30V	
Action indicator	r LED light			
Max current	50mA	١		
Pulse max output frequency	100KI	Hz		

# | 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)

# 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.



parameters need to be set.

FROM and TO instructions.

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

# | 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)

# Expansion unit

# Right expansion module

# I 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 576 points at most







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

External terminal strip is required

# | Digital input module

Мо	del	Function description	Specification	
NPN input	nput PNP input		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, 32PX-A: external terminal	
XL-E32X-A	XL-E32PX-A	32 channels digital input, horn terminals	block 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 T response time is below 0.2ms
XL-E16YT-A	16 channels transistor output, no power supply required, horn terminals	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 is required
XL-E32YT-A	32 channels transistor output, no power supply required, horn terminals	The wiring method is same to PLC main body

# | Digital I/O module

Model		Function description	Specification	
NPN input	PNP input	runction 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	XL-E16PX16YT-A	16 channels digital input, 16 channels transistor output, horn terminals	16X16YT-A, 16PX16YT-A: external terminal block is required The wiring method is same to PLC main body	

# 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.



# | Temperature control module (PT&TC type)

Model	Channel	Input signal	Specification
XL-E4PT3-P	4	Pt100, PT1000 platinum thermistor Measuring temperature range: -100°C ~500°C (Digital output range -1000~5000, with sign 16-bit, binary)	Power supply for analog DC24V $\pm 10\%$ , 50mA Control precision $\pm 0.5\%$ Resolution $0.1^{\circ}C$ Comprehensive accuracy $\pm 1\%$ (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 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-E4AD	4	Current input: 0~20mA/4~20mA/-20~20mA Voltage input: 0~5V/0~10V/-5~5V/-10~10V	Power supply for analog DC24V ±10%, 150mA Conversion speed 2ms/channel
XL-E8AD-A	8	Current input: 0~20mA/4~20mA/-20~20mA	Resolution:  XL-E4AD, XL-E8AD-A, XL-E8AD-V: 1/16383 (14-bit)
XL-E8AD-V	8	Voltage input: 0~5V/0~10V/-5~5V/-10~10V	XL-E8AD-A-S, XL-E8AD-V-S: 1/65536 (16-bit) Comprehensive accuracy ±1%
XL-E8AD-A-S	8	Current input: 0~20mA/4~20mA/-20~20mA	AD filter coefficient 0~254 Channel enable bit is added AD channel has the functions of short circuit,
XL-E8AD-V-S	8	Voltage input: 0~5V/0~10V/-5~5V/-10~10V	open circuit and over range detection

# | Analog output module (DA type)

Model	Channel	Output signal	Specification
XL-E4DA	4	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 $500\Omega$ )	Power supply for analog DC24V $\pm 10\%$ , 150mA Conversion speed 2ms/channel Resolution 1/4095 (12-bit) Comprehensive accuracy $\pm 1\%$ Channel enable bit is added

# | Analog output module (DA type)

Model	Channel		Input/output signal	Specification	
Model	Input Output		mpadyoutput signat		
XL-E4AD2DA	4	2	Current input: $0\sim20$ mA/ $4\sim20$ mA/ $-20\sim20$ mA Voltage input: $0\sim5$ V/ $0\sim10$ V/ $-5\sim5$ V/ $-10\sim10$ V Voltage output: $0\sim5$ V/ $0\sim10$ V/ $-5\sim5$ V/ $-10\sim10$ V (external load resistor $2k\Omega\sim1$ M $\Omega$ ) Current output: $0\sim20$ mA/ $4\sim20$ mA (external load resistor less than $500\Omega$ )	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	

# Expansion unit

# | 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.

- ① New algorithm, comprehensive optimization of hardware system, faster and more accurate weighing control
- 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
- ⑥ The real-time data communicates with PLC at high speed through the bus, which does not affect the conversion speed





XL-E4WT-D

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 350Ω 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	Power supply of module: DC24V±10%, 150mA Conversion speed: 10ms (all the channels)
XL-4DA-A-ED	4 channels current output: 0~20mA/4~20mA	Conversion speed. Torns (all the channels)
XL-4DA-V-ED	4 channels voltage output: 0~5V/0~10V	AD/DA:
XL-2AD2DA-A-ED	2 channels current input: 0~20mA/4~20mA 2 channels current output: 0~20mA/4~20mA	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	of the fall scale

# | 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	0
USB to serial port convertor	USB-COM	For the conversion of DB9 female port and USB port	Series 2
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	-5
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-P50-E

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
AC85-265V
DC24V
2A
No corrosive and combustible gas
0°C~60°C
5%RH~95%RH (no condensation)
Directly mounted on the guide rail
The third kind of grounding (not common

grounding with strong current system)



### XL series terminal resistance

### ■ XL-ETR

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	
XLME-64T10	JT-E32X+JT-E32YT	
XL-E32X-A	JT-E32X	JC-TE32-NN05 (0.5m) JC-TE32-NN10 (1.0m)
XL-E32PX-A	JT-E32X	JC-TE32-NN15 (1.5m)
XL-E16X16YT-A	JT-E16X16YT	
XL-E16PX16YT-A	JT-E16X16YT	
XL-E32YT-A	JT-E32YT	
XI_F16VT-Δ	IT-F16VT-Δ	





### \*Note: ① When connecting, the end closing to the transparent heat shrinkable tube and wrapping the model is connected to the PLC or module, and the other end is connected to the terminal block, which can not be reversed!!!

② One 64 points basic unit needs 2 special terminal blocks and 2

# | Program donwloader

### ■ JD-P03

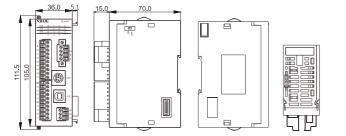
- ① Without computer, it can be used for program and data transfer and download between multiple Xinje PLCs. It must be used together with JC-ED-25 and USB-COM (hardware version H2).
- ② Suitable PLC: uploading requires the XD/XL/XG2 series PLC or ZG/ZP series integrated controller firmware version v3.4.6 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

Suitable models Series

Series

XL5

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

XLH

XL3

32 points

XL5E

64 points

XLME

XL5

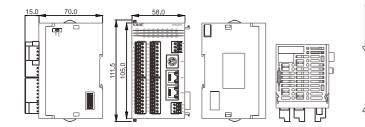
Series

Points

### Suitable models

Series	XL1	XL3	XL5 XL5E				
Points	16 points						

Note: the location of USB port for XL1-16T is RS232 port.

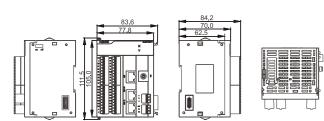


### Suitable models

Series		XL5E	XL5N	XLME
	Points	32	points	



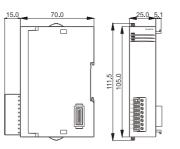
Juituble	models	
Series	XLH	XL5H
Points	24 pc	oints

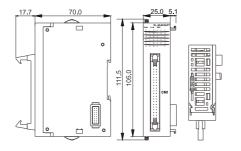


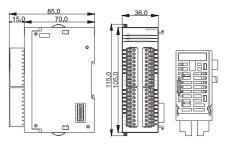
### Suitable models

Series	LC5E		
Points	32 points		

# | XL series right expansion module







Suitable models		Suita	ble	mod	els
-----------------	--	-------	-----	-----	-----

ourtable mout		
Module type	Digital value	Analog value
	8X/8Y	
Models	16X	All
	16V	

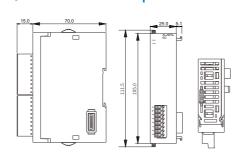
Module type | Digital value 16YT-A 16X16Y-A 32X-A

32YT-A

Suitable models

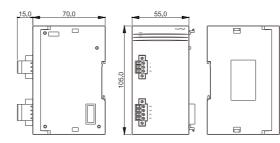
Module type	Digital value	Analog value
	16X16Y	
Models	32X	4WT-D
	32Y	

# | XL series left expansion ED module

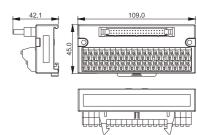


Suitable models		
Module type	Analog value	Communication
Models	All	XL-NES-ED

# | XL series power supply module



# JT series external terminal block





# HMI model distribution

The Xinje HMI mainly includes two major series, TS and TG. The TS series is a new generation of HMI, which based on Linux system and equipped with an efficient A7 dual core processor, make touch screen operations more efficient and fast, which is beneficial for users to process data on the touch screen. Simultaneously retaining the original features of high protection and low failure rate, it has a wider range of applications. Current TS series include 4.3 inches, 7 inches, 10 inches, and 15.6 inches.

The TG series general models cover sizes from 4.3 inches to 15.6 inches, with 8 sub-series that maintain consistent high protection and low failure rates. They are suitable for various occasions, as well as in trusses, robots, logistics and other industry projects.

# Cost-effective models General models IoT models Special models TSS peries TSS series TSS series TSS series TSS series TSS peries TSS peries

Performance

# TS series high performance HMI

Adopting Linux system and equipped with efficient dual core A7 processor, the human-machine experience is smoother



### TS5D series - Metal IoT HMI

• Market with high structural requirements for IoT demand



### TS5 series - IoT HMI

• Targeting the IoT market



# ■ High performance processors

Adopting ARM Cortex-A7 dual core processor, 1GHz main frequency, built-in 128MB memory, expandable USB storage.

# ■ Multi-directional installation at will

Support free installation in four directions, meeting the needs of different occasions.



### TS3 series - Standard HMI

• Targeting the general automation market



TS series high performance HMI -

### TS2 series - Entry-level HMI

 Targeting the small single machine and electrical market



# ■ Efficient system

Based on the Linux system, the multitasking mechanism significantly improves system response speed, making operations more efficient and efficient.

# ■ Rich device connectivity



# IoT type metal HMI

# TS5D series 15.6"

- Adopting Cortex-A7 dual core processor, with a main frequency of 1.2GHz
- Covering mainstream information exchange protocols, supporting MQTT and TCP/IP
- The metal structure of the entire machine enhances anti-interference and heat dissipation
- Support streaming media and video playback, with better performance when used in conjunction with audio
- Support network cameras for remote monitoring
- Relying on TouchWinPro software, it is easy to use and run efficiently

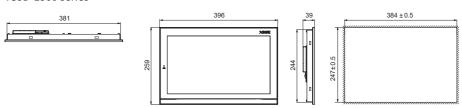


# | Product specification

Size	TS5D-1500-W				
Type					
Resolution					
Product feature    Brightness   250 cd/m²					
Feature         Touch panel         Four-wire resistive touch panel           Service life         Over 30000 hours, ambient temperature of 25°C, 24-hour operation           Processor         Cortex-A7 1.2GHz           Storage         256MB           Adaptive software         TouchwinPro software           COM1         RS232/RS485					
Service life Over 30000 hours, ambient temperature of 25°C, 24-hour operation Processor Cortex-A7 1.2GHz Storage 256MB Adaptive software TouchwinPro software COM1 RS232/RS485					
Processor         Cortex-A7 1.2GHz           Storage         256MB           Adaptive software         TouchwinPro software           COM1         RS232/RS485					
Storage         256MB           Adaptive software         TouchwinPro software           COM1         RS232/RS485					
Adaptive software					
COM1 RS232/RS485					
· · · · · · · · · · · · · · · · · · ·					
COM2 RS232/RS485/RS422					
	RS232/RS485/RS422				
Ethernet port Standard RJ45, 10/100M*2	Standard RJ45, 10/100M*2				
USB port1 USB-A (compliant with USB2.0 specifications), 2 USB flash drive ports	USB-A (compliant with USB2.0 specifications), 2 USB flash drive ports				
Interface USB port2 Type-C, USB download port	Type-C, USB download port				
Audio Ø3.5coaxial audio interface					
4G / 4G LTE-FDD (Mbps): 10 (downlink) / 5 (uplink)	/				
	IEEE 802.11 a/b/g/n IEEE 802.11 g:54Mbps				
Input voltage DC24V (voltage range: DC22V-DC26V)					
Power 10W					
Electrical feature Power failure Below 10ms (actual power loss less than 1s)	Below 10ms (actual power loss less than 1s)				
Withstand voltage AC1000V, 10mA, less than 1 minute (signal to ground)	AC1000V, 10mA, less than 1 minute (signal to ground)				
Insulation impedance DC500V, above 10MΩ (signal to ground)					
Operation temperature 0-50°C					
Storage temperature -10-60°C					
Environ- Environmental humidity 10%RH-90%RH (without condensation)					
went Vibration resistance 10-25Hz (2G in X, Y, and Z directions for 30 minutes each)					
Anti-interference Voltage noise: 1500Vp-p, pulse width lus, 1 minute					
Surrounding air Non corrosive gas					
Protection level Front panel 1p65					
Cooling method Natural air cooling					
Structure External dimension (mm) 396.0*259.0*39.0	Natural air cooling				
Opening size (mm)) 384.0*247.0 (±0.5)					

# **Dimension** (unit: mm)

### TS5D-1500 series



# IoT type HMI

# TS5 series 10.1" 7" 4.3"

- Remote functions: remote desktop (remote control of HMI real-time screen on PC), remote transparent transmission (remote upload/download PLC program), remote download (updating HMI program)
- Support audio output and can output various types of audio through external speakers
- Covering mainstream information exchange protocols and supporting MQTT/TCP IP
- Standard network port, networking through optional WIFI/4G module
- Edge computing, conducive to data analysis and statistics

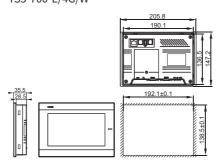
# | Product specification



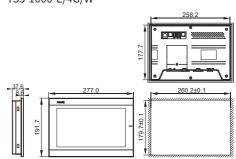
TS5-700-E TS5-1000-E Product model TS5-700-4G TS5-1000-4G TS5-700-W TS5-1000-W					
	Size	7"	10.1"		
₽	Туре	16.77 mill	ion colors		
po,	Resolution	800*480 1024*600			
uct	Brightness	200 c	rd/m²		
<del>f</del> ex	Touch panel	Four-wire resist	tive touch panel		
Product features	Service life	Above 50000 hours, ambient tem	perature 25°C, 24 hours operation		
res	Processor	Cortex-	A7 1GHz		
	Memory	128	BMB		
	COM1 port	RS232/RS485			
=	COM2 port	RS232/RS4	485/RS422		
Interfac	Ethernet port	Standard RJ45, 10/100M			
fac	USB-A port	Flash disk port, USB2.0 standard			
æ	Audio	ø3.5Coaxia	l audio plug		
	4G (only supported by 4G models)	4G LTE-FDD (Mbps): 10			
	WiFi (only supported by W models)	IEEE 802.11 a/b/g/n IEEE 802.11g: 54Mbps			
	Input voltage	DC24V (voltage range: DC22~DC26V)			
Electrical features	Power	5W	8W		
트로	Allowable instantaneous power failure	Below 10ms (actual power loss less than 1s)			
es	Withstand voltage	AC1000V, 10mA, less than 1			
	Insulation impedance	Above DC500V, 10MΩ (signal and ground)			
	Operation temperature	0-5	0°℃		
_	Storage temperature	-20-			
Environment	Ambient humidity	10%RH~90%RH (I	·		
Fo	Vibration resistance	10~25Hz (X, Y, Z direction	<u> </u>		
ᆩ	Anti-interference	Voltage noise: 1500Vp-p,	pulse width 1us, 1 minute		
len	Ambient air		osive gas		
-	Protection level	Front pa			
	Cooling method	Natural a	ir cooling		
Structure	External dimension (mm)	205.8*147.2*35.5	277.0*191.7*37.6		
Juliuli	Opening size (mm)	192.1*138.5(±0.1)	260.2*179.7(±0.1)		

# **Dimension** (unit: mm)

TS5-700-E/4G/W



### TS5-1000-E/4G/W



# Standard type HMI

# TS3 series



- Adopting Cortex-A7 dual core processor, with a main frequency of 1GHz and built-in 128MB memory
- Rich in functions, suitable for various occasions
- Stronger sealing performance, providing better protection against dust, water
- $\bullet\,\,$  The product structure conforms to lightweight design, making it lighter and thinner
- New TouchWinPro software with comprehensive feature upgrades

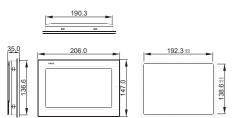


# **Product specification**

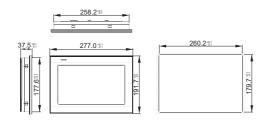
F	Product models	TS3-700-M	TS3-700-M3	TS3-700-E	TS3-700-Z	TS3-1000-M	TS3-1000-E	TS3-1000-Z
	Size	7.0"				10.1"		
	Resolution	800*480 1024*600						
Product feature	LCD		TFT LCD display with LED backlight					
	Display color		16.77 million colors					
	Brightness	200 cd/m²						
	Touch panel	Four-wire resistive touch panel						
	Service life	Above 50000 hours, ambient temperature 25°C, 24 hours operation						
	Processor	Cortex-A7 1GHz						
	Memory	128MB						
	COM1		RS232/RS485		RS232	RS232	/RS485	RS232
_	COM2		RS232/RS485/RS42	22	RS485	RS232/RS	485/RS422	RS485
nte	COM3	/	RS485	/	/	/	/	/
Interface	USB-A	Flash disk port, USB2.0 standard						
Э	USB-B	USB download port, USB2.0 standard						
	Ethernet port	/	/	Standard RJ45	/	/	Standard RJ45	/
	Input voltage	DC24V (voltage range: DC22V-DC26V)						
를 등	Consumption current			200mA			270mA	
Electrica feature	Allowable instantaneous	Below 10ms (actual power loss less than 1s)						
ical	powerfailure				below 101115 (actua	it bower toss tess tila	111 15)	
	Withstand voltage	AC1000V, 10mA, less than 1 minute (signal and ground)						
	Insulation impedance	DC500V, above 10MΩ						
Ш	Operation temperature	0-50°C						
₹.	Storage temperature	-20-60°C						
Environment	Ambient humidity	10%RH-90%RH (no condensation)						
ner	Anti-interference			Volt	tage noise: 1500Vp	-p, pulse width 1us,	1 minute	
7	Ambient air				No c	orrosive gas		
	Cooling method				Natur	al air cooling		
	Protection level				Fron	t panel IP65		
Din	Display area (mm)			154.08*85.92			219.6*131.76	
Dimension	External dimension (mm)		20	6.0*147.0*35.0			277.0*191.7*37.5	
on I	Opening size (mm)		192.	3*138.6 (±0.5)			260.2*179.7 (±0.5)	
	Authentication				CE ma	arked		

# **Dimension** (Unit: mm)

TS3-700-M/E/Z



TS3-1000-M/E/Z



# **Economical HMI**

# TS2 series 4.3" 7"



- New exterior design, simple industrial style
- Based on Linux systems and relying on existing TouchWinPro software
- Adopting a mature hardware design scheme, equipped with an efficient A7 dual core 1GHz processor
- Compatible with existing product opening sizes, stable, durable, efficient,
- The front panel meets the IP65 protection level and supports free installation in four directions, meeting the requirements of different occasions

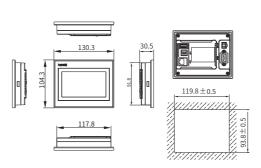


# | Product specification

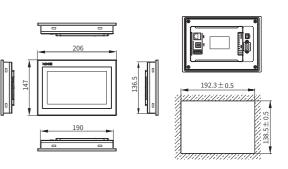
	Product models	TS2-400-Z	TS2-400-E	TS2-700-Z	TS2-700-E		
	Size		132-400-E 4.3"	7.1			
	I CD				J		
		40	TFT LCD display with LED backlight 480*272 800*480				
	Resolution	48			480		
P	Brightness		200 cc	- 1			
Product feature	Touch panel		Four-wire resistive touch panel				
ct	Service life	Above 30000 hours, ambient temperature 25°C, 24 hours operation					
<del>f</del> ea	Language	Chinese, English, Japanese, Russian, German, etc.					
tu	Character size	Any font and size					
, G	Processor	Cortex-A7 1GHz					
	Memory	64MB					
	Software	TouchwinPro programming software					
	COM1	RS232, communicate with PLC and other devices					
=	COM2	RS485, communicate with PLC and other devices					
Interface	Ethernet port	/	Standard RJ45	/	Standard RJ45		
ac		USB-A (compliant with US	B2.0 specifications), USB port, use	ed to connect portable storage	devices such as USB drives,		
(D	USB-A	canimpo	ort and export data, and can conne	ect devices such as mouse and l	keyboards		
	USB-B	USB-B (compliant wit	th USB2.0 specifications), USB do	wnload port, used for download	ding HMI program data		
т	Power supply		DC24V (voltage ran	ge: DC22V-DC26V)			
n V	Operation temperature	0-50°C					
ō	Storage temperature		-10-6	60°C			
Environment	Ambient humidity		10%RH-90%RH (n	o condensation)			
tne	Protection level		Front par	nel IP65			
s ₽:	External dimension (mm)	130.3*	104.3*30.5	206*14	7*34.3		
Dimen	Opening size (mm)		3.8 (±0.5)	192.3*138.	6 (±0.5)		
	Authentication		CE ma	nrked			

# | Dimension (Unit: mm)

TS2-400-Z/E



TS2-700-Z/E



# TouchWin Pro software



### ■ Built-in Model Selection Function

The software has built-in model selection function, which can quickly match the required product model according to your requirements.



# ■ Powerful Recipe Management

The new recipe management is simple and easy to edit. It supports editing recipe data on the touch screen, including inserting, deleting, importing, exporting and other operations.



### ■ Rich Material Library

The newly designed material library has a variety of materials to choose from, and pictures can be found through color, shape and so on.



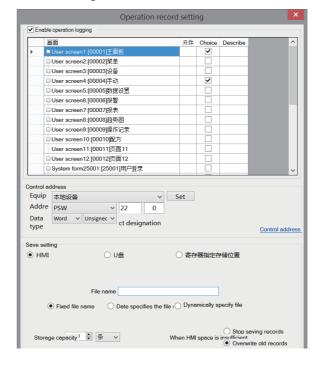
### ■ Detailed Report Management

The report management method supports the display of tables in forward order/reverse order. You can query data or alarm records by date and keyword. It can be imported/exported to USB flash disk.



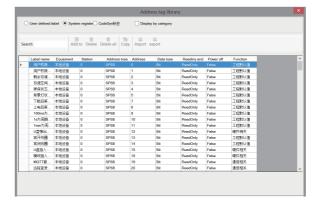
### ■ Traceable Operation Records

Record user login and operation contents, which can be exported to USB flash disk to help analyze process flow and troubleshooting.



# Address Label Library

The text, address and equipment in the program shall be uniformly managed to facilitate searching and checking.



# ■ Multilingual Management

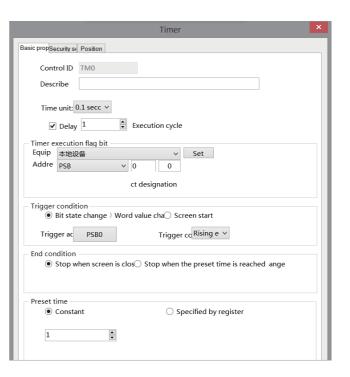
It supports up to 8 languages and is more convenient to use through multi-language label library management.



### Schedule

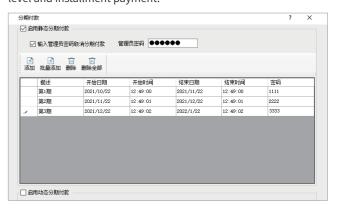
With timer function, it can set the time and execute it regularly, making the on-site operation more efficient.

TS series high performance HMI



# ■ Multiple Encryption Methods

A variety of encryption methods, including delay, interlock, user level and installment payment.



# ■ Support C Language Programming

Support C language function block, which are simple, fast and easy to learn, and support online debugging.

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# TG series general HMI

3.7-15.6 inches full coverage, 13 branch products to meet a variety of interaction needs of your industrial site



- TG general model
- TG(G) gray ultrathin model
- TG(S) black ultrathin model



- TGM(B) Vehicle, medical, testing
- CCSG Special for marine ships
- TGM(L) Outdoor occasions



- TG(S/G)-XT Cost effective
- OP key type operate panel





### ■ Suitable for harsh environment

- TG(P) Site environment with heavy oil pollution
- TGM(D) Site environment with severe temperature requirements



TGM Ethernet communication



### Suitable for handheld operation

- MTG handheld wireless operation, built-in mobile power supply
- RT can be operated with one hand and two hands, which is convenient for field test equipment



# ■ High hardware configuration for higher performance

CPU

ARM9 core Main frequency 400MHz Memory 128MB/64MB Storage

128MB

Color
16.77 million

Capacity
4 million words
Power off holding area

# ■ Download, start and run trinity ultra-high speed response



USB high-speed data transmission can greatly reduce the program download time and facilitate debugging



Greatly improve the startup speed and reduce the waiting time



Run

Smoother screen switching and animation effect

# ■ Flexible installation and free choice

Vertical installation or horizontal installation can be freely selected according to the actual needs of the site.

# Excellent performance

# Rich interface and powerful communication capability



# ■ Flexible connection and support communication of multiple devices

Flexible connectivity, direct communication with multiple devices

- It can be directly connected with PLC of various mainstream brands such as Mitsubishi, Siemens, Omron and Schneider, and communicate with various frequency converters and controllers such as Mitsubishi, Delta and Invariance
- It supports communication with standard Modbus protocol controllers, and can connect multiple controllers supporting Modbus protocol at the same communication port, such as PLC, frequency converter, servo driver,
- Support free protocol communication, and realize free communication of various instruments by flexible programming in C language.



### Support micro printer

• The download port can directly drive the micro printer, panel printer and thermal printer with RS232 interface, so as to realize the real-time printing of engineering data and acquisition curve.



# ■ Rich download methods

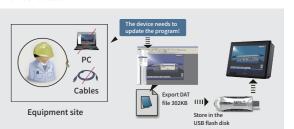
### Program download based on USB-B interface

 USB-B interface complies with USB2.0 standard interface, connect the computer with the USB-B port for high-speed data transmission and picture download through the USB communication cable, greatly shorten the download time and make it more convenient for users to debug the program.



# Use USB flash disk to quickly import the program through USB-A interface

TG series models equipped with USB-A interface can directly download
the program to HMI without computer but through USB flash disk. The
download process is simple and fast, which is conducive to the confidentiality of the program. It is applicable to the situation that the program
needs to be upgraded but there is no computer or download cable, saving
time and cost.



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# Excellent performance

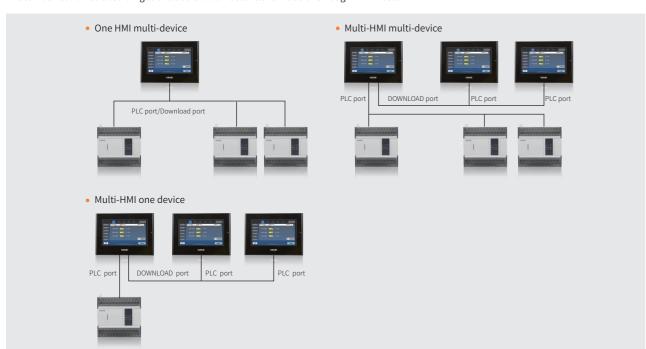
# From independent stand-alone to network communication, multiple networking mode

- Support Ethernet communication, improve communication speed, suitable for complex field environment
- Standard RJ45 Ethernet port
- It can form an open network structure with Modbus TCP devices, Siemens S7-1200, S7-300, Mitsubishi Melsec series, Keyence KV5000, LS XGT, Omron Fins TCP series and A-BOX-U.



# ■ Various networking modes

• It can be networked according to the traditional master-slave mode or through X-NET bus.



# Wide temperature metal HMI

# TGM (D) series 10.1" 7"

- New appearance and structure design, centralized interface
- Ultra thin body
- The metal cover of the whole machine greatly improves the anti-interference and heat dissipation
- The temperature range is -20°C~70°C, suitable for the site environment with high temperature requirements
- More industrial chips are adopted, and the performance is more stable

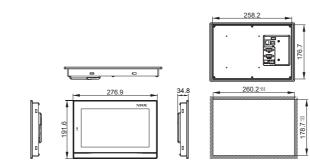


# | Product specification

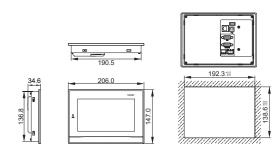
	Product model	TGMA63D-ET	TGM765D-ET			
	Display size	10.1"	7"			
	Resolution	1024*600	800*480			
	LCD	TFT LCD display, LED backlight				
Product	Display color	16.77mill	lion colors			
features	Brightness	200 c	cd/m <sup>2</sup>			
	Touch panel	Four-wire resist	ive touch screen			
	LCD life	Above 50000 hours, ambient tem	perature 25°C, 24-hour operation			
	Memory	128MB				
	PLC port	RS232/RS	485/RS422			
Interface	Download port	RS232/RS485	/			
	USB-A port	USB flash disk port, USB2.0 standard				
	USB-B port	USB download port, USB2.0 standard				
	Ethernet port	Standard RJ45				
	Input voltage	DC24V (voltagerange: DC22V-DC26V)				
Electrical	Consumption current	270mA	200mA			
features	Allowable power loss	Below 10ms (actual p	ower loss less than 1s)			
	Withstand voltage shock	AC1000V, 10mA, less than 1	minute (signal and ground)			
	Insulation resistance	Above10M	Ω, DC500V			
	Operation temperature	-20-	70°C			
	Storage temperature	-30-	75℃			
	Operation humidity	10%RH-90%RH (	no condensation)			
invironment	Anti-interference ability	Voltage noise: 1500Vp-p,	pulse width 1us, 1 minute			
	Air	No corre	osive gas			
	Cooling mode	Natural a	ircooling			
	Protection level	Front co	over IP65			
Dimension -	External dimension (mm)	276.9*191.6*34.8	206.0*147.0*34.6			
Dimension	Opening size (mm)	260.2*178.7	192.3*138.6			

# | Appearance dimension drawing (Unit: mm)

TGMA63D-ET



TGM765D-ET



# New appearance HMI

# **TG (G) series** 10.1" 7" 4.3"

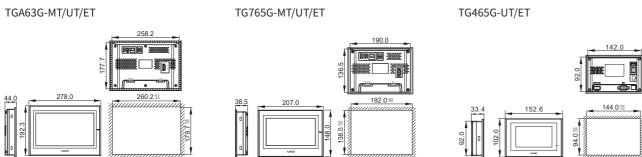
- The gray appearance design of the whole machine has strong visual impact
- Improved cover material, frosted texture
- The function and performance are the same to TG(S) series



# | Product specification

F	Product model	TGA63G-MT TGA63G-UT TGA63G-ET	TG765G-MT TG765G-UT TG765G-ET	TG465G-UT TG465G-ET			
	Display size	10.1"	7″	4.3"			
	Resolution	1024*600	800*480	480*272			
	LCD		TFT LCD display, LED backlight				
Product	Display color		16.77million colors				
features	Brightness		200 cd/m <sup>2</sup>				
	Touch panel		Four-wire resistive touch screen				
	LCD life	Above 50000 hours, ambient temperature 25°C, 24-hour operation					
	Memory	128MB					
	PLC port	RS232/RS422/RS485	RS232/RS422/RS485	RS232/RS485/RS422 (XT model cannot support RS422)			
	Download port	RS232/RS485	RS232/RS485	/			
Interface	USB-A port	USB flash disk port, USB2.0 standard. UT/ET model can support					
	USB-B port	USB download port, USB2.0 standard					
	Ethernet port	Standard RJ45, ET model can support					
	Input voltage	DC24V (voltage range: DC22V~DC26V)					
Electrical	Consumption current	270mA	200mA	180mA			
features	Allowable power loss		Below 10ms (actual power loss less than	11s)			
	Withstand voltage shock		AC1000V, 10mA, less than 1 minute				
	Insulation resistance	Above 10MΩ, DC500V					
	Operation temperature		0°C∼ 50°C				
	Storage temperature		-20°C∼ 60°C				
	Operation humidity		10%RH-90%RH (no condensation)				
Environment	Anti-interference ability	Vo	ltage noise: 1500Vp-p, pulse width 1us, 1	minute			
	Air		No corrosive gas				
	Cooling mode		Natural air cooling				
	Protection level		Front cover IP65				
Dimondia	External dimension (mm)	278.0*192.3*44.0	207.0*148.0*38.5	152.6*102.0*33.4			
Dimension	Opening size (mm)	260.2*179.7	192.0*138.5	144.0*94.0			

# | Appearance dimension drawing (Unit: mm)



# Ultrathin type HMI

# **TG (S) series** 10.1" 7"

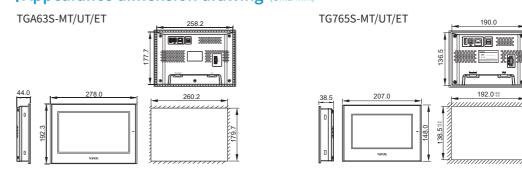
- Ultrathin and fashionable appearance design, 7" model thickness as low as 38.5mm
   The plastic cover made of PC and ABS alloy material (or flame retardant material)
- Optimize the snap-fit design to effectively reduce the entry of external dust and oil stain
- The communication interface faces down to effectively save installation space



# | Product specification

Р	roduct model	TGA63S-MT TGA63S-UT TGA63S-ET	TG765S-MT TG765S-UT TG765S-ET			
	Display size	10.1"	7″			
	Resolution	1024*600	800*480			
	LCD	TFT LCD display	, LED backlight			
Product	Display color	16.77 milli	ion colors			
features	Brightness	200 c	d/m <sup>2</sup>			
	Touch panel	Four-wire resisti	ive touch screen			
	LCD life	Above 50000 hours, ambient temperature 25°C, 24-hour operation				
	Memory	128MB				
	PLC port	RS232/RS4	122/RS485			
	Download port	RS232/	'RS485			
Interface	USB-A port	USB flash disk port, USB2.0 standard. UT/ET model can support				
	USB-B port	USB download por	t, USB2.0 standard			
	Ethernet port	Standard RJ45, ET	model can support			
	Input voltage	DC24V((voltage ran	ge: DC22V~DC26V)			
Electrical	Consumption current	270mA	200mA			
features	Allowable power loss	Below 10ms (actual po	ower loss less than 1s)			
	Withstand voltage shock	Above AC1000V, 10m.	A, less than 1 minute			
	Insulation resistance	10ΜΩ,	DC500V			
	Operation temperature	0°C~	50°C			
	Storage temperature	-20°C^	~ 60°C			
	Operation humidity	10%RH-90%RH (n	o condensation)			
Environment	Anti-interference ability	Voltage noise: 1500Vp-p, p	oulse width 1us, 1 minute			
	Air	No corro	sive gas			
	Cooling mode	Natural a	ircooling			
	Protection level	Front co	ver IP65			
Dimonia	External dimension (mm)	278.0*192.3*44.0	207.0*148.0*38.5			
Dimension	Opening size (mm)	260.2*179.7	192.0*138.5			

# | Appearance dimension drawing (Unit: mm)



TG series general HMI -

# Network type HMI

# **TGM series** 15.6" 10.1" 8" 7" 4.3"

- $\bullet$  With penetration function, can upload/download Xinje XD/XL/XG series PLC program through the HMI
- Support three download modes: Ethernet, USB-B, USB flash disk import program
- Ethernet port supports LAN and WAN connection, which is more convenient to use



# ■ Remote upload/download HMI program through Ethernet port

• TGM series HMI supports three download modes: Ethernet download, USB-B download, USB flash disk import. Ethernet download supports LAN and WAN, greatly improves the download speed and facilitates program debugging and later maintenance.





# ■ Penetration function

Support Ethernet communication, improve communication speed, suitable for complex field environment

• Xinje XG/XL/XD series PLC program can be downloaded/uploaded and monitored through the HMI. The connection method can be Ethernet or USB. Ethernet mode supports LAN and remote operation.

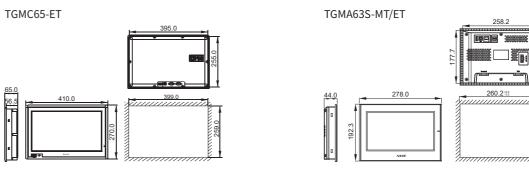


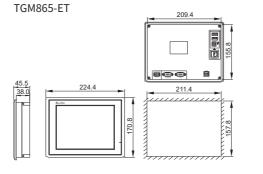


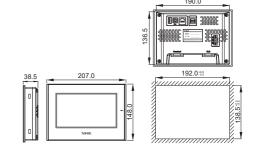
# | Product specification

	Product model	TGMC65-ET	TGMA63S-MT TGMA63S-ET	TGM865-ET	TGM765S-MT TGM765S-ET	TGM465-MT2 TGM465-ET		
	Display size	15.6"	10.1"	8"	7″	4.3"		
	Resolution	1366*768	1024*600	800*600	800*480	480*272		
. [	LCD		TF	T LCD display, LED backli	ght			
Product features	Display color	16.77 million colors						
leatures	Brightness	250 cd/m <sup>2</sup>	0 cd/m <sup>2</sup> 200 cd/m <sup>2</sup>					
	Touch panel	Four-wire resistive touch screen						
	LCD life	Above 50000 hours, ambient temperature 25°C, 24-hour operation						
	Memory	128MB						
	PLC port	RS232/RS422/RS485						
	Download port	RS232/RS485 (TGM465-ET no donwload port)						
Interface	USB-A port		USB fl	ash disk port, USB2.0 sta	indard			
	USB-B port		USB d	ownload port, USB2.0 st	andard			
	Ethernet port	Standard RJ45, ET model can support						

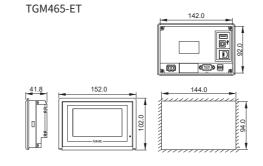
# | Appearance dimension drawing (Unit: mm)

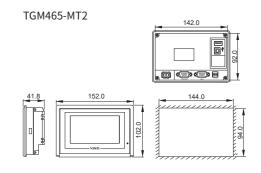






TGM765S-MT/ET





# | Product specification

Product model		TGMC65-ET	TGMA63S-MT TGMA63S-ET	TGM865-ET	TGM765S-MT TGM765S-ET	TGM465-MT2 TGM465-ET		
	Input voltage		DC24V	(voltage range: DC22V~I	DC26V)			
Electrical	Consumption current	730mA	270mA	250mA	200mA	180mA		
features	Allowable power loss		Below 10r	ms (actual power loss les	s than 1s)			
	Withstand voltage shock	AC1000V, 10mA, less than 1 minute						
	Insulation resistance	Above 10MΩ, DC500V						
	Operation temperature	0°C∼ 50°C						
	Storage temperature	-20°C∼ 60°C						
	Operation humidity	10%RH~90%RH (no condensation)						
Environment	Anti-interference ability	Voltage noise: 1500Vp-p, pulse width 1us, 1 minute						
	Air	No corrosive gas						
	Cooling mode			Natural air cooling				
	Protection level			Front cover IP65				
Dimension	External dimension (mm)	410.0*270.0*65.0	278.0*192.3*44.0	224.4*170.8*45.5	207.0*148.0*38.5	152.0*102.0*41.8		
Dimension	Opening size (mm)	399.0*259.0	260.2*179.7	211.4*157.8	192.0*138.5	144.0*94.0		

# General HMI

# **TG series** 15.6" 10.1" 8" 7" 4.3"

- Covering complete display size, the product lineup is abundant
- It has various functions and is suitable for most industrial sites
- USB-A front port design, easy to use (TGC65, TGA62 support)



# ■ USB-A front interface design, more convenient operation TGC65|TGA62support

USB-A interface is used for data import and export. This interface is designed on the front of the panel. When transmitting data, there is no need to open the control cabinet. It is easy to operate and greatly improves the work



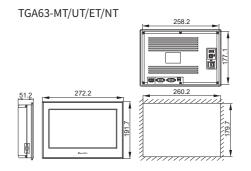
# | Product specification

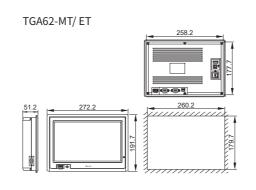
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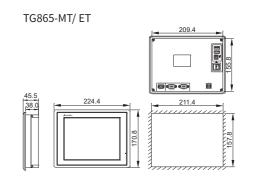
	Product model	TGC65-ET	TGA63-MT TGA63-UT TGA63-ET	TGA62-MT TGA62-ET	TG865-MT TG865-ET	TG765-MT TG765-UT TG765-ET	TG465-MT TG465-UT TG465-ET	TG465-MT2 TG465-UT2 TG465-XT
	Display size	15.6"	10.1"	10.1"	8"	7″	4.3"	
	Resolution	1366*768	1024*600	800*480	800*600	800*480	480*27	2
Product features	LCD			TF	T LCD display, LED	backlight		
feat	Display color				16.77 million co	olors		
duct	Brightness	250 cd/m <sup>2</sup>			200 cd/m <sup>2</sup>			
Proc	Touch panel			For	ur-wire resistive to	uch screen		
	LCD life		AŁ	ove 50000 hours,	ambient temperat	ture 25°C, 24-hour op	eration	
	Memory				128MB			
	PLC port				RS232/RS422/R	S485		
e	Download port		RS232/RS485 RS232/RS485 (only -MT2/UT2 model suppo					
Interface	USB-A port	USB flash disk port, USB2.0 standard. UT/ET model can support						
Ξ	USB-B port	USB download port, USB2.0 standard						
	Ethernet port	Standard RJ45, ET model can support						
sə	Input voltage			DC24	V (voltage range: D	C22V~DC26V)		
Electrical features	Consumption current	730mA	270	mA	250mA	200mA	180	mA
al fe	Allowable power loss			Below 10	ms (actual power	loss less than 1s)		
ctric	Withstand voltage shock	AC1000V, 10mA, less than 1 minute						
Ele	Insulation resistance				Above10MΩ, D	C500V		
	Operation temperature				0°C∼50°C			
	Storage temperature	-20°C∼60°C						
ant	Operation humidity			10%	RH-90%RH (no coi	ndensation)		
Environment	Anti-interference ability			Voltage nois	e: 1500Vp-p, pulse	width 1us, 1 minute		
nviro	Air				No corrosive (	gas		
ū	Cooling mode				Natural air coo	ling		
	Protection level				Front cover IF	P65		
imonsion	External dimension (mm)	410.0*270.0*65.0	272.2*191.7*51.2	272.2*191.7*51.2	224.4*170.8*45.5	200.4*146.9*48.5	152.0*102.0	)*41.8
Dimension	Opening size (mm)	399.0*259.0	260.2*179.7	260.2*179.7	211.4*157.8	192.0*138.5	144.0*9	1.0

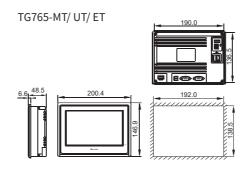
# | Appearance dimension drawing (Unit: mm)

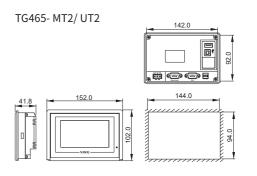
TGC65-ET

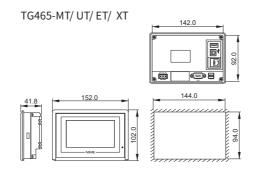












# Highlight type HMI

# TGM(L) series 7"

• Based on the network series products (TGM), the brightness is increased to 530, which can be used in outdoor occasions

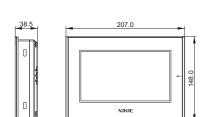


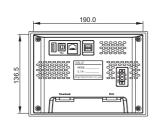
# | Product specification

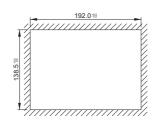
	Product model	TGM765L-MT	TGM765L-ET		
	Display size	7	п		
	Resolution	16.77 milli	ion colors		
	LCD	800*480			
Product features	Display color	530 cc	d/m²		
reatures	Brightness	Four-wire resisti	ve touch screen		
	Touch panel	Above 50000 hours, ambient temp	perature 25°C, 24-hour operation		
	LCD life	128	MB		
	Memory	RS232/RS4	185/RS422		
	PLC port	RS232/	RS485		
Interface	Download port	USB flash disk port	t, USB2.0 standard		
	USB-A port	USB download por	t, USB2.0 standard		
	USB-B port	/	Standard RJ45		
	Ethernet port	DC24V (voltage ran	ge: DC22V~DC26V)		
-1	Input voltage	200mA			
Electrical features	Consumption current	Below 10ms (actual po	ower loss less than 1s)		
reacares	Allowable power loss	AC1000V, 10mA, less than 1	minute (signal and ground)		
	Withstand voltage shock	Above 10MΩ, DC500V	(signal and ground)		
	Insulation resistance	0-50	0°C		
	Operation temperature	-20-6	60°C		
	Storage temperature	10%RH-90%RH (n	o condensation)		
	Operation humidity	10~25Hz (X, Y, Z direction	on each 30 minutes 2G)		
Environment	Anti-interference ability	Voltage noise: 1500Vp-p, p	pulse width 1us, 1 minute		
	Air	No corro	sive gas		
	Cooling mode	Front co	ver IP65		
	Protection level	Natural a	ircooling		
Dimension	External dimension (mm)	207.0*14	8.0*38.5		
Dimension	Opening size (mm)	192.0*	138.5		

# | Appearance dimension drawing (Unit: mm)

TGM765L-MT/ET







# Oil resistant type HMI

# **TG (P) series** 10.1" 7" 4.3"

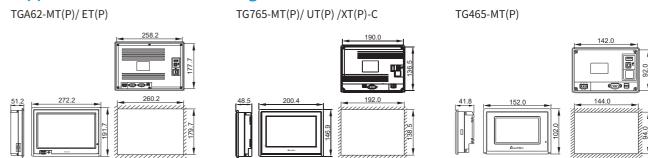
- The oil resistant type redesign the upper cover and film on the basis of the general TG series products, and increase the width of the back glue of the film, so as to achieve the purpose of more oil resistance on the
- It is applicable to the environment with heavy oil pollution, and other functions are the same as the general type



# | Product specification

	Product model	TGA62-MT(P) TGA62-ET(P)	TG765-MT(P) TG765-UT(P)	TG765-XT(P)-C	TG465-MT(P)		
	Display size	10.1"	7″	7″	4.3"		
	Resolution	800*480	800*480	800*480	480*272		
res	LCD		TFT LCD displa	ay, LED backlight			
Product features	Display color		16.77 mi	llion colors			
	Brightness		200	cd/m <sup>2</sup>			
	Touch panel		Four-wire resis	tive touch screen			
_ [	LCD life	Above 50000 hours, ambient temperature 25°C, 24-hour operation					
	Memory		12	8MB			
	PLC port	RS232/RS	422/RS485	RS232	RS232/RS422/RS485		
ce	Download port	RS232,	/RS485	/	/		
Interface	USB-A port	USB flash disk port, USB2.0 standard, UT(P)/ET(P) models support					
	USB-B port	USB download port, USB2.0 standard					
	Ethernet port	Standard RJ45, ET	(P) models support	/	/		
res	Input voltage		DC24V (voltage range: DC22V~DC26V)				
satn	Consumption current	270mA	200mA	200mA	180mA		
Electrical features	Allowable power loss		Below 10ms (actual p	power loss less than 1s)			
ctric	Withstand voltage shock	AC1000V, 10mA, less than 1 minute					
Ele	Insulation resistance		Above 10N	MΩ, DC500V			
	Operation temperature		0°C	~50°C			
	Storage temperature	-20°C∼60°C					
ŧ	Operation humidity		10%RH~90%RH	(no condensation)			
Environment	Anti-interference ability		Voltage noise: 1500Vp-p	, pulse width 1us, 1 minute			
viro	Air		No corr	rosive gas			
p	Cooling mode		Natural	air cooling			
	Protection level		Front c	over IP65			
imension	External dimension (mm)	272.2*191.7*51.2	200.4*146.9*48.5	200.4*146.9*48.5	152.0*102.0*41.8		
mension	Opening size (mm)	260.2*179.7	192.0*138.5	192.0*138.5	144.0*94.0		

# | Appearance dimension drawing (Unit: mm)



# Economic type HMI

# Economic type TG series 7" 4.3"

### TG-XT

 On the basis of general type TG/ultra-thin type TG(S)/new appearance TG(G) series products, one or two RS232 serial ports are reserved, with standard clock function
 Note: the serial port only supports RS232 communication mode

### TG-ZT

• Remove RS422 communication mode on the basis of new appearance TG(G) series products Note: the internal register PFW is stored every 1 minute

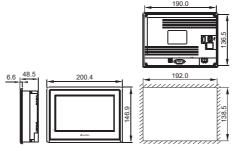


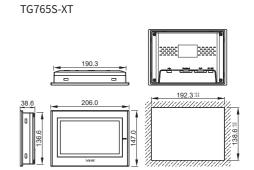
# | Product specification

	Product model	TG765-XT-C	TG765S-XT	TG765G-XT	TG765G-ZT	TG465G-ZT	
	Display size			7″		4.3"	
	Resolution	800*480 480*272					
Due do et	LCD		TF	T LCD display, LED backlig	ght		
Product features	Display color	16.77million colors	16.77 million colors 16.77 million colors 65535				
	Brightness			200 cd/m <sup>2</sup>			
	Touch panel		Fou	ır-wire resistive touch scr	een		
	LCD life		Above 50000 hours,	ambient temperature 25°	C, 24-hour operation		
	Memory	128MB	128MB	128MB	64	МВ	
	PLC port	RS232	RS232	RS232	RS232/RS485	RS485	
	Download port	/	RS232	RS232	RS232	RS232	
Interface	USB-A port	/	/	/	USB-A (USB2.0 standa	rd), USB flash disk port	
	USB-B port	USB-B (USB2.0 standard), USB download port					
	Ethernet port						
	Input voltage	DC24V (voltage range: DC22V~DC26V)					
Electrical	Consumption current				180mA		
features	Allowable power loss	Below 10	/				
	Withstand voltage shock	AC10	000V, 10mA, less than 1 mi	nute		/	
	Insulation resistance	Above10MΩ, DC500V				/	
	Operation temperature			0°C∼50°C			
	Storage temperature			-20°C∼60°C			
	Operation humidity		10%	RH-90%RH (no condensa	tion)		
Environment	Anti-interference ability		Voltage nois	e: 1500Vp-p, pulse width 1	lus, 1 minute		
	Air			No corrosive gas			
	Cooling mode			Natural air cooling			
	Protection level			Front cover IP65			
Dimension	External dimension (mm)	200.4*146.9*48.5	206.0*147.0*38.6	206.0*147.0*38.6	206.0*147.0*38.6	130.3*104.3*29.8	
Dimension	Opening size (mm)		192.0*	138.5		119.0*93.0	

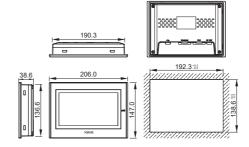
# | Appearance dimension drawing (Unit: mm)

TG765-XT-C

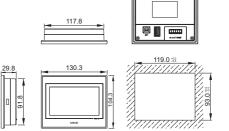




### TG765G-XT/ZT



### TG465G-ZT



# Embedded without border HMI

# **TGM(B)** series [10.1" 7" 4.3"]

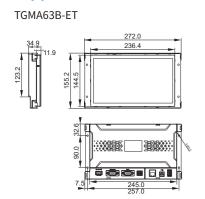
- No front cover, rear installation, greatly reducing the installation space
- It fits closely with the surface of the equipment for better fusion
- Users can design their own mask to meet the needs of personalized customization
- It is especially suitable for vehicle, medical, testing and other applications

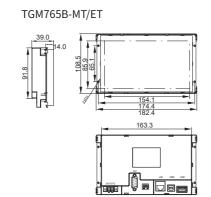


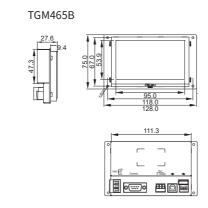
# | Product specification

Product model Product model		TGMA63B-ET	TGM765B-MT/UT	TGM465B			
	Display size	10.1"	7"	4.3"			
	Resolution	1024*600	800*480	480*272			
	LCD		TFT LCD display, LED backlight				
Product	Display color		16.77 million colors				
features	Brightness		200 cd/m <sup>2</sup>				
	Touch panel		Four-wire resistive touch screen				
	LCD life	Above 5000	00 hours, ambient temperature 25°C, 24-hou	ır operation			
	Memory	128	64MB				
	PLC port	RS232/RS	485/RS422	RS485			
	Download port	RS232/RS485	/	RS232			
Interface	USB-A port	USB flash disk port, USB2.0 standard, ET models supportUSB					
	USB-B port						
	Ethernet port	Standard RJ45 port	/				
	Input voltage						
Electrical	Consumption current	270mA	200mA	180mA			
features	Allowable power loss	Below 10ms (actual power loss less than 1s)					
	Withstand voltage shock		AC1000V, 10mA, less than 1 minute				
	Insulation resistance		Above 10MΩ, DC500V				
	Operation temperature		0°C~50°C				
	Storage temperature		-20°C~60°C				
	Operation humidity		10%RH~90%RH (no condensation)				
Environment	Anti-interference ability	Vol	tage noise: 1500Vp-p, pulse width 1us, 1 mi	nute			
	Air	No corrosive gas					
	Cooling mode		Natural air cooling				
	Protection level		/				
Dimension	External dimension (mm)	272.0*155.2*34.9	182.4*108.5*39.0	128.0*75.0*27.6			
Diffiension	Opening size (mm)	257.0*90	174.4*65.1	118.0*67.0			

# | Appearance dimension drawing (Unit: mm)







# Handheld wireless HMI

# MTG series 7"



- Exquisite appearance, handheld operation, more flexible
- Built-in mobile power supply, convenient charging and long battery life
- Wireless communication with PLC, fast air transmission speed (up to 115200bps), long communication distance and strong stability

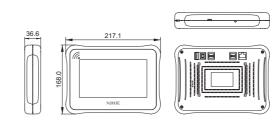


# | Product specification

	Product model	MTG765-HT
	Display size	7.0"
Product specification	Display size  Display color	16.77 million colors
	Resolution	
	Brightness	800*480
	Touch panel	Adjustable (system register PFW100)
ţ .	Service life	Four-wire resistive touch panel
rod		Above 50000 hours, ambient temperature 25°C, 24-hour operation
<u> </u>	Character setting	Chinese, English, Japanese, Russian, German, etc
	Character size	Any font and size
Memory	Memory	128MB
Screen features	Power	4W
	Charging parameters	5.0V-2.0A 9.0V-2.0A 12.0V-1.5A
een f	Endurance time (always on)	8 hours
Scre	Charging time	<10 hours
es	Operation temperature	0-45°C
atur	Ambient humidity	10%RH-90%RH (no condensation)
al fe	Ambient air	No corrosive gas
Electrical features	Protection level	The front panel complies with IP65
Ele	Cooling method	Natural air cooling
Structure	External dimension (mm)	217.1*158.0*36.6
	PLC port (built-in)	Built-in PLC port integrated wireless communication module
del	USB-A port	USB flash disk port, USB2.0 standard
E H	USB-B port	USB download port, USB2.0 standard
Product model	Micro-USB	Micro-USB, USB charging port
Pr	Ethernet port	Standard RJ45 port

# | Appearance dimension drawing (Unit: mm)

### MTG765-HT



# Handheld teaching pendant

# RT760 series 7"



- Fully consider the convenience of use, ergonomic holding structure, easy to hold with one hand and two hands
- The back magnet design can liberate hands and mobile operation without place limit
- All round reassuring protection, and the protection grade of the whole machine can reach IP66
- Fast and convenient programming



# | Product specification

Product model		RT760	
	Display size	7"	
	Resolution	800*480	
	Display	16.77 million colors, TFT LCD display, LED backlight	
Product features	Brightness	200 cd/m²	
reacares	Touch panel	Four-wire resistive touch panel	
	Button	20 film buttons, the function can be set freely	
	Memory	128MB	
	PLC port	RS485	
Interface	USB-A port	USB flash disk port, USB2.0 standard	
	USB-B port	USB download port, USB2.0 standard	
	Input voltage	DC24V (voltage range: DC22V~DC26V))	
Electrical	Consumption current	200mA	
features	Allowable power loss	Below 10ms (actual power loss less than 1s)	
	Operation temperature	0-50℃	
Environment	Storage temperature	-20-60°C	
LIIVIIOIIIIIEIIL	Operation humidity	10%RH-90%RH (no condensation)	
	Protection level	IP66 for the whole machine	

# | Appearance dimension drawing (Unit: mm)

RT760



# RT710/RT720/RT750 series 7"

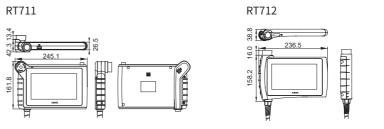
- Convenient field equipment test, widely used in manufacturing and industrial robot industry
- Golden ratio grip feeling, extremely suitable for one hand or two hands operation habits
- Application development is simple and fast

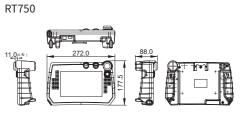


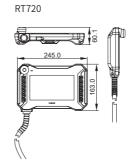
# | Product specification

Product model		RT711	RT712	RT720	RT750		
features	Size	7"					
	Resolution	800*480					
	Display	TFT LCD display, LED backlight, 16.77 million colors					
	Brightness	200 cd/m²					
	Touch panel	Four-wire resistive touch panel					
	Button	itton /		12 membrane buttons	14 membrane buttons		
	Brake switch	Emergency stop switch can effectively ensure the safety of the system in case of abnormal emergency					
	Memory	128MB					
	Communication port	RS485					
	USB-A port	USB flash disk port, USB2.0 standard					
	USB-B port	USB download port, USB2.0 standard	/	USB download por	t, USB2.0 standard		
	Input voltage	DC24V (voltage range: DC22V~DC26V)					
	Operation temperature	0-50°C					
	Storage temperature	-20-60°C					
	Operation humidity	10%RH~90%RH (no condensation)					

# | Appearance dimension drawing (Unit: mm)







# HMI special for ship navigation

CCSG series 15.6" 10.1" 7"

• Certified by China Classification Society, it is applicable to ships and marine facilities to meet the specific needs of the environment and ensure the stable and reliable operation of the system

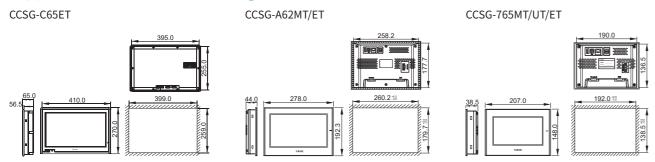


# | Product specification

Pr	roduct model	CCSG-C65ET	CCSG-A62MT CCSG-A62ET	CCSG-765MT CCSG-765UT CCSG-765ET		
Product	Display size	15.6"	10.1"	7"		
	Resolution	1366*768	1024*600	800*480		
	LCD	TFT LCD display, LED backlight, 16.77 million colors				
	Display color	16.77 million colors				
features	Brightness	250 cd/m <sup>2</sup>	200 cd/m <sup>2</sup>			
	Touch panel	Four-wire resistive touch panel				
	LCD life	Above 50000 hours, ambient temperature 25°C, 24-hour operation				
	Memory	128MB				
	PLC port	RS232/RS422/RS485				
	Download port	RS232/RS485				
Interface	USB-A port	USB flash disk port, USB2.0 standard, UT/ET models support				
	USB-B port	USB download port, USB2.0 standard				
	Ethernet port	Standard RJ45 port, ET models support				
	Input voltage	DC24V (voltage range: DC22V~DC26V)				
Flackstaal	Consumption current	730mA	270mA	200mA		
Electrical features	Allowable power loss	Below 10ms (actual power loss less than 1s)				
	Withstand voltage shock	AC1000V, 10mA, less than 1 minute				
	Insulation resistance	Above 10MΩ, DC500V				
	Operation temperature	0°C~50°C				
	Storage temperature	-20°C~60°C				
	Operation humidity	10%RH~90%RH (no condensation)				
Environment	Anti-interference ability	Voltage noise: 1500Vp-p, pulse width 1us, 1 minute				
	Air	No corrosive gas				
	Cooling mode	Natural air cooling				
	Protection level	Front cover IP65				
Dimension	External dimension (mm)	410.0*270.0*65.0	278.0*192.3*44.0	207.0*148.0*38.5		
Dimension	Opening size (mm)	399.0*259.0	260.2*179.7	192.0*138.5		

# | Appearance dimension drawing (Unit: mm)

135



# Operate panel

# OP series 3.7"

- OP series button type small-sized HMI, small and exquisite appearance
- The key function can be customized and can replace the mechanical button
- It has the basic functions of alarm, password, clock (optional), display bitmap, PLC control screen switching and so on
- Support the mainstream PLC and other control equipment in the market

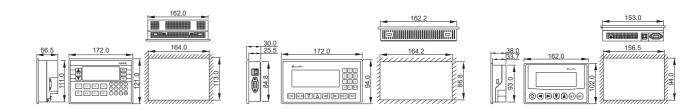


# | Product specification

	Product model	OP330	OP320-A OP320-A-S	OP320 OP320-S		
Product features	Display size	3.7"				
	Resolution	192*64				
	LCD	STN				
	Display color	Yellow green color				
	Brightness	Potentiometer adjustable				
	Touch panel	Notsupport				
	LCD life	Above 20000 hours, ambient temperature 25 °C, 24-hour operation				
	Memory	64KB FlashROM				
	Character setting	Chinese, English				
	Character size	Chinese: 16*16 32*32 English: 8*16 16*32				
	Button	26	20	7		
	Communication port	general models support RS232/RS422, (-S) model supports RS232/RS485				
e	Download port	RS232				
nterface	USB-A port					
=	USB-B port					
	Ethernet port	/				
es	Input voltage	DC24V (DC22V~26V)				
Electrical features	Consumption current	<140mA				
al fe	Allowable power loss	Below 10ms (actual power loss less than 1s)				
ctric	Withstand voltage shock	AC1000V, 10mA, less than 1 minute				
Ele	Insulation resistance	Above10MΩ, DC500V				
	Operation temperature	0°C~50°C				
	Storage temperature	-20°C~60°C				
ent	Operation humidity	10%RH~90%RH(no condensation)				
Environment	Anti-interference ability	Voltage noise: 1500Vp-p, pulse width 1us, 1 minute				
	Air	No corrosive gas				
	Cooling mode	Natural air cooling				
	Protection level	Front cover IP65				
imension	External dimension (mm)	172.0*121.0*56.5	172.0*94.0*30.0	162.0*102.0*38.0		
iension	Opening size (mm)	164.0*113.0	164.2*86.8	156.5*94.0		

# | Appearance dimension drawing (Unit: mm)

OP330 OP320-A/OP320-A-S OP320/OP320-S



# TouchWin

# **Outstanding picture expressiveness**



■ Rich 3D gallery and components resources



Support multiple languages and simple switching



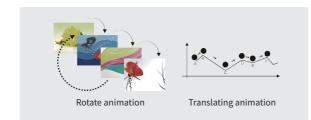
■ Program confidentiality function



■ Various character forms



■ New animation editing method, rich performance



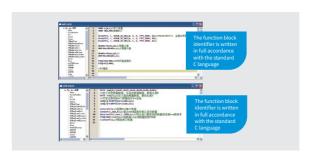
■ Translating animation



# Rich functional components

C language function block, operation, command and communication are omnipotent

- C language function block meets more complex computing and communication needs, give full play to the system functions and better serve customers.
- Support most standard C functions



■ The function can be encrypted separately. You need to enter a password to view the function content, which protects the rights and interests of usersguage



# Strong data processing capability

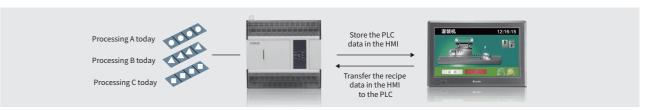
Process control data acquisition function, and the trend chart display is more intuitive



■ The alarm function allows the system to recover quickly



■ The storage and bidirectional transmission of recipe data greatly improve the work efficiency



Export CSV format data through USB flash disk, backup important data





# Integral controller ZG·ZP

# Product lineup

## Humanized design and perfect integration of PLC and HMI

## ZG series XD series PLC & TG series HMI

7 inches 16.77 million colors display, XDM series PLC 16 inputs 14 outputs, 4-axis 100KHz pulse output Linear/circular interpolation, high-speed counting, RS232 RS485, USB-A, USB-B port, standard clock



#### ZG3

4.3 inches to 7 inches 16.77 million colors display, XD3 series PLC 16 inputs 14 outputs, 10 inputs 10 outputs, 2-axis 100KHz pulse output High speed counting, RS232, RS485, USB-A, USB-B port, standard clock



4.3 inches 16.77 million colors display, XD1 series PLC 10 inputs 10 outputs, I/O sequential control, RS232, RS485 USB-A, USB-B port, standard clock



## ZP series [XD series PLC & OP series operate panel]

#### ZP3

3.7 inches yellow green LCD display, XD3 series PLC, 10 inputs 8 outputs, 2-axis 100KHz pulse output, high speed counting

3.7 inches yellow green LCD display, XD2 series PLC, 10 inputs 8 outputs, 2-axis 100KHz pulse output, high speed counting

#### ZP1

3.7 inches yellow green LCD display, XD1 series PLC, 10 inputs 8 outputs



## **Features**

## More compact structure design saves more installation space

#### For the realization of the same function



One PLC and one HMI



One integral controller



#### The functions of PLC and HMI are combined in one, bring new experience

- integrates logic control, analog input and output and HMI functions in one unit
- Support high-speed counting, high-speed pulse and external interrupt except Z
- Support plane interpolation and follow-up motion control only ZGM series support
- Support most functions of HMI
- HMI screen editing is simple and intuitive with rich functions



#### Vivid picture expressiveness

ZG series

- 3D gallery brings new visual enjoyment
- New animation editing method, more vivid performance
- Process control data acquisition function, and the trend chart display is more vivid
- Various forms of character and language



#### Panel design close to user needs



• The text integrated controller has 26 function keys, the functions can be set freely, and the keys are sensitive and accurate



• The mask of all integrated controllers can be customized according to the needs of users, and can be replaced at will

## **Features**

#### Extended alarm function for easy maintenance

- The alarm list, alarm window, call window and other flexible monitoring settings help the maintenance personnel find the abnormal causes in time, shorten the downtime and quickly restore the system.
- The historical event display allows the user to view historical alarm events.
- Cooperate with the historical event export in the function key to realize the export of historical alarm events.

Buzzer alarm

Cooperate with the alarm list and alarm window, when an alarm occurs, you can select the silent mode, ring once and ring continuously according to the important level of the alarm to make the alarm more accurate and timely.



#### Rich interfaces and more perfect functions

## ■ Based on USB-B port, the program download is fast and time-saving

USB-B interface complies with USB2.0 standard, using the commercially available USB cable, it can carry out high-speed data transmission and greatly shorten the download time.

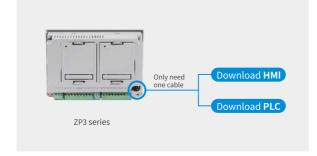
#### ■ Fast import export the data, based on USB-A port

The back of ZG series controller is equipped with a USB-A interface for HMI data backup, which is especially suitable for on-site data collection and storage, data import and export and two-way transmission. Through the storage format of CSV file, the maintenance and verification of engineering data are more efficient, flexible formula data are produced, the unified management of variety information is realized, and the control business is simplified.

#### ■ Multifunctional programming port

The HMI and PLC of ZP series integrated controller use the same programming cable. Users do not need to replace repeatedly, only one cable is needed.





## ■ Dual communication ports for quick connection of various equipment

Download port: for HMI and PLC program uploading and downloading (ZG series needs to upload/download HMI program through USB-B

Communication port: support PLC to communicate with external equipment in RS232 or RS485 mode.



#### High speed processing capability

ZP2,ZP3 series

The chip of XD series PLC is adopted, which is compatible with all high-speed processing functions of XD series PLC

ZG3 series

The chip of XD3 series PLC is adopted, which is compatible with all high-speed processing functions of XD3 series PLC

ZGM-30

XDM series PLC chip is adopted, it has richer motion control functions
Support 4 axes 100KHz pulse output, multi-channel 2-axis interpolation,

Support 4 axes 100KHz pulse output, multi-channel 2-axis interpolation, 4-channel single/AB phase high speed counting, follow-up command up to 4 channels

#### ■ Positioning control

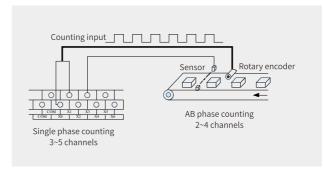
- When using pulse output, an integrated controller with transistor output is required, such as ZP2-18RT
- ZP2, ZP3 and ZG3 series all have 2 channels pulse output
- ZGM series have 4 channels pulse output

# 

\*Note: when using the high-speed pulse output function, PLC can output 100kHz pulse at most. If it is necessary to increase the pulse output frequency on the basis of 100kHz, about 500\Omega resistance can be connected between output and 24V power supply. At this time, the output frequency can reach 200kHz at most.

#### ■ High speed counting input

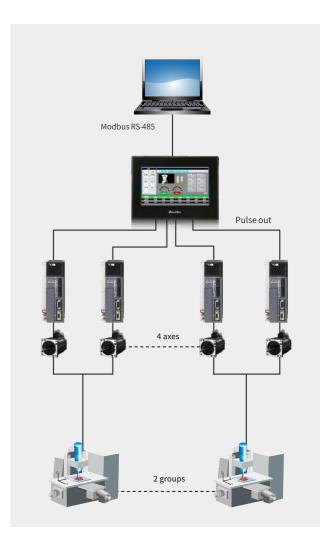
By selecting different counters, single-phase counting (the maximum frequency can reach 80kHz), pulse + direction mode counting (the maximum frequency can reach 80kHz) and AB phase mode counting (double frequency and quadruple frequency are optional, and the maximum frequency can reach 50KHz).



\*Note: refer to ZG/ZP series manual for the detailed configuration of high-speed counting of each model.

#### ■ Motion control

Support multi-channel 2-axis interpolation (exclusive function of ZGM)

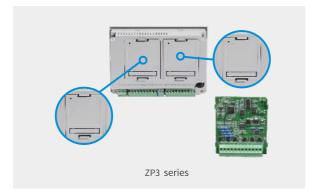


## Features

#### Rich analog acquisition function

ZG, ZP series integral controllers can realize analog input and output, temperature control and other functions by connecting BD board. ZP series can expand two BD boards, other models can only expand one BD board.

Z series BD board can match ZG, ZP series integral controller (ZP1 cannot support BD board)



#### ■ Z series expansion BD board

Model	Description						
Z-8X-BD	8 channels digital input (NPN)						
Z-8YT-BD	8 channels transistor output						
Z-4X4YT-BD	4 channels digital input (NPN), 4 channels transistor output						
	4 channels current input 0~20mA, 4~20mA optional						
	2 channels current output 0~20mA, 4~20mA optional						
7 44 0 2 0 4 4 0 0	12-bit high precision analog input (0~4095)						
Z-4AD2DA-A-BD	10-bit high precision analog output (0~1023)						
	Conversion speed 1ms/channel						
	Comprehensive accuracy: ±0.8% of the full scale						
	3 channels voltage input 0~10V, 0~5V optional						
	3 channels PT100 (2-wire) temperature sensor input						
Z-3AD3PT-BD	Temperature range -100~500°C, accuracy 0.1°C						
	12-bit high precision analog input (0~4095)						
	Conversion speed 1ms/channel						
Z-4TC-BD	4 channels thermocouple temperature sensor input, support multiple thermocouple types						
Z-41C-BD	Temperature range -200~1340°C (take type K as an example, others please refer to the manual), accuracy 0.1°C						
Z-4PT3-BD	4 channels PT100 (3-wire) temperature sensor input						
Z-4P13-BD	Temperature range -100~500°C, accuracy 0.1°C						
Z-1WT-BD	1 channel weighing sensor input, 20-bit high precision, analog input range DC0~10mV (sensor 2mV/V)						
Z-2WT-BD	2 channel weighing sensor input, 20-bit high precision, analog input range DC0~10mV (sensor 2mV/V)						
Z-NES-BD	1 RS232 and 1 RS485 communication port, the two ports cannot be used at the same time						

## Specification and model

#### ZG series

Integrated XD series PLC and TG series HMI in one unit, equipped with RS232, RS485, USB-B, USB-A port for downloading, communicating and data backup.  $4^{\sim}7$  inches display, 16.77 million colors LCD, touch screen.

- ① I/O 20~30 points
- ② 2~4 axes 100KHz high speed pulse output (ZG1 cannot support)
- ③ 3~4 channels high speed counting input (ZG1 cannot support)
- 4 RS232,RS485,USB-B,USB-A
- ⑤ RS232, RS485, USB-B, USB-A
- 6 128MB screen capacity
- 7 Command processing speed 0.05us
- ® ZGM supports linear, arc interpolation and other motion control functions



#### ■ Performance specification

		ZG1 series			ZG3 series			ZGM series			
Item	Model	ZG1-20T-4	ZG3-20R-4	ZG3-20T-4	ZG3-30R-7	ZG3-30T-7	ZG3-30RT-7	ZGM-Series ZGM-30T4-7			
100111	HMI	201-201-4	ZG3-ZUR-4		Same to TG serie		ZG3-30R1-7	ZGM-3014-7			
Function	PLC	Same to XD1 series			Same to XD3 seri			Same to XDM series			
	Download/COM1	Same to VD1 series					h1\	Same to XDM series			
	COM2	RS232 (upload/download PLC program, PLC port1)  AB terminals, RS485 (PLC port2)									
Interface	USB-A		Support import export HMI data through flash disk								
	USB-A USB-B										
		For HMI program download and debug, can realize high speed download, transmission rate up to 480Mbps									
	Туре	4.2.11	16.77 million true colors LCD 4.3 " 4.3 " 7 "								
	Screen size	4.3 "				<u>'</u>		7 "			
	Service life	Above 50000 hours, ambient temperature 25°C, 24-hour operation									
Screen features	Display area	480*272	480*272     480*272     800*480     800*480								
	Contrast	Adjustable									
	Language	Chinese, English, Japanese, German, etc.									
	Character size	Any font and size									
	Touch mode	4-wire resistive mode touch									
	Memory	Screen: 128MB									
	rogram execution mode	Cyclic scanning mode									
	Programming method	Instruction, ladder chart, C language									
	Processing speed				0.05us						
	User program capacity	256KB 256KB									
	Digital input	10 points	10 pc	oints		16 points		16 points			
	Digital output	10 points	10 pc	oints	14 points			14 points			
on	Output type	Transistor	Relay	Transistor	Relay	Transistor	Mixed transistor and relay	Transistor			
ati	Soft component capacity	Same toXD1	Same to XD3	Same to XD3	Same to Xd3	Same to XD3	Same to XD3	Same to XDM			
PLC specification	High speed pulse channel	/	/	2 channels	/	2 channels	2 channels	4 channels			
)ec	Motion control function	/			Not suppo			Support			
S	High speed counting input	/			3 channe			4 channels			
7	Trigit speed counting input	/		Single phas	e max 80KHz, Al	3 phase max 50I	KHz				
	External interrupt	/			10 channe	ls		10 channels			
	Frequency measurement	/			3 channe	s		4 channels			
	Password protection				6-bit ASCII c	ode					
	Self diagnosis function			Power on sel	f-test, monitorin	g timer, syntax o	heck				
	Expansion BD board				One						
	Clock				Standard config	uration					

**<sup>%1</sup>**: User program capacity refers to the max program capacity in secret download mode.

Specification and models

# Specification and models

#### ZP series

Integrated XD series PLC and OP series operate panel in one unit, equipped with RS232, RS485 port for downloading and communicating. 3.7 inches monochrome display, 26 buttons can set the function freely.

- ① I/O 18 points
- ② 2-axis 100KHz high speed pulse output
- ③ 3 channels high speed counting input
- 4 RS232、RS485
- ⑤ 64KB screen capacity
- 6 26 functional buttons
- ⑦ Command processing speed 0.05us



#### ■ Command processing speed 0.05us

	Model	ZP1	series	ZP	2 series		ZP3 seri	es			
Item		ZP1-18R	ZP1-18T	ZP2-18R	ZP2-18RT	ZP3-18R	ZP3-18T	ZP3-18RT			
Function	HMI			Same to	OP331 series						
Function	PLC	Same tox	D1 series	Same to XD2 series Same to XD3 series							
	Download/COM1		RS232 (uplo	ad/download PLC	program, download OP	program)					
Interface	COM2	AB terminals, RS485 (PLC port2)									
IIIteriace	USB-A										
	USB-B										
	Туре			Yellow	green LCD						
	Screen size	3.7 inches									
	Service life	Above 20000 hours, ambient temperature 25°C, 24-hour operation									
	Display area	192*64									
	Contrast	Potentiometer adjustable									
Screen	Language	Chinese, English									
features	Character font	Dot matrix font, vector font									
	Touch mode	Cannot touch									
	Memory	Screen: 64KB Data: 4KB									
	Character size	Chinese: 16*16,32*32; English: 8*16,16*32									
	Button	26 buttons									
	Program execution mode	Cyclic scanning mode									
	Programming method	Command, ladder chart, C language									
	Processing speed	0.02~0.05us									
	User program capacity	256KB									
_	Digital input	10 points									
specification	Digital output			8	points						
cat	Output type	Relay	Transistor	Relay	Transistor and relay mixed	Relay	Transistor	Transistor and relay mixed			
cifi	Soft component capacity	Same	to XD1	Sam	e to XD2		Same to X	D3			
be	High speed pulse channel	/	1	/	2 channels	/	1	2 channels			
S	High speed counting input	/	1		3 channels, single phas	e up to 80KHz, A	AB phase up to	50KHz			
PLC	External interrupt	8 cha	nnels	8 channels		8 channels					
	Frequency measurement	/	1	3 channels		3 channels					
	Password protection			6-bit /	ASCII code						
	Self diagnosis function		Powe	r on self-test, mor	nitoring timer, syntax ch	eck					
	Expansion BD board	/	'		1		2				
	Clock			Standard	configuration						

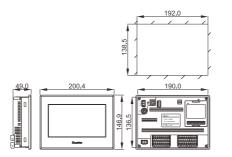
**<sup>%1:</sup>** User program capacity refers to the max program capacity in secret download mode.

#### ■ General specification (ZG/ZP)

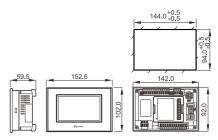
	Item	Specification				
Series		ZP series	ZG series			
Electrical	Input voltage	DC24 (voltage range DC	21.6~26.4V)			
features	Allowable instantaneous power failure	Less than 20ms	10ms			
leatures	Insulation impedance	About 10MΩ,DC500V (signal and ground)				
	Operation temperature	0~50°C				
	Storage temperature	-10∼60°C				
Environment	Ambient humidity	20~85% (no condensation)				
2	Vibration resistance	10~25Hz (X, Y, Z direction each 30 minutes 2G)				
	Anti-interference	Voltage noise: 1000Vp-p				
	Ambient air	No corrosive gas				

# Appearance dimension drawing (Unit: mm)

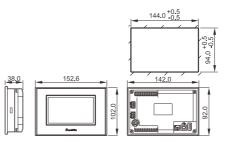
#### ZG3-30R/T/RT-7, ZGM-30T4-7



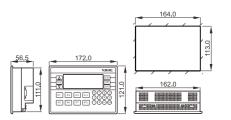
## ZG3-20R/T-4



#### ZG1-20T-4



#### ZP1/ZP2/ZP3-18R/T/RT



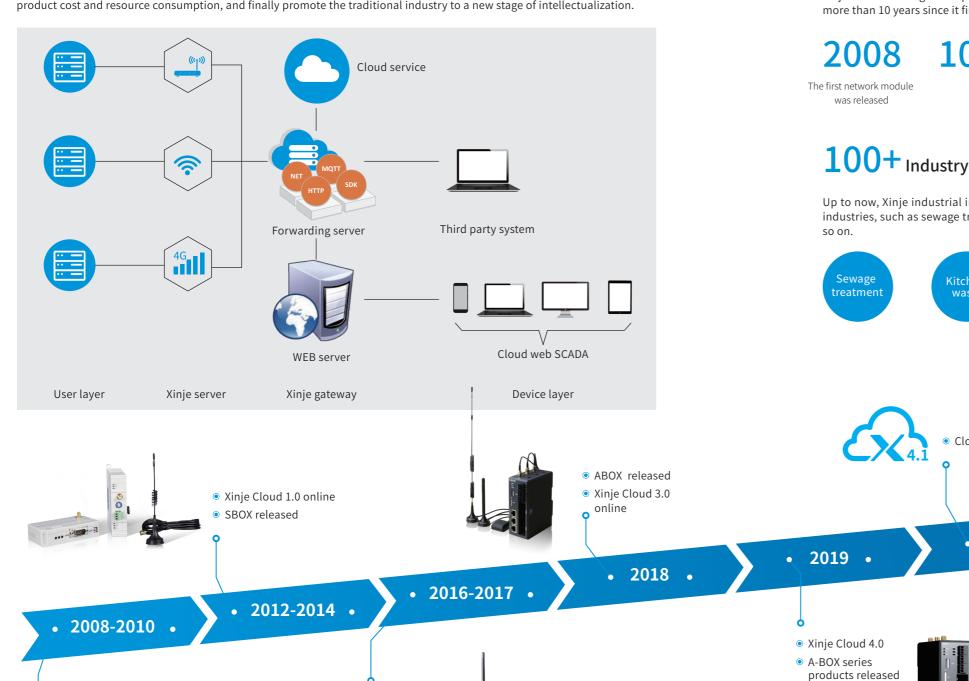
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# informatization

Xinje Cloud Web SCADA Cloud intelligent manufacturing · XDATA **Ethernet** Gateway products 4G · WIFI · Protocol free transparent transmission

## Industrial informatization and development process

Industrial informatization is the continuous integration of various acquisition, control sensors or controllers with sensing and monitoring capabilities, as well as mobile communication, intelligent analysis and other technologies into all links of the industrial production process, so as to greatly improve the manufacturing efficiency, improve the product quality, reduce the product cost and resource consumption, and finally promote the traditional industry to a new stage of intellectualization.



4GBOX released WBOX released

Xinje Cloud 2.0

online

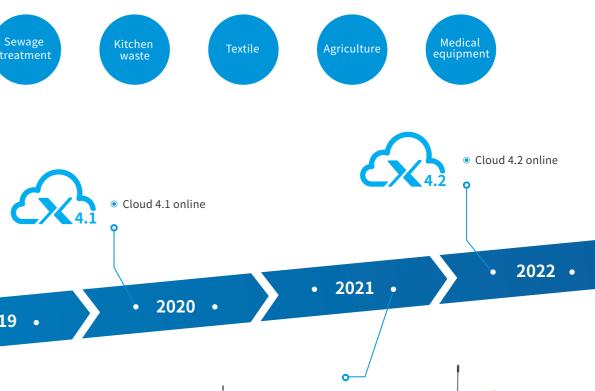
## **Development process of Xinje information products**

Xinje has attached great importance to the R&D and application of industrial Internet since its inception. It has been more than 10 years since it first launched the network module G-BOX in 2008.

10 years + 5 types

## 100+ Industry applications

Up to now, Xinje industrial informatization products have been successfully applied in hundreds of subdivided industries, such as sewage treatment, kitchen waste, textile, agriculture, manufacturing, medical equipment and



S-BOX-HT released XDATA online

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G-BOX released

T-BOX released

# Xinje Cloud

# No programming | no professional skills | create an exclusive IOT platform

#### ■ Industrial informatization solutions

inje Cloud is an industry application platform for remote data acquisition based on years of deep cultivation in the industry and extensive product applications. Its functions include: device access, device management, data storage, graphic configuration, data display, data analysis, user management and other parts. It supports the simultaneous monitoring of PC and mobile app.

The platform is free of programming and software installation. Without professional skills, it can quickly realize the connection between products and systems and create an exclusive IOT platform. At any time, the remote data monitoring, parameter setting and function control of the equipment can be realized through web and app.







Equipment fault remote diagnosis and real-time monitoring



After sales reliability maintenance of equipment, such as after-sales maintenance of air compressor



Ensure the authenticity of test and detection equipment data, such as lithium battery test



Smart city construction, such as sewage treatment, waste recycling, cold storage



Smart agriculture, smart home, smart RV and other industries

## Cloud V4.2

## Overall upgrade | New functions | New experience

ompared with the 4.1 platform, Cloud 4.2 introduced the concept of physical model based on the unchanged platform framework to make equipment management more convenient, and more functional modules further enable enterprise production.





Secondary data development, data point binding, and more convenient equipment replacement



Cloud and HMI synchronization, flexible and efficient control

Data analysis

Historical data, conditional collection, data report

Self-service report

Chinese-style report, fast construction

Recipe distribution Automatic management and automatic distribuRich external interfaces

Provide X-NET SDK, HTTP, MQTT and other protocol interfaces

Personalized customization Support local deployment of Cloud platform and provide customized services

Alarm push Support app alarm, SMS alarm, official account push

Staging management Installment task, lock machine when due, easy to manage

Production management Task formulation, assignment and progresstracking

## ■ Multiple login methods for quick registration

Add Wechat applet Cloud or scan the QR code below

Focus on Wechat official account, click Cloud menu, download app according to mobile phone system.











Cloud V4.2 -

## Cloud V4.2

#### ■ Excellent graphic SCADA and interface configuration

#### The main information is displayed on the large screen, which is intuitive and clear

The home page can display the online rate, alarm statistics, equipment positioning and other information of all equipment on the platform.





#### Rich graphical SCADA tools, easy to use

Support web page graphic SCADA, display device data more vividly, support independent interface design of PC and mobile terminal, make management more convenient, provide rich system library and support user-defined library management.





#### Chart display effect optimization

The equipment status statistics are displayed in the form of Gantt chart. The status duration is more intuitive. Click the linkage interaction in the chart to accurately view the start and end time of each equipment status.





#### ■ TS5 system HMI access

#### VNC Cloud and HMI synchronization control

TS5 IoT model is added to the platform access equipment, which supports VNC remote control, cloud HMI synchronization, and more flexible control.





#### ■ Multi-functional data report

#### Flexible data acquisition mode

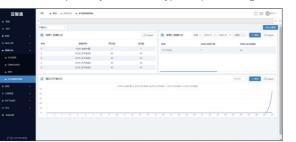
Statistics method: daily statistics, time period statistics, support register accumulation, register clearing storage methods.





#### Report chart custom configuration

The form is simple in style, diverse in type, simple in configuration, and supports the export of form or image.





#### Automatic production report generation

Time interval and multiple data query methods are supported.

The report data supports the comparison of daily, monthly and annual output of different products.

Support multiple forms of table, curve, histogram and pie chart. The table can be exported to Excel.

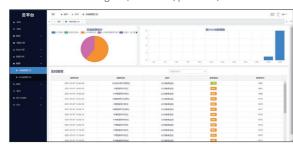


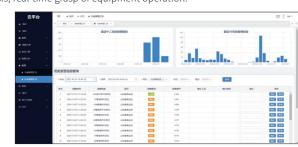


## ■ Historical data, conditional acquisition, data query

#### Strong data analysis ability

Rich data forms: histogram, line chart, pie chart, etc. Massive data chart analysis, real-time grasp of equipment operation.





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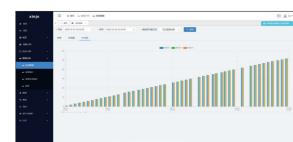
# Cloud V4.2

#### Historical data, conditional acquisition, data query

95.The data storage conditions are free and flexible, the data are stored according to the user-defined cycle and the logical conditions.

Rich forms of historical data, including histogram, line chart, table, etc.





Support data query by time period, realize data traceability, and lay the foundation for big data analysis.

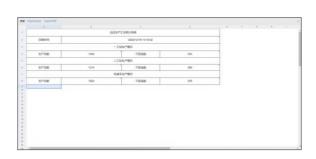


The data in the table can be exported as Excel format.



#### Custom table design function, supporting table or PDF format export

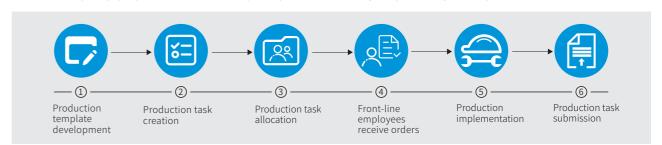




#### ■ Production schedule management system

#### Perfect production task process

It has a complete production task process from production template formulation to production task submission, which provides solutions for customers to replace paper production tasks, and improves production efficiency and profitability of enterprises.



Add a production parts list to the task template, and set the estimated production time.



Multiple production templates can be used as production plans in production tasks.



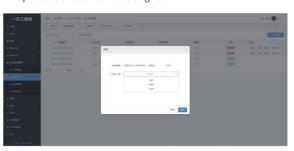
#### Task management

In the process of MO order flow, the task node is automatically recorded, and the order table can be customized and edited, and can be exported to Excel for order traceability.



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	A	В	c	D	E	F	G	Н	- 1	1
1	任务编号	wq317357678	订单版本	317357678	创建日期	2022-12-25				
2.	客户名称	wq	业务员	木南	联系方式	12345678901				
3	客户交期	2023-12-25								
4	一、订单详细列	表								
5	NO.	<b>设备名称</b>	设施编码	DE.						
6	1	TEST	wq317357678	2						
7	二、订单详细数	求								
8	NO.	项目	备注							
9	1	项目一	保注一							
10	2	项目二	俗注二							
11										
12										
13										

The production task can be assigned.



Manage individual orders and report task completion.



Cloud V4.2 —

## Cloud V4.2

#### ■ Perfect after-sales management and maintenance

#### Equipment fault alarm reminder

The alarm logic can be set, the alarm level can be set, and the data to be collected for the alarm solution and alarm occurrence can be associated with the alarm point to provide the scheme and parameter analysis.

Alarms can also be associated with the work order system to generate corresponding equipment work orders in case of major alarms.



Support real-time alarm and history query.



#### Support to bind Xinje official account to push alarm



#### Support mobile app push and SMS alarm



#### After sales operation and maintenance system

130. The equipment manufacturer timely obtains the service life, abnormal operation and other information of vulnerable parts and generates the business information system, which not only provides solutions for customers to replace the traditional manual management, improves the business service level, but also provides an accurate information system for enterprise after-sales service and improves the profitability.

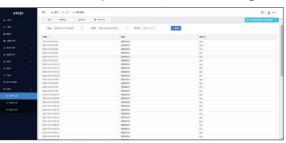


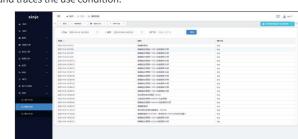




#### Log management

During the operation of the system, the user log will be generated according to part of the operation status, operation records, recipe distribution, so as to ensure the safety and integrity of the log. It also provides the function of querying according to the operation time, operation content and the success or failure of recipe distribution, records the user login and logout time, and traces the use condition.





#### ■ Multilevel access management

## User management

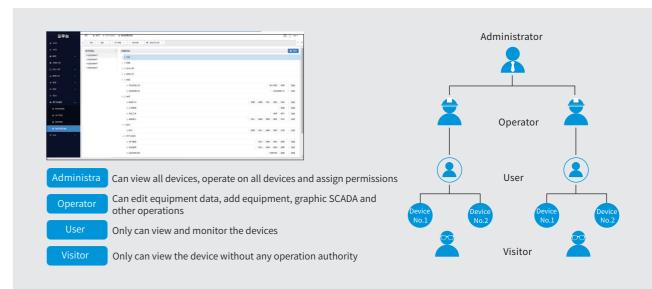
Manage the information of all sub -users under the account and assign user roles.

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Role management

149.Different roles access control and division can meet all permissions of different roles and solve the problem of customer assignment.

Role permission assignment

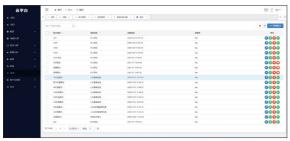


## Cloud V4.2

#### Remote recipe automatic distribution

#### Recipe parameter database storage

The equipment operation parameters are stored in the cloud database, and the database backup is encrypted to avoid the loss of original data.



Log will record the success or failure of distribution, which is convenient for traceability management.

Log will record the success or failure of distribution, which is convenient for traceability management.



#### Flexible recipe distribution

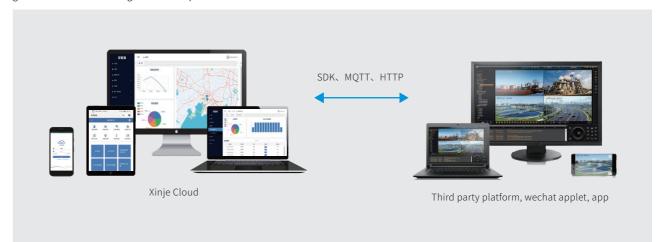
The recipe distribution method is flexible. Select any recipe parameters stored in the database, distribute them according to the specified time, and send them to the address area specified by the equipment according to the logical conditions.



Xinje SDK, MQTT, HTTP protocol interfaces can realize the following functions:

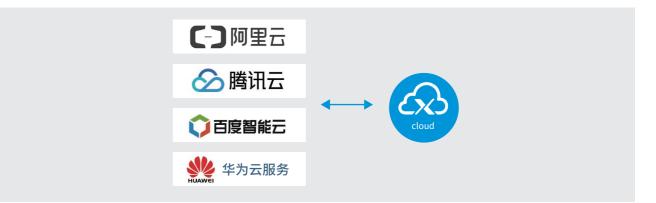
The third-party platform can obtain the equipment data in real time and operate the equipment remotely. Verify different modules and distinguish different sites through the ID and password.

Support access to third-party platforms



#### Server deployment

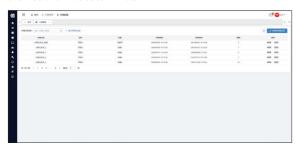
The Xinje Cloud local inheritance deployment supports self-built servers and public cloud deployment. Cloud can be ported to the client's own server, we can provide customized services. Customers can build their own servers or rent third-party servers such as Alibaba cloud, Tencent cloud and Huawei cloud.



#### System management by instalment

#### System management by instalment

The platform supports phased management. You can set phased tasks through the platform, automatically lock the device, and unlock the device on the web and mobile terminals.





## Open and personalized services

#### Video monitoring

It supports third-party video access, and can synchronously monitor the on-site environment, equipment operation status and other information on the web and mobile terminals.



**Self-built server:**users need to build their own computer room, network deployment and purchase server hardware. The reference configuration of Xinje cloud deployment environment is shown in the following table:

Self-built server						
CPU	Intel E5 and up					
Memory	8GB					
Hard disk	200GB					
Bandwidth	Fixed IP bandwidth 10M and up					
System environment	Windows Server 2012 R2					

Public cloud deployment: 188.take Alibaba cloud server as an example. It is connected to about 200 devices. The recommended configurations are as follows:

Public cloud deployment						
CPU	2-core					
Memory	4GB					
Hard disk	40GB					
Bandwidth	2M					
System environment	Windows Server 2012 R2					

Data visualization through XDATA is more convenient and fast. Users don't need any programming foundation. They just need to drag and drop, which saves a lot of programming work.



#### | Advantages of XDATA



#### Direct data source

Support direct connection Xinje SQL to get cloud data, uploading local Excel/csv file or connect the data through API. It can complete multi-source interaction analysis.



#### Drag and drop editing

Use the visual editor, what you see is what you get, drag and drop to generate a visual page, so that you can easily edit without writing code.



#### BI self service analysis

Both the report and the large screen support data table modeling, dragging fields to bind data, as well as flexible interaction such as filtering, drilling and linkage, so that you can easily conduct in-depth data mining.



Provide 30 + Echarts visualization charts based on Xinje cloud and 10 + filtering components, support professional GIS visualization and custom icon effects, and fully meet your diversified visualization needs.



#### Cool big screen

We integrate BI report and large screen functions, and provide multiple sets of cool large screen templates, so that you can quickly build a large screen with a sense of science and technology.



#### Authority control

Enterprise organization level management, including project space isolation, role and user-based authorization mechanism, flexible setting of resource operation authority and data authority, so as to fully ensure your data security.

#### How to use XDATA





local csv file



[data mangement]-[data source] [data mangement]-[data model] Connect to Xinje cloud database or Secondary processing and visual modeling of all data tables under the data source



[data large screen]-[new data large screen] All kinds of data visualization components build a large screen with low cost and high efficiency



[large screen space] Build a large screen and share it with other users through public/private connection

## Rich hardware product support



#### | Flexible networking modes

Wirel	ess	Min- d	Wireless or wired optional		
4G	WIFI	Wired			
XD-4GBOXL-ED	XD-WBOX-ED	T-BOX	T-BOX		
4G-BOX W-BOX		W-BOX Ethernet series PLC			

#### Product model selection

5 1	Networking			9	Support device:	S	we to the total	
Product series	mode	XC	XD	НМІ	Modbus RTU	Other brands PLC	Wireless or wired optional	
A-BOX	4G\WIFI\Ethernet	√	√	√	√	√	Serial port, Ethernet device upload/download program, remote monitoring	
A-BOX-U	4G\WIFI\Ethernet	√	√	√	√	√	Serial port, Ethernet/USB device upload/download program, remote monitorin	
A-BOX-4G	4G、Ethernet	√	√	√	√	√	Serial port, Ethernet device upload/download program, remote monitoring	
A-BOX-W	-BOX-W WIFI、Ethernet ✓ ✓ ✓ ✓ ✓		Serial port, Ethernet device upload/download program, remote monitoring					
4G-BOX	4G	√	√	√	√	×	Upload/download program, remote monitoring, text message	
XD-4GBOXL-ED	46	×	√*1	×	√	×	Upload/download program, remote monitoring, text message	
WBOX-L		√	√	√	√	×	Upload/download program, LAN networking	
XD-WBOXL-ED	2.4Hz WIFI	×	√ *1	×	×	×	Upload/download program, LAN networking	
T-BOX	Ethernet	√	√	√	√	×	Upload/download program, LAN networking	
S-BOX-HT	433MHz	√	√	√	√	×	Wireless networking, wireless HMI	
XD5E/XDME/XDH	Ethernet	×	√	√	√	×	Upload/download program, LAN networking	
XL5E/XLME	Ethernet	×	√	√	√	×	Upload/download program, LAN networking	
XG2	Ethernet	×	√	√	√	×	Upload/download program, LAN networking	

<sup>\*1:</sup> Firmware version V3.4.5 and up is required.

# A-BOX series

## ALL in one

Full coverage of 4G, WIFI, Ethernet, Powerful functions



#### | Function features

## Various Internet access modes

Support 4G, WIFI, Ethernet modes to access Internet.

It is equipped with 4G routing function, supports WiFi, Ethernet port equipment to access the Internet, and the Internet mode can be switched adaptively.



#### Two working modes

In the remote transparent transmission mode, it supports the function of upload/download programs for PLC, HMI and other devices.

In the data monitoring mode, it supports more devices to access the cloud platform to realize data remote monitoring.



## Stronger compatibility and support multiple device access

Support Siemens, Mitsubishi, Omron and other mainstream brands PLC.

Support industrial control equipment to access through serial port, Ethernet port and USB port to realize networking communication between various devices. Support multiple serial communication modes: RS232,

Support MQTT, OPC DA, Modbus TCP Server, etc.



#### Humanized design, easy to use

Long lasting online, with disconnection redial and watchdog functions.

Support GPS and base station assisted positioning. Support Modbus-TCP Server, easy to be networking. Support two-way read-write function and machine locking function.

Support MQTT protocol and message caching function.

## | Application scenario





HVAC refrigeration



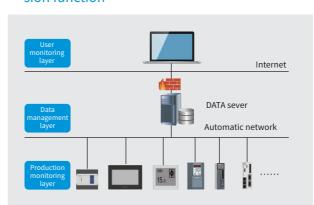
Manufacturing



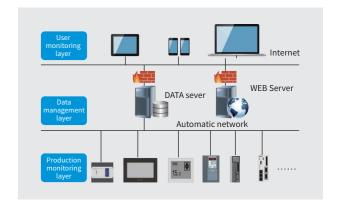
Power monitoring

## | Network topology

■ Realize the remote management of the equipment through the remote transparent transmission function



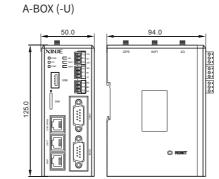
■ Remote monitoring of equipment through cloud

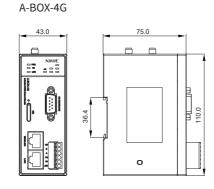


#### **| Specifications**

Model	A-BOX	A-BOX-U	A-BOX-4G	A-BOX-W					
COU		MT7	628						
FLASH		16MB SPI	FFLASH						
RAM	128MB								
Working voltage	DC2V, allowed range is DC21.6V~26.4V								
Installation method	Standard guide rail installation								
4G module	EC2	0-CE	EC200N-CN						
4G operating frequency band	UMTS:CDN	SM/GPRS:900, 1800MHz EDGE:900, 1800I MA2000 (BC0) , WCDMA (B1, B8) , TD-SCDM FE:FDD (B1, B3, B8) TDD (B38, B39, B40, B GNSS:GPS, GLONASS	A (B34、B39)						
WIFI operating frequency band	2.4	4GHz		2.4GHz					
Ethernet	Three 10/100N	M adaptive ports	Two 10/100M adaptive ports						
COM port	COM0:RS	5232/RS485	COM-DC222/DC40F/DC422						
COM port	COM1:RS232	2/RS485/RS422	COM:RS232/RS485/RS422						
USB port	USB Hos	t interface							
Internet access mode	4G/WIFI/Eth	4G/WIFI/Eth	4G/Eth	WIFI/Eth					
Serial port transparent transmission	$\checkmark$	√	√	√					
Ethernet port transparent transmission	√	√	√	√					
USB transparent transmission		√							
GPS positioning	$\sqrt{}$	√							
Data monitoring	√	√	√	√					

#### **Dimension** (Unit: mm)





XINJE

A-BOX-W









# 4GBOX series

4GBOX series products are wireless data communication modules based on the operator's network, which are widely used in the automation system with XD or XC series PLC to realize the remote wireless monitoring of the automation system.



## | Monitoring modes

XCPpro or XDP



#### | Module models and supported device (Modbus, X-NET)

Device information	Network modules	Online programming	Online monitoring	Others
XC	4G-BOX	Support	Support	Provide host computer
XD (V3.4.5 and up)	XD-4GBOXL-ED	Support	Support	development interface
Modbus RTU	4G-BOX	Not support	Support	development interface

#### | Product features

Supported telecom operators: China Mobile, China Unicom and China Telecom

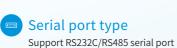
Roaming function Support international roaming, frequency band refers to the manual

**GPS** positioning Support GPS positioning

Persistent online Support disconnection redial and watchdog

Status flag Module operation information, signal strength, SIM card binding multiple status flags

Monitoring function With SMS data monitoring function



connection mode Power supply

DC24V power supply

SIM card Nano SIM card

Connector Standard SMA connector

Antenna Standard high gain data antenna



## | Application scenario





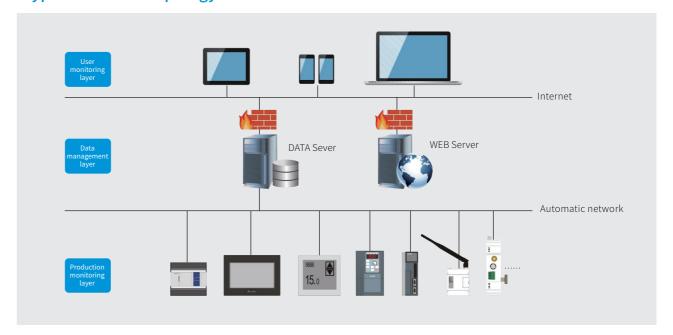






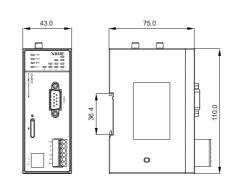


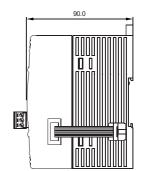
#### | Typical network topology



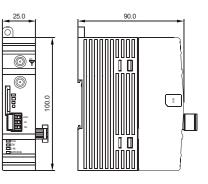
#### **Dimension** (Unit: mm)







XD-4GBOXL-ED



# WIFI module

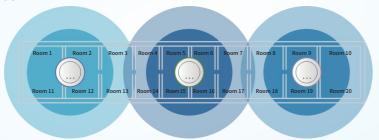
WIFI module is a wireless data communication module based on WLAN technology. It supports X-NET and Modbus-RTU protocol equipment. The wireless terminal provides X-NET and Modbus TCP protocols. It is widely used in automation system with XC and XD series PLC to realize wireless monitoring and scheduling of automation system.



#### | Module models and supported devices (Modbus, X-NET)

Device information	Network modules	Online programming	Online monitoring	Others	
XC	WBOX-L	Support	Support	Dravida bast samputar	
314.XD (V3.4.5 and up)	XD-WBOXL-ED	Support	Support	Provide host computer development interface	
Modbus RTU	WBOX-L	Not support	Support	development interface	

#### | Product features



- Network modes
  - Support AP (wireless hotspot) and STA mode Support multiple wireless hotspots automatic roaming technology (typical time <500ms, max time 2000ms)
- Persistent online
  - Support disconnection redial and watchdog
- Monitoring mode The Intranet can reach four master stations for synchronous monitoring Support simultaneous monitoring of Intranet and Extranet
- Communication protocol Support XNET fieldbus based on TCP/IP Support Modbus TCP to connect SCADA software
- Frequency band 2.4GHz wireless WLAN technology

- Power supply DC24V power supply
- Connector Standard SMA connector
- Antenna Standard high gain data antenna
- Status indicator Support signal strength and operation status indication functions
- Serial port type Support RS232C/RS485 serial port connection mode

## | Application scenario







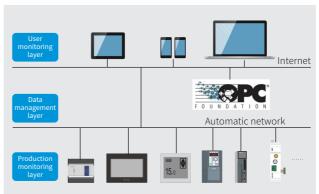
Production information management



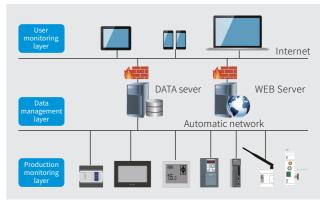


## | Typical network topology

■ Authority protection mechanism based on password authentication

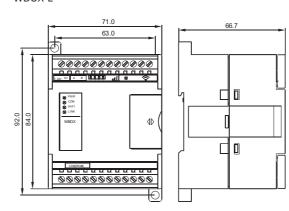


■ Remote monitoring of equipment through cloud platform

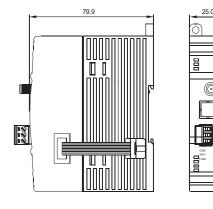


#### **Dimension** (Unit: mm)

WBOX-L



XD-WBOXL-ED



# **Ethernet module**

The Ethernet module T-BOX uses 10M adaptive RJ45 interface and supports Modbus TCP and Modbus RTU communication protocols, enriching the communication connection mode between automation systems. The connection mode equipped with DCS system breaks the island state of traditional industrial automation system. The main monitoring methods include XC/XD series PLC software, website, app, Kingview, Wincc, ect.



The Ethernet module T-BOX uses 10M adaptive RJ45 interface and supports Modbus TCP and Modbus RTU communication protocols, enriching the communication connection mode between automation systems. The connection mode equipped with DCS system breaks the island state of traditional industrial automation system. The main monitoring methods include XC/XD series PLC software, website, app, Kingview, Wincc, ect.

#### | Module models and supported devices

Module type	Module type	Online programming debugging	SCADA monitoring	Communication protocol	Communication port	Using method	Others
	XC	Support	Support		Support	Dial switch configuration,	Provide host
T-BOX	XD	Support	Support	Modbus TCP	Support	instruction programming	computer development
	Modbus RTU	Support	Support		Support		interface
Ethernet	t series PLC	Support	Support	Modbus TCP, X-NET, TCP/IP free format	10/100M adaptive RJ45 port, some models have double Ethernet ports, built in switch function	Dial free one button configuration, wizard programming, support static IP and automatically obtain IP	Provide local and remote communicatio n interfaces

#### **Product features**

#### Monitoring mode

Up to four master stations can be monitored synchronously in the intranet, which supports simultaneous intranet and extranet monitoring



#### Status indicator

T-BOX provides operation status signal light indication function



T-BOX supports RS232C, RS485 serial port connection mode. Ethernet PLC uses 10/100M adaptive Ethernet port.

#### (iii) Communication protocol

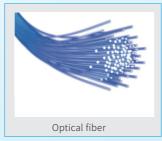
Support Modbus TCP master slave mode, can connect to SCADA software

Ethernet PLC supports X-NET bus based on TCP/IP Ehternet PLC supports TCP/IP free format communication

#### | Module connection

There are two common wiring modes of Ethernet equipment: twisted pair and optical fiber. Twisted pair is generally used for short-distance connection, and CAT5e or CAT6 network cable is recommended for field wiring. The theoretical communication distance of standard network cable is 100m. Optical fiber is generally used for long-distance connection. The communication distance of ordinary glass optical fiber combined with optical fiber transceiver can reach 20km.





#### | Application scenario







Warehousing logistics

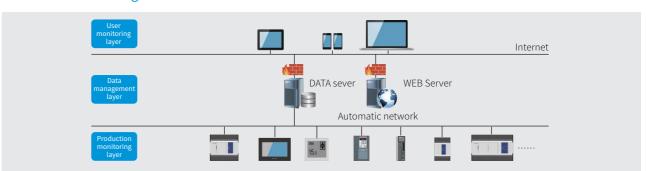
Mine electromechanical

Petrochemical industry

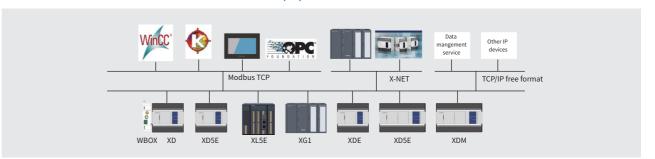
#### | Typical topology

Power plant

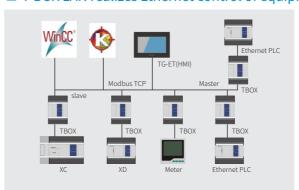
■ Remote monitoring the devices



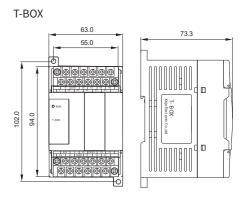
■ Ethernet PLC realizes Ethernet control of equipment



■ T-BOX LAN realizes Ethernet control of equipment



#### **Dimension** (Unit: mm)



# S-BOX-HT

# Protocol free, ultra short distance transmission

The SBOX series wireless transparent transmission module is a short-range wireless communication module based on wireless RF technology. The equipment data is transmitted transparently and supports the controller brands including Xinje, Delta, Mitsubishi, Omron, etc. It is widely used in field equipment networking communication and wireless HMI communication to realize short-distance wireless communication of automation system. The supporting wireless HMI model is MTG765-HT.



#### | Support equipment













#### **I Product features**

Carrier frequency range

The radio frequency module S-BOX is based on 433MHz carrier frequency, and the farthest communication distance can reach 2km

Rich interface modes Support RS232, RS485, RS422, can connect various brands of PLC

84 channels are available, which can be adjusted by users according to the actual situation on site

## Communication parameters

Serial port parameters can be set according to different PLC

Multi-section adjustable speed

In order to meet the needs of on-site transmission distance, the air rate (4800~62500bps) can be adjusted conveniently through external dialing

I/O mode

Short distance calling and answering can be realized through

## | Application scenario



Container information management



Wireless meter reading, wireless sensor



voltage monitoring



Industrial control, telemetry, remote sensing



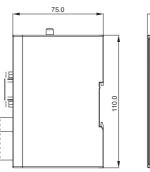
POS system, asset management

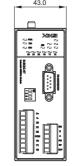


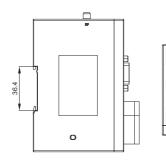
Automatic data acquisition

#### **Dimension** (Unit: mm)

S-BOX-HT







# **IOT** card

IOT card is a special flow card provided by telecom operators for the Internet of things. It adopts the special signal segment and special network element equipment of the Internet of things, which has the characteristics of safer and more efficient communication.

Xinje IOT card is applicable to all Xinje gateway products of 4G communication. It can provide functions such as querying the binding information of IOT card serial number, IOT card renewal, traffic usage, order invoicing and so on.



#### | Product features

Basic service

IOT card supports China mobile, China telecom and China unicom telecom operators, and the basic traffic package is 12G every year

Exclusive card number

Click on a single device and the SIM card information of a single device will be displayed. The card does not belong to Xinje account name cannot be queried

Flow alarm

The threshold of flow can be set. When the remaining flow drops to the threshold, an alarm can be sent through SMS or software

Renewal query

When the balance in the card is insufficient, you can deposit money in the IOT card. The package is divided into 6G and 12G every year

#### Invoice center

Users can query the recharge status of the card in the management tool and issue invoices

Batch query

Users can check the binding relationship between ABOX serial number and card number ICCID, card status, network status and flow usage on the SIM card management page

Machine card binding, directional IP

When the card is inserted and activated, it can be bound with the equipment. Replace the equipment and stop the card to ensure the safety of the equipment. Exclusive orientation, access to Xinje server only

Scope of use

Go through in China, please consult us for other regions

#### | Application scenario



Sewage disposal





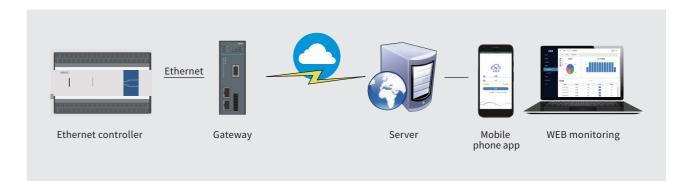


Sluice management

## Distributed multi-site operation and maintenance solution

Aiming at the disadvantages of the difficulty of distributed site equipment management, unattended, data confusion, Xinje combined with modern sensing technology, automatic control technology, network transmission technology, data information and so on, launched a multi-site operation and maintenance solution. It realizes remote data acquisition, BI analysis, intelligent alarm, equipment control, data tracing, operation and maintenance management, etc.

Application industries: sewage treatment, smart agriculture, breeding and animal husbandry, water valve monitoring, fog pile monitoring, salt farm management, HVAC station management, etc.



#### | Xinje Cloud application

#### Multiple background variables

The same screen can be used for the control of multiple stations to reduce the difficulty and workload of screen structure. All field devices can be listed on the left and click switch to view the status of each station.



#### Combined control

Combined with the operation habits of on-site users, it provides the function of secondary structure screen, and implements the combined control of remote operation and local operation. It is simple and easy to understand, and the operators can learn it as soon as they learn. There is no hardware conflict between local and remote.



#### Multi-screen monitoring

On the same page, the on-site operation environment of multiple stations can be monitored at the same time through the SCADA and camera.



#### Intelligent early warning

Real time monitor the key indicators. Abnormal alarm has alarm prompts of web page voice, mobile phone messages, WeChat official account and so on. Remote operation of equipment and remote reset can be done.



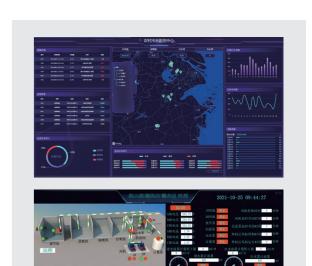
#### Multilevel management

Realize the distribution management of equipment by region or personnel, and realize the management stations of mobile phone, computer and applet.



#### Standard protocol

It can provide the third party with data of equipment operation, maintenance, processing results and so on.

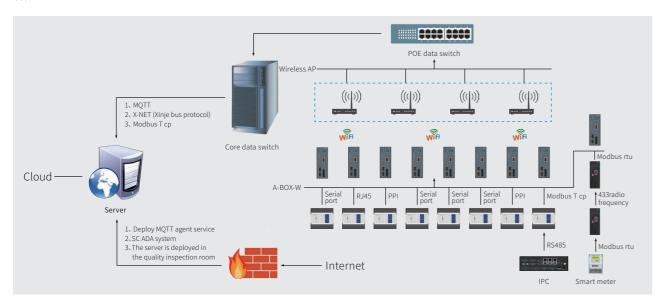






# Workshop multi-equipment centralized operation and maintenance management scheme

In view of the manufacturer's lack of management on the existing machines, the inability to quickly and accurately collect the operation of each machine, and the unclear grasp of the current production progress, resulting in the current situation that the relevant data can not be used as the production direction in time, the Web programs that can be deployed on private servers are released to show the running status, utilization rate, time and cost savings, as well as key data statistics. You can also remotely view the working status of equipment, create new task binding equipment, query historical task data, receive alarm notifications, etc.



#### | Xinje Cloud application



#### Device management

Bind the equipment to the workshop to facilitate the statistics of the number of equipment in each workshop, screen out high-quality workshops, and accurately track the output comparison of each workshop, so as to analyze the personnel's production tasks, production progress and other data.



#### Model management

Automatically bind the longitude and latitude of the device, accurately locate to the map, filter and manage according to the type and model of the device, obtain the distribution of various types and models of equipment in various places in real time, and distribute them to the information tab of specific equipment.



#### Data large screen

After the longitude and latitude of the equipment are automatically bound, the region of the equipment can be automatically determined, and then the statistical data can be displayed, including equipment operation status, equipment utilization rate, saved time and labor cost, etc.



#### AU Crea

#### Autonomous control

Create, edit and save the project task. Then distribute the project by machine according to the customized distribution conditions and save the key information.



#### Data monitoring

The mobile phone remotely monitors the cloud data of the equipment in real time, queries the historical data, optional queries according to the time period, and makes a variety of classified statistics.



#### Alarm maintenance

The equipment machine alarms and automatically records the alarm information. The workshop administrator finds the operation and maintenance demand and pushes it to the mobile phone of the operation and maintenance personnel. The operation and maintenance personnel repair and record the maintenance situation.









# Servo system

DS5□1 small-sized servo DS5□ general servo DM5 two-in-one servo DF3 low voltage servo

MS5/MS6 motor, MF motor

Servo system overview

# Servo system overview

## Small-sized servo system

The small volume servo system has four subseries products of pulse type and bus type. In addition to all the functions of the general series, its outstanding advantage is that it is smaller and can save more installation space.

Applicable to 3C, textile, printing, packaging, food, medicine, electronics, environmental protection and other fields.

Adaptive motor: MS5, MS6 series.

Bus type		0.1kW~55kW 0.1kW~3kW	Ether CAT. CAN open
Pulse type		0.1kW~3kW 0.1kW~0.7kW	ikW-3kW have dynamic brake
	DS5K1	0.1kW~55kW	1kW-3kW have dynamic brake



## Low voltage servo system

At present, the low-voltage servo system has a bus type subseries. It has compact design, light weight body, rich interfaces, supports communication protocols such as CANopen and Modbus, low-voltage DC power supply, with 24V brake power output, and only three steps for gain adjustment, which reduces the debugging time. It is applicable to AGV, sorting, logistics, warehousing and medical fields.

Adaptive motor: MF3 series.

Bus type DF3E 0.4kW~1.5kW CAN open



## General servo system

Adaptive motor: MS5, MS6 series.

The general servo system has a complete product line, including five subseries of pulse type, bus type and full-function type. It has the characteristics of high-speed response, accurate synchronization, rapid adjustment, convenience and ease of use.

Suitable for a variety of applications.

				8
		DS5P	0.1kW~0.7kW	PROFII" NÉTO
	Bus type	DS5C	1.0kW~32kW	Ether <b>CAT</b>
		DS5E	0.1kW~22kW	NET MOTION BUS
	Pulse type	DS5L	0.1kW~2.6kW	<b>M</b> odbus
ruise type	DS5K	0.1kW~7.5kW	<b>M</b> odbus	
	Full-function	DS5F	0.1kW~7.5kW	<b>Modbus</b>



## Two-in-one servo system

At present, the two-in-one series servo system has a pulse type subseries. It has outstanding advantages such as flat appearance, dual-axis integrated drive, convenient wiring and accurate positioning. It has built-in gantry synchronous control, which can meet the accuracy requirements under high-speed movement. Suitable for sewing, wire cutting, laser cutting, printing, turret punch and other equipment. Adaptive motor: MS5, MS6 series.

Bus type	DM5C	0.7kW~5.5kW	Ether <b>CAT</b>
Pulse type	DM5F	0.4kW~0.75kW	<b>M</b> odbus



# General small-sized servo system

Stable and easy to use Excellent Performance High-speed Response **Rich Product Lineup** 

Suitable for: wire cutting, packaging, textile, woodworking, labeling and other applications



## Small-sized series



DS5C1 EtherCAT, RS232, 3/5-channels SI, 3-channel/4-channel SO, position mode, speed mode, torque mode, bus mode DS5N1 CANopen, RS232, 3-channel SI, 3-channel SO, position mode, speed mode, torque mode, bus mode

DS5L1/L2 DS5L1/L2 pulse, RS232, RS485, 3-channel/5-channel SI, 3-channel SO, position mode, speed mode, torque mode DS5K1 pulse, analog input, RS485, RS232, 8/5-channels SI, 6/4-channels SO, position mode, speed mode, torque mode

## **General series**



DS5P PROFINET, RS232, 5-channel SI, 3-channel SO, Support message 1, 3 and Siemens message 102/105/111/750 DSSC EtherCAT, pulse, RS232, 4 or 3 channels SI, 4 or 3 channels SO, position mode, speed mode, torque mode, bus mode DS5E XNET, pulse, RS232, RS485, 4 or 3 channels SI, 4 or 3 channels SO, position mode, speed mode, torque mode, bus mode



pulse, RS232, 4 or 3 channels SI, 4 or 3 channels SO, position mode, speed mode, torque mode pulse, RS232, RS485, 5 channels SI, 4 channels

SO, position mode, speed mode, torque mode

Pulse pulse, line driver, analog input, external displacement sensor, RS232, RS485, 10 channels SI, 8 channels SO, position mode, speed mode, torque mode, analog control, full closed-loop control

## MS6,MS5 series servo motor



Occasions with large load and high stability requirements S6H 0.1~7.5kW

Occasions with general load and high stability requirements

MS5G 0.85~22kW

MS6G 0.85~2.3kW Occasions with light load and high-speed positioning

General | small-sized servo system

## MS6,MS5 series servo motor

# High protection grade | light weight design | high-precision positioning



## New appearance and structure MS6 series B3 motor

• The new black body with frosted texture can effectively reduce the tactile temperature of the motor.



## ■ Low noise, light temperature rise

 Effective noise reduction. Compared with the previous motor, the winding temperature rise of B3 motor can be reduced by 20°C (take 400W as an example).



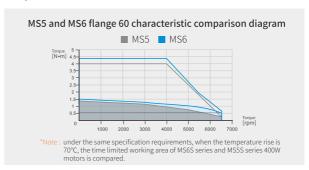
#### ■ Higher protection level

• The structure of MS6 series motor is optimized to further improve the protection grade. The protection grade of B1/B2 series can reach IP66 and B3 series can reach IP67.



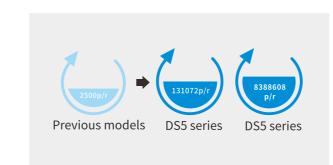
#### ■ Higher torque output

 At present, the speed of MS6 series 400W motor can be overspeed to 6500rpm, and the maximum speed still maintains 80% of the rated output.



#### ■ Encoder resolution

- The whole series is equipped with 17-bit encoder as standard, and 23-bit encoder is optional.
- Achieve higher precision position control and stable operation at low speed.
- The anti-oil and vibration ability of magnetic encoder is enhanced.



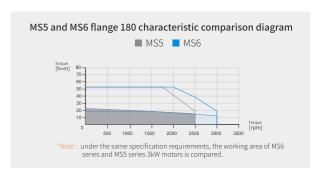
#### ■ Motor is light and handy

• The body of MS6 series motor is further shortened, which can be shortened by 18% compared with MS5 series motor.



#### ■ Wider overspeed range

• MS6 series flange 180 motor can overspeed up to 3000rpm, which is 20% higher than MS5 series.



## ■ Flexible configuration to meet different needs

- Low inertia, medium inertia and high inertia motors are available.
- It can be equipped with power loss brake, oil seal, etc.
- B3 series front and rear outgoing cables are optional.
- B3series can be configured with connector to amp adapter.
  B3 series can select oil-resistant cable.



## DS5 series servo drive

# Precise synchronization | high-speed response rapid adjustment | easy to use



#### ■ Smaller size, saving installation space

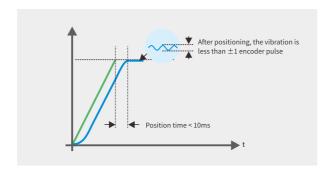
- The size is about 10% thinner than the previous generation.
- Save installation space.

\*Note: the figure shows the comparison of DS5L 750W and DS5L1 750W.



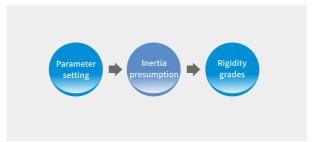
#### ■ High speed response

- The rigid gain adjustment mode of servo system is self-tuning mode, which no need complicated adjustment process and greatly saves debugging time.
- $\bullet$  By further gain adjustment, the positioning completion time can be reduced to 0  $\sim$  10ms.



#### Quick adjustment to shorten positioning time

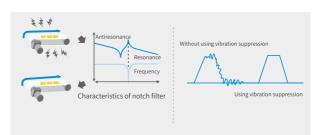
- Load inertia estimation, find the optimal gain, and the positioning completion time is within 20ms.
- The drive panel is adjusted offline.
- 63 rigidity grades.



\*Note: DS5L2 covers 32 rigidity grades.

#### ■ Active/manual vibration suppression

- Support 1-channel active vibration suppression.
- Equipped with 5 notch filters, combined with the vibration mechanical characteristic analysis function, the vibration suppression ability is improved.
- The filter setting frequency is 50 ~ 5000Hz, and the depth can be adjusted.
- Optimize friction compensation and disturbance observation algorithm.



#### ■ Wide power range

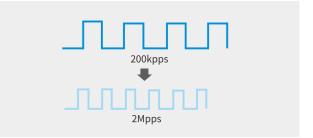
• New high-power models are added for small volume servo, and the power range is from 100W to 55kW.



\*Note: please refer to the model list that have been put into operation, and some models are

## ■ High speed pulse input

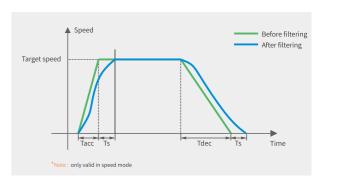
- DS5F supports 2Mpps long line reception.
- The full range of drives supports 200kpps (collector input) and DS5F/DS5K/DS5L1/DS5K1 series drives support 500kpps (differential input).



\*Note: DS5N1/DS5C1/DS5P cannot support collector input.

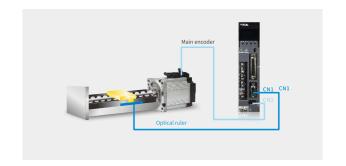
## S-type acceleration and deceleration curve

• S-type acceleration and deceleration curve can effectively overcome the mechanical vibration caused by sudden speed change, making the motion softer and more stable.



## ■ Full closed-loop input DS5F series

• Reduce mechanical disturbance and determine the positioning of mechanical load terminal to ensure positioning accuracy.



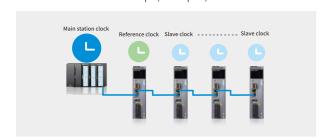
## EtherCAT bus

100 megabytes full duplex Ethernet reduces the networking cost and makes the system structure more flexible



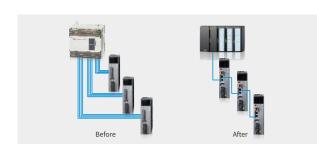
#### ■ Synchronous clock

- Through the precise adjustment of EtherCAT distributed clock, the distance of 300 nodes 120m, 15ns synchronization error and  $\pm 20$ ns synchronization jitter are realized.
- Transmission rate: 2×100Mbps (full duplex)



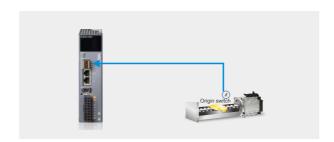
## Network topology to reduce cabling costs

• The standard RJ45 Industrial Ethernet fast interface is adopted to greatly reduce the labor cost and time consumption of wiring



#### ■ High speed response

- Support 2-channel high speed touch probe function
- Response time can up to 1ms



## ■ EtherCATnetworking debugging

 For EtherCAT networking equipment, the user can read or write all servo axes parameters at one time through the servo software, and can save the complete equipment recipe.



## Typical application

# One to one high-speed plane mask machine

The mask machine is to manufacture various masks with certain filtering performance by hot pressing, folding and forming, ultrasonic welding, waste cutting, ear belt and nose beam welding and other processes of multi-layer non-woven fabrics. The mask equipment is not a single machine, but needs the cooperation of multiple machines to complete various different processes. The system of one to one mask machine is composed of constant tension feeding mechanism, sheet feeding mechanism and ear welding mechanism.

#### Mechanical arm

Manipulator is the most widely used automatic mechanical device in the field of robotics. It can be seen in industrial manufacturing, medical treatment, entertainment services, military, semiconductor manufacturing and space exploration. Although their shapes are different, they all have a common feature, that is, they can accept instructions and accurately locate a point in 3D (or 2D) space for operation.

#### High speed cutting machine

The high-speed cutting machine combines the ultrasonic welding technology with the traditional cutting. When the ultrasonic generator works, the ultrasonic energy is transmitted to the welding head through the ultrasonic transducer and generates violent vibration and friction with the cutter, so as to achieve the cutting effect, so that the cutting products have the advantages of more beauty, firmness, more efficient and fast production efficiency.







# ■ Circular die cutting machine

Circular die cutting machine is one of the most efficient cutting machines, which rotates continuously in the form of hob for cutting. Round knife cutting achieves the purpose of die cutting by extruding materials through the blade and backing roller. On the one hand, it improves the speed and accuracy of die cutting. On the other hand, it can form one-time products through multi-shaft sleeve position die cutting, which makes up for the disadvantage of traditional multiple die cutting.

# ■ 16 axes high speed winding machine

High speed winding machine is a device that winds linear objects to a specific workpiece. It is usually used for copper wire winding. In the past, it used to realize high-speed winding through variable-frequency motor combined with tension control system. With the increasing demand for benefits in modern industry, it can replace the original variable-frequency motor with servo to realize high-speed and high-efficiency production.

# ■ Three-servo packaging machine

Packaging machinery refers to the machinery that can complete the packaging process of all or part of products and commodities. The packaging process includes filling, wrapping, sealing and other main processes, as well as related before and after processes, such as cleaning, stacking and disassembly. In addition, packaging also includes measuring or stamping on the package. The use of mechanical packaging products can improve productivity, reduce labor intensity, meet the needs of large-scale production and meet the requirements of cleanliness and hygiene.







## XINJE SERVO software

## Help users better understand the operation of the equipment



#### Servo communication interface

Efficient and fast communication identification

Xinje servo software can do Modbus-RTU communication with servo driver through RS232, and can automatically read motor parameters without viewing motor code.



#### Parameter setting interface

Intuitive and understandable parameter setting

Xinje servo software has the functions of reading, modifying, saving and downloading, and is equipped with detailed parameter description. The parameter list directly indicates the effective time of parameters with different colors, which makes the distinction more eye-catching.



#### ■ Curve acquisition interface

Convenient and practical curve acquisition

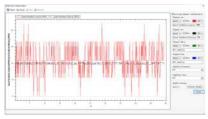
Xinje servo software has powerful servo data acquisition function, including speed, position, current, bus voltage and other basic information acquisition. Help you have a deeper and comprehensive understanding of servo operation and improve the control



#### ■ Real time observation interface

Real time dynamic curve observation

Xinje servo software can collect basic information such as speed, torque, position and bus voltage to help you understand the servo operation in real time and adjust the control scheme efficiently and timely



#### ■ Parameter comparison interface

Simple and clear parameter comparison

The parameter comparison function of Xinje servo software allows customers to easily compare preset values, current driver values, file values, and pairwise comparison of the current upper computer interface.

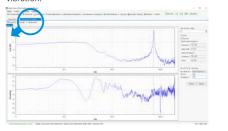


#### Mechanical property measurement interface

General | small-sized servo system

Precise resonance recognition

Xinje software has the function of mechanical characteristic measurement, which can automatically measure the resonance frequency according to the operation of mechanical load. It is equipped with five notch filters to ensure the stable and reliable operation of the equipment and sweep away the load



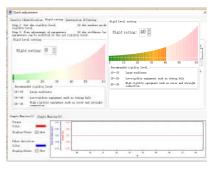
Motor selection tool

#### ■ Gain adjustment interface ■ Monitor interface

#### Fast adjustment

The fast adjustment / self-tuning mode can identify the inertia. The user can configure the appropriate mode, method, load type, foundation and other parameters according to the equipment operation status for the upper computer to set the best gain parameters, or adjust the rigidity level according to the equipment operation status.





Rich and comprehensive real-time monitoring

Xinje servo software has real-time status, alarm monitor and servo operation status, which are all under your control.



## ■ Tool interface

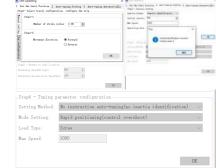
equipment components and the

Xinje servo software has its own motor selection tool, which automatically matches the best motor model through the selection of



# 1 5 2 "

#### Self-turning interface



#### Electronic gear ratio conversion

Xinje servo software can accurately calculate the number of pulses per revolution and electronic gear ratio of screw, disc and pulley mechanical structures according to the mechanical specifications.



⑤ Encoder specification

⑥ Product type

4 Drive power

32P0

37P0

45P0

55P0

Sign Encoder specification

H Enhanced driver

Communication type encoder

Product type

55

## Naming rule

#### MS6 motor naming rule

# $\frac{\text{MS6S}}{\tiny{1}} - \frac{60}{\tiny{2}} \stackrel{\text{C}}{\tiny{3}} \stackrel{\text{S}}{\tiny{4}} \frac{30}{\tiny{5}} \stackrel{\text{B}}{\tiny{6}} \frac{\text{Z}}{\tiny{7}} \frac{1}{\tiny{8}} - \frac{2}{\tiny{9}} \frac{\text{OP4}}{\tiny{0}}$

· mertia type				
Sign	Inertia			
MS6S	Low inertia motor			

1 Inortia typo

Sign	Inertia	Sign	Base numbe
MS6S	Low inertia motor	40	Base 40
MS6G	Medium inertia motor	60	Base 60
MS6H	High inertia motor	80	Base 80
		100	Base 100
		130	Base 130
		180	Base 180

#### 3 Encoder construction 4 Encoder specification 5 Rated speed

Sign	Туре
С	Magnetic encoder
Т	Photoelectricity encoder

<u> </u>	O	
Specification	Sign	Rated speed(rp
ingle turn 17-bit	15	1500
Iulti-turn 17-bit	20	2000
Multi-turn 23-bit	25	2500
	30	3000

#### 10 Rated power

Sign	Rated power(kw)
0P1	0.1
0P2	0.2
0P4	0.4
0P7	0.75
0P8	0.85
1P0	1
1P3	1.3
1P5	1.5
1P8	1.8
2P0	2.0

#### 6 Motor shaft specification

Sign	Shaft specification		
Α	With key, no oil seal, with threaded hole		
В	With key, with oil seal, with threaded hole		
С	No key, no oil seal, with threaded hole		
D	No key, with oil seal, with threaded hole		
Е	Special shaft specification (length, shaft diameter, etc.)		

\*Note: the description provided is only an example. Refer to the detailed parameters of the motor for the specific model. Our company provides combined models of CS, CM and TL.

#### 7 Power-off brake

Sign	Power-off brake	
Z	With brake	
acant	Without brake	
		_

## ® Motor connector type

	Sign	Connector type	
	1	AMP plug	_
-	2	Aviation plug	_
	3	Connector	_

#### Power suppl

y voltage	2P3	
er supply	3P0	
oltage	4P4	
220V	5P5	
380V	7P5	
	22P0	
	30P0	

45P0

55P0

## | Motor and drive specifications

1 Name

DS

Sign Product name

Servo drive

DS5 servo drive naming rule

② Type

5E

5F

5K

5L

5C1

5L1

5K1

5N1

Product series

EtherCATbus type

X-NETbus type

Full function type

Standard type

Pulse type

Small size bus type

Small size pulse type

Small size standard type

Small size CANopen type

Small size pulse improved type

MS6/MS5 r	motor																				
Item	100W	200W	400W	750W	850W	1.0kW	1.3kW	1.5kW	1.8kW	2.3kW	2.4kW	2.6kW	3.0kW	4.4kW	5.5kW	7.5kW	22kW	30kW	37kW	45kW	55kV
Low inertia MS6S			60	80		80		100													
Medium inertia MS6G						130		130		130											
High inertia MS6H	40	60	60	80	130	80	130	130	130	130			180	180	180	180		265	265	265	265
Low inertia MS6S						110		110	110												
Medium inertia MS5G					130			130	130	130	130	130					220				

③ Voltage specification ④ Drive power

Sign Rated output pov

0.2

0.4

1.0

1.5

2.3

2.6

3.0

4.5

5.5

7.5

11

15

22

0P1

0P2

0P4

0P7

1P0

1P5

2P3

2P6

3P0

4P5

5P5

7P5

11P0

15P0

22P0

Sign Rated input voltage

4

AC220V

Note: 40/60/80/110/130/180/220/265 indicates the motor flange. 🔵 Provide models with voltage grade of 220V. 🌑 Provide models with voltage grade of 380V. 🌕 Provide models with voltage grade of

DS5 drive s	pecificat	ion												
		Con	itrol mode			Control mode								
Function	Position control	Speed control	Torque control	Bus control	Pulse	Line driver	Analog input	External displacement sensor	ABZ differential feedback	RS232	RS485	Si input	So output	
Pulse type DS5L series												4	4	
EtherCAT type DS5C series												4	4	
Xnet bus type DS5E series												4	4	
Full function type DS5F series												10	8	
Standard type DS5K series												5	4	
Pulse type DS5L1 series												3	3	
EtherCAT type DS5C1 series												3	3	
Standard type DS5K1 series												8	6	
CANopen type DS5N1 series												3	3	
Profinet type DS5P series												5	3	

Note: DS5E,DS5L,DS5C series 750W and below power models are 3 inputs and 3 outputs. DSSK1 series above 11kW models are 5 inputs 4 outputs.

DSSC1/L1 series 1kW-3kW models are 5 inputs 3 outputs, DSSC1 series 11kW and up models are 5 inputs 4 outputs.

## | MS5 motor naming rule

<u> MS5G</u> –	130	ST	E	$-\underline{C}$	<u>S</u>	<u>11515</u>	В	Z	<b>-</b> 2	<u>1P8</u>	- <u>S01</u>
1	2	3	4	<u></u>	6	7	8	9	10	11)	12

	U Iner	тіа туре	② Base number					
	Sign	Inertia	Sign	Base number				
MS5S Lov		Low inertia motor	110	Base 110				
	MS5G	Medium inertia motor	130	Base 130				
			220	Base 220				

Rated speed(rpr

3000

1500

Motor specification

Rated torqu

0.48

11.5

Sign

04830

11515

	③ Name					
er	Sign	Type				
_	ST	Sine wave drive motor				
_						

③ Name				
Sign	Type			
ST	Sine wave drive motor			

	4 Motor	r structure					
	Sign	Oil seal					
	vacant	No oil seal					
_	Е	With oil sea					

⑤ Encoder construction						
Sign	Туре					
С	Magnetic encoder					
Т	Photoelectricity encoder					

(	© Litcodel specification							
	Sign	Specification						
-	S	Single turn 17-bit						
r	М	Multi-turn 17-bit						
	L	Multi-turn 23-bit						

Standard

## ® Motor construction

Sign	Shaft key
В	With key

9 Power-off brake

#### 11) Rated power

		•
	Sign	Rated power(kw)
	1P0	1.0
ge	1P5	1.5
•	1P8	1.8
	2P3	2.3
	22P0	22

_		1P0	
10 Powe	1P5		
Sign	Rated power	1P8	
2	220V	2P3	
4	380V	22P0	

12 Design number Sign Meaning 01 Design number

\*Note: the description provided is only an example. Refer to the detailed parameters of the motor for the specific model. Our company provides combined models of CS, CM, TL and T.

Connector type

Without brake

With brake

191

Vacant

General | small-sized servo system

## Drive and motor model list

#### | MS6 series motor model list

Power [kW]	Motor model	Flange[mm]	Rated speed[RPM]	Rated torque [Nm]	Inertia type	Encoder bits[bit]
0.1	MS6H-40CS/CM/TL30B(Z)1/3-20P1	40	3000	0.32	High inertia	17/23
0.2	MS6H-60CS/CM/TL30B(Z)1/3-20P2	60	3000	0.64	High inertia	17/23
0.4	MS6S-60CS/CM/TL30B(Z)1/2/3-20P4	- 60	3000	1.27	Low inertia	17/23
0.4	MS6H-60CS/CM/TL30B(Z)1/2/3-20P4	] 60	3000	1.27	High inertia	17/23
	MS6S-80CS/CM/TL30B(Z)1/2/3-20P7		3000	2.39	Low inertia	17/23
0.75	MS6H-80CS/CM/TL30B(Z)1/2/3-20P7	80	3000	2.39	High inertia	17/23
0.75	MS6S-80CS/CM20B(Z)1/2-20P7	00	2000	3.50	High inertia	17/23
	MS6H-80CS/CM20B(Z)1/2-20P7	]	2000	3.50	High inertia	17/23
0.85	MS6H-130CS/CM/TL15B(Z)2-20P8	130	1500	5.41	High inertia	17/23
0.65	MS6H-130CS/CM/TL15B(Z)2-40P8	150	1500	5.41	High inertia	17/23
	MS6S-80CS/CM/TL30B(Z)3-21P0	80	3000	3.18	Low inertia	17/23
1	MS6H-80CS/CM/TL30B(Z)3-21P0	7 % 1	3000	3.18	High inertia	17/23
	MS6G-130CS/CM/TL25B(Z)2-41P0 *	130	2500	4.0	Medium inertia	17/23
1.3	MS6H-130CS/CM/TL15B(Z)2-41P3	130	1500	8.30	High inertia	17/23
	MS6S-100CS/CM/TL30B(Z)2-21P5	100	3000	4.8	Low inertia	17/23
1.5	MS6H-130CS/CM/TL20B(Z)2-21P5		2000	7.16	High inertia	17/23
1.5	MS6G-130CS/CM/TL20B(Z)2-41P5*	130	2000	7.16	Medium inertia	17/23
	MS6G-130CS/CM/TL15B(Z)2-41P5 *	1	1500	10.0	Medium inertia	17/23
1.0	MS6H-130CS/CM/TL15B(Z)2-21P8	130	1500	11.46	High inertia	17/23
1.8	MS6H-130CS/CM/TL15B(Z)2-41P8	130	1500	11.46	High inertia	17/23
2.2	MS6H-130CS/CM/TL15B(Z)2-22P3	120	1500	14.64	High inertia	17/23
2.3	MS6H-130CS/CM/TL15B(Z)2-42P3	130	1500	14.64	High inertia	17/23
3.0	MS6H-180CS/CM15B(Z)2-43P0		1500	19.0	High inertia	17/23
4.4	MS6H-180CS/CM/TL15B(Z)2-44P4	1 ,,,,	1500	28.0	High inertia	17/23
5.5	MS6H-180CS/CM/TL15B/E(Z)2-45P5	180	1500	35.0	High inertia	17/23
7.5	MS6H-180CS/CM/TL15B/E(Z)2-47P5	1 1	1500	47.8	High inertia	17/23
30	MS6H-265TL15B2-430P0 *	265	1500	191.0	High inertia	23
37	MS6H-265TL15B2-437P0 *	265	1500	236.0	High inertia	23
45	MS6H-265TL15B2-445P0 *	265	1500	286.0	High inertia	23
55	MS6H-265TL15B2-455P0 *	265	1500	350.0	High inertia	23

\*Note: 1. B(Z)indicates brake model can be selected, non-brake model code is B, brake model code is BZ.

2. Please select engineering aviation plug for motors below 60/80 flange.

3. MS6 series below 80 flange models only B3 can support optical encoder.

4. The servo driver marked with \* is still under development. Please look forward to it.

#### | MS5 series motor model list

Power [kW]	Motor model	Flange[mm]	Rated speed[RPM]	Rated torque [Nm]	Inertia type	Encoder bits[bit]
	MS5G-130STE-CS/CM05415B-20P8-S01		1500	5.4	Medium inertia	17
0.85	MS5G-130STE-CS/CM05415BZ-20P8-S01	130	1500	5.4	Medium inertia	17
0.85	MS5G-130STE-TL05415B-20P8-S01	130	1500	5.4	Medium inertia	23
	MS5G-130STE-TL05415BZ-20P8-S01		1500	5.4	Medium inertia	23
1.0	MS5S-110STE-CS/CM03230B□-21P0-S01		3000	3.18	Low inertia	17
1.0	MS5S-110STE-TL03230B□-21P0		3000	3.18	Low inertia	23
	MS-110STE-T05030B□-21P5	110	3000	5	/	17
	MS5S-110STE-CS/CM04830B□-21P5-S01		3000	4.77	Low inertia	17
	MS5S-110STE-TL04830B□-21P5-S01		3000	4.77	Low inertia	23
1.5	MS5G-130STE-CS/CM06025B□-21P5-S01		2500	6	Medium inertia	17
	MS5G-130STE-CS/CM/TL07220B□-21P5-S01		2000	7.2	Medium inertia	17/23
	MS5G-130STE-CS/CM/TL07220B□-41P5-S01	120	2000	7.2	Medium inertia	17/23
	MS5G-130STE-CS/CM10015B□-21P5-S01		1500	10	Medium inertia	17
	MS5G-130STE-CS/CM11515B□-21P8-S01	130	1500	11.5	Medium inertia	17
	MS5G-130STE-TL11515B□-21P8-S01		1500	11.5	Medium inertia	23
1.0	MS5G-130STE-CS/CM11515B□-41P8-S01		1500	11.5	Medium inertia	17
1.8	MS5G-130STE-TL11515B -41P8-S01		1500	11.5	Medium inertia	23
	MS5S-110STE-TL06030B□-21P8-S01	110	3000	6	Low inertia	23
	MS5S-110STE-CS/CM06030B□-21P8-S01	110	3000	6	Low inertia	17
	MS5G-130STE-CS/CM14615B□-22P3-S01		1500	14.6	Medium inertia	17
2.2	MS5G-130STE-TL14615B□-22P3-S01		1500	14.6	Medium inertia	23
2.3	MS5G-130STE-CS/CM14615B□-42P3-S01		1500	14.6	Medium inertia	17
	MS5G-130STE-TL14615B□-42P3-S01	130	1500	14.6	Medium inertia	23
2.4	MS5G-130STE-CS/CM/TL07730B□-22P4-S01		3000	7.7	Medium inertia	17/23
2.6	MS5G-130STE-CS/CM/TL10025B□-22P6-S01		2500	10	Medium inertia	17/23
3.0	MS-130ST-TL10030B□-43P0		3000	10	/	23
11	MS-220STE-TL70015B-411P0-XJ	220	1500	70	/	23
15	MS-220STE-TL96015B-415P0-XJ	220	1500	96	/	23

\*Note: 1. B □ indicates brake model can be selected, brake model code is BZ, non-brake model code is B.

2. CS/CM indicates signle turn magnetic encoder CS or multi-turn magnetic encoder CM can be selected.

3. Flange 110 and up code S01 motors are aviation plug.

4. For other detailed motor characteristic parameters, please refer to the electrical parameters

#### DS5 series drive model list

Series Power[kW]	DS5E Series X-NETbus type	DS5C Series EtherCATbus type	DS5F Series	DS5K Series	DS5L Series	DS5P Series PROFINET Profinet bus type
0.1	DS5E-20P1-PTA	/	DS5F-20P1-PTA	DS5K-20P1-PTA	/	DS5P-20P1-PTA
0.2	DS5E-20P2-PTA	/	DS5F-20P2-PTA	DS5K-20P2-PTA	/	DS5P-20P2-PTA
0.4	DS5E-20P4-PTA	/	DS5F-20P4-PTA	DS5K-20P4-PTA	/	DS5P-20P4-PTA
0.75	DS5E-20P7-PTA	/	DS5F-20P7-PTA	DS5K-20P7-PTA	/	DS5P-20P7-PTA
1.0	DS5E-21P0-PTA	DS5C-21P0-PTA	DS5F-21P0-PTA	DS5K-21P0-PTA	DS5L-21P0-PTA	1
1.5	DS5E-21P5-PTA	DS5C-21P5-PTA	DS5F-21P5-PTA	DS5K-21P5-PTA	DS5L-21P5-PTA	/
2.3	DS5E-22P3-PTA	DS5C-22P3-PTA	DS5F-22P3-PTA	DS5K-22P3-PTA	DS5L-22P3-PTA	/
2.6	DS5E-22P6-PTA	/	DS5F-22P6-PTA	DS5K-22P6-PTA	/	/
1	DS5E-41P0-PTA	DS5C-41P0-PTA	DS5F-41P0-PTA	DS5K-41P0-PTA	1	1
1.5	DS5E-41P5-PTA	/	DS5F-41P5-PTA	DS5K-41P5-PTA	/	1
3	DS5E-43P0-PTA-H	DS5C-43P0-PTA-H	DS5F-43P0-PTA-H	DS5K-43P0-PTA	/	/
5.5	DS5E-45P5-PTA-H	DS5C-45P5-PTA-H	DS5F-45P5-PTA-H	/	/	/
7.5	DS5E-47P5-PTA-H	DS5C-47P5-PTA-H	DS5F-47P5-PTA-H	/	/	/
11	DS5E-411P0-PTA	DS5C-411P0-PTA	/	/	/	/
15	DS5E-415P0-PTA	DS5C-415P0-PTA	/	/	/	1
22	DS5E-422P0-PTA	DS5C-422P0-PTA	/	/	1	1
32	/	DS5C-432P0-PTA	/	/	/	1
37	/	/	/	/	/	/
45	/	/	/	/	/	1
55	/	/	/	/	/	/

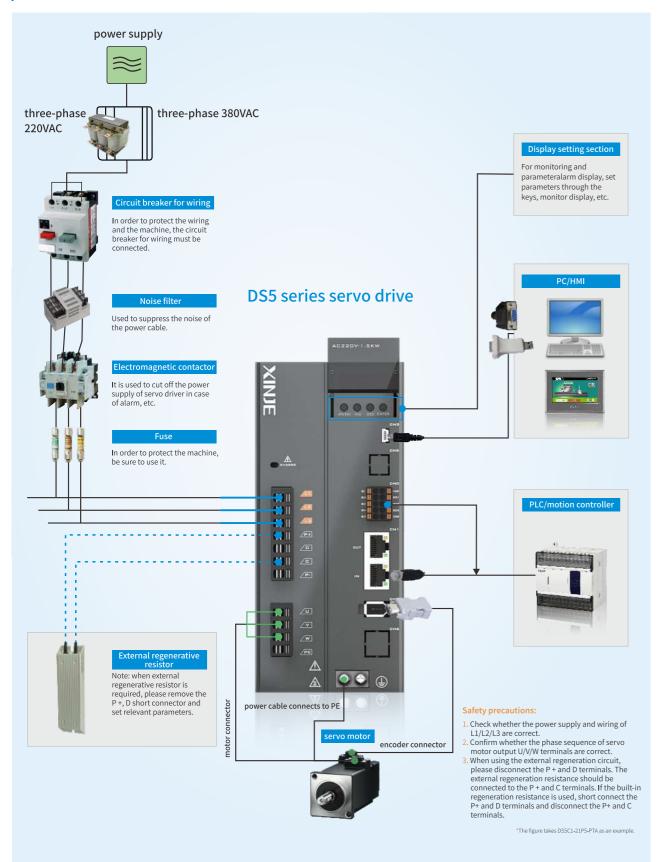
Series Power[kW]	DS5C1 Series small size bus type	DS5N1 Series small size bus type	DS5K1 Series small size standard type	DS5L1 Series small size bus type	DS5L2 Series small size pulse improved type
0.1	DS5C1-20P1-PTA	DS5N1-20P1-PTA	DS5K1-20P1-PTA*	DS5L1-20P1-PTA	DS5L2-20P1-PTA *
0.2	DS5C1-20P2-PTA	DS5N1-20P2-PTA	DS5K1-20P2-PTA*	DS5L1-20P2-PTA	DS5L2-20P2-PTA *
0.4	DS5C1-20P4-PTA	DS5N1-20P4-PTA	DS5K1-20P4-PTA *	DS5L1-20P4-PTA	DS5L2-20P4-PTA *
0.75	DS5C1-20P7-PTA	DS5N1-20P7-PTA	DS5K1-20P7-PTA	DS5L1-20P7-PTA	DS5L2-20P7-PTA *
1.0	DS5C1-21P0-PTA	/	/	DS5L1-21P0-PTA	/
1.5	DS5C1-21P5-PTA	/	/	DS5L1-21P5-PTA	/
2.3	DS5C1-22P3-PTA	/	/	DS5L1-22P3-PTA	/
2.6	DS5C1-22P6-PTA	/	/	DS5L1-22P6-PTA	/
1	DS5C1-41P0-PTA	/	/	DS5L1-43P0-PTA	/
1.5	DS5C1-41P5-PTA	/	/	/	/
2.3	DS5C1-42P3-PTA	/	/	/	/
3	DS5C1-43P0-PTA	/	/	/	/
5.5	DS5C1-45P5-PTA*	/	/	/	/
7.5	DS5C1-47P5-PTA*	/	/	/	/
11	DS5C1-411P0-PTA	/	DS5K1-411P0-PTA	/	/
15	DS5C1-415P0-PTA	/	DS5K1-415P0-PTA	/	1
22	DS5C1-422P0-PTA	/	/	/	1
32	DS5C1-432P0-PTA	/	/	/	1
37	DS5C1-437P0-PTA*	/	/	/	/
45	DS5C1-445P0-PTA*	/	/	/	/
55	DS5C1-455P0-PTA*	/	/	/	/

\*Note : the servo driver marked with \* is still under development. Please look forward to it.

General | small-sized servo system

# Peripheral connection

#### DS5 series



## Terminal definition

#### DS5C1 series



#### 1 Main circuit terminal definition

#### DS5C1-20P1/20P2/20P4-PTA

Terminal	Function	Explanation
L/N	Main circuit power supply input terminal	Single phase AC200~240V, 50/60Hz
Vacant terminal		/
P+\C	Use external regenerative resistor	Connect the regeneration resistance to terminals P+ and C, P0-25 = power value, P0-26 =resistance value
U、V、W、PE	Motor connection terminal	Connect to the motor

#### DS5C1-20P7-PTA

	Terminal	Function	Explanation
L/N		Main circuit power supply input terminal	Single phase AC200~240V, 50/60Hz
		Vacant terminal	/
		Use built-in regenerative resistor	Short connect P+ and D terminal, disconnect P+ and C terminal
	P+、D、C	Use external regenerative resistor	Connect the regenerative resistor to P+ and C terminal, and disconnect P+ and D, set P0- 25 = power value, P0-26 = resistance value
	•	Vacant terminal	/
	U、V、W、PE	Motor connection terminal	Connect to the motor

#### ② RS-232 port

© 113 232 port				
Pin	Function	Explanation		
1	TXD	RS232 send		
2	RXD	RS232 receive		
3	GND	RS232 signal ground		

#### DS5C1-21P0/21P5/22P3-PTA

Terminal	Function	Explanation
L1、L2、L3	Main circuit power supply input terminal	Use built-in regenerative resistor
	Use built-in regenerative resistor	Short connect P+ and D terminal, disconnect P+ and C terminal
P+、D、C	Use external regenerative resistor	Connect the regenerative resistor to P+ and C terminal, and disconnect P+ and D, set P0-25 = power value, P0-26 = resistance value
P+、P- Bus terminal		The real-time voltage of the bus can be measured,please pay attention to the danger
U、V、W Motor connection terminal		Connect to the motor  *Note: The ground wire is on the radiator, please check before powering on
<ul> <li>Grounding terminal</li> <li>Connect with the motor grounding terminal for grounding treatment</li> </ul>		Connect with the motor grounding terminal for grounding treatment

#### DS5C1-41P0/41P5/42P3/43P0-PTA

Terminal	Function	Explanation
R\S\T	Main circuit power supply input terminal	Three phase AC380~440V, 50/60Hz
	Use built-in regenerative resistor	Short connect P+ and D terminal, disconnect P+ and C terminal
P+、D、C	Use built-in regenerative resistor	Connect the regenerative resistor to P+ and C terminal, and disconnect P+ and D, set P0-25 = power value, P0-26 = resistance value
P+、P-	Bus terminal	The real-time voltage of the bus can be measured,please pay attention to the danger
U、V、W Motor connection terminal		Connect to the motor  *Note: The ground wire is on the radiator, please check before powering on
<b>(a)</b>	Grounding terminal	Connect with the motor grounding terminal for grounding treatment

#### DS5C1-411P0/415P0/422P0/432P0-PTA

Terminal	Function	Explanation
R、S、T	Main circuit power supply input terminal	Single phase AC380~440V, 50/60Hz
•	Vacant terminal	/
U、V、W	Motor connection terminal	Connect to the motor  *Note: The ground wire is on the radiator, please check before powering on
P+、PB	Use external regenerative resistor	Connect the regenerative resistor to P+ and PB terminal, set P0-25 = power value, P0-26 = resistance value
P+、P-	Bus terminal	The real-time voltage of the bus can be measured, please pay attention to the danger
PE\PE	Grounding terminal	Only supported by 11, 15kW

#### DS5C1 series



#### ③ CN0 port

#### DS5C1 series 750W and lower

Pin	Name	
SI1	High speed input terminal 1	
SI2	High speed input terminal 2	
SI3	High speed input terminal 3	
+24V	Input terminal +24V	
SO1	Output terminal 1	
SO2	Output terminal 2	
S03	Output terminal 3	
COM Output terminal ground		

#### 4 CN2 port

Pin	Name
1	5V
2	GND
3	/
4	/
5	485-A
6	485-B

Name
5V
GND
/
/
485-A
485-B

⑤ CN1 port

TX A+

TX A-RX A+

RX A-

RX B+

RX B-

TRANSMIT A+ TRANSMIT A-

RECEIVE A+

RECEIVE A-

TRANSMIT B+ TRANSMIT B-

RECEIVE B+

RECEIVE B-

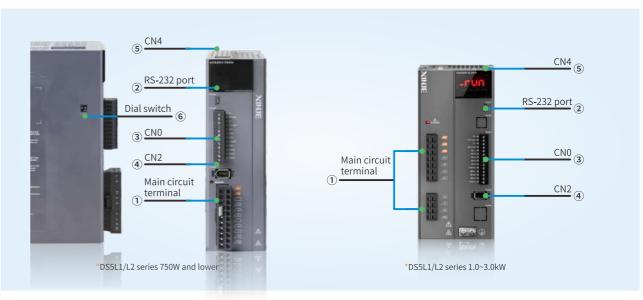
#### DS5C1 series 1~3kW

Pin	Explanation	Name	Explanation
SI1	SI1 Input terminal 1		Open collector input
SI2 Input terminal 2 SI3 Input terminal 3		SO1	Output terminal 1
		SO2	Output terminal 2
SI4	Input terminal 4 (high speed)	SO3	Output terminal 3
SI5	Input terminal 5 (high speed)	СОМ	Output terminal ground

#### DS5C1 series 11kW and up

Name	Explanation	Name	Explanation
P-	Pulse –	+24V	Input common terminal
P+5	Pulse +5V	SI1	Input terminal
P+24	Pulse +24V	SI2	Input terminal
D-	Direction –	SI3	Input terminal
D+5	Direction +5V	SI4	Input terminal (high speed)
D+24	Direction +24V	SI5	Input terminal (high speed)
SO1+	Output terminal +	SO1-	Output terminal –
SO2+	Output terminal +	SO2-	Output terminal –
SO3+	Output terminal +	SO3-	Output terminal –
SO4+	Output terminal +	SO4 <b>-</b>	Output terminal –

## | DS5L1/L2 series



#### 1) Main circuit terminal definition

#### DS5L1/L2-20P1/20P2/20P4-PTA

-			- 1 - 1	
	Terminal	Function	Explanation	
	L/N	Main circuit power supply input terminal	Single phase AC200~240V, 50/60Hz	
	Vacant terminal		/	
	P+、C	Use external regenerative resistor	Connect the regeneration resistor to P+ and C terminal, P0-25=power value, P0-26=resistor value	
	U、V、W、PE	Motor connection terminal	Connect to the motor	

#### DS5I 1/I 2-20P7-PTA

Terminal	Function	Explanation	
L/N	Main circuit power supply input terminal	Single phase AC200~240V, 50/60Hz	
•	Vacant terminal	/	
P+、D、C	Use built-in regenerative resistor	Short connect P+ and D terminal, disconnect P+ and C terminal	
	Use external regenerative resistor	Connect the regenerative resistor to P+ and C terminal, and disconnect P+ and D, set P0- 25 = power value, P0-26 = resistance value	
•	Vacant terminal	/	
U、V、W、PE	Motor connection terminal	Connect to the motor	

#### ② RS-232 port

Pin	Name	Explanation	
1	TXD	RS232 send	
2	RXD	RS232 receive	
3	GND	RS232 signal ground	

#### 4 CN2 port

ı	Pin	Name	Pin	Name
	1	5V	4	/
	2	GND	5	485 <b>-</b> A
	3	/	6	485 <b>-</b> B

#### ⑤ CN4 - RS485 port

Pin		Name		
	4	485-A		
	5	485-B		
	6	485-GND		
	Others	Reserved		

#### 6 Dial switch

Name	Switch1	Switch2	State
485 <b>-</b> A	ON	ON	Pulse input
485 <b>-</b> B		OIV	differential 5\
485-GND	OFF	OFF	Pulse input collector 24V
Reserved			COLLECTOL Z-1V

\*Note: The directions of the two dial switches must be consistent. If they are not consistent, the pulse terminal of the driver will be burned once the power is supplied.

#### DS5L1-21P0/21P5/22P3/22P6-PTA

Terminal	Function	Explanation			
L1、L2、L3	Main circuit power supply input terminal	Single/three phase AC200~240V, 50/60Hz			
	Use built-in regenerative resistor	Short connect P+ and D terminal, disconnect P+ and C terminal			
P+、D、C	Use external regenerativeresistor	Connect the regeneration resistor to P+ and C terminal, disconnect P+ and D, P0-25=power value, P0-26=resistor value			
P+、P-	Bus terminal	The real-time voltage of the bus can be measured,please pay attention to the danger			
U.V.W	Motor connection terminal	Connection with motor "Note:The ground wire is on the radiator, please check before powering on			
<b>(</b>	Grounding terminal	Connect with the motor grounding terminal for grounding treatment			

#### DS5L1-41P0/41P5/42P3/43P0-PTA

Tamainal	Function	Evalenation			
Terminal	Function	Explanation			
R、S、T	Main circuit power supply input terminal	Three phase AC380~440V, 50/60Hz			
P+、D、C	Use built-in regenerative resistor	Short connect P+ and D terminal, disconnect P+ and C terminal			
	Use built-in regenerative resistor	Connect the regenerative resistor to P+ and C terminal, and disconnect P+ and D, set P0-25 = power value, P0-26 = resistance value			
P+、P-	Bus terminal	The real-time voltage of the bus can be measured,please pay attention to the danger			
U.V.W	Motor connection terminal	Connect to the motor  *Note: The ground wire is on the radiator, please check before powering on			
<b>(±)</b>	Grounding terminal	Connect with the motor grounding terminal for grounding treatment			

#### ③ CN0 port

S5L1/L2 series 750W and lower						
Pin	Name	-				
P-	Pulse input PUL-	-				
P+24	Pulse input external power supply	-				
D-	Direction input DIR-	-				
D+24	Direction input external power supply					
SI1	Input terminal 1	_				
SI2	Input terminal 2					
SI3	Input terminal 3					
+24V	Input terminal +24V	_				
SO1	Output terminal 1					
SO2	Output terminal 2	_				
SO3	Output terminal 3	_				
COM Output terminal ground						

#### DS5L1 above 750W

_	Pin	Name			
	P-	Pulse input PUL-			
_	P+24	Open Collector input			
	D-	Direction input DIR-			
_	D+24	Open collector input			
_	SI1	Input terminal 1			
	SI2	Input terminal 2			
_	SI3	Input terminal 3			
_	SI4	Input terminal 4			
_	SI5	Input terminal 5			
_	+24V	Input terminal +24V			
_	S01	Output terminal 1			
_	SO2	Output terminal 2			
_	SO3	Output terminal 3			
	COM	Output terminal ground			
_					

#### DS5K1 series



#### ① series 11kW and up

#### DS5K1-20P1/20P2/20P4-PTA

_					
	Terminal	Function	Explanation		
	L/N	Main circuit power supply input terminal	Single phase AC200~240V, 50/60H		
-	•	Vacant terminal	/		
	P+、C	Use external regenerative resistor	Connect the regeneration resistor to P+ and C terminal, P0-25=power value, P0-26=resistor value		
	U、V、W、PE	Motor connection terminal	Connect to the motor		

#### DS5K1-20P7-PTA

Terminal	Function	Explanation
L/N	Main circuit power supply input terminal	Single phase AC200~240V, 50/60Hz
•	Vacant terminal	/
	Use built-in regenerative resistor	Short connect P+ and D terminal, disconnect P+ and C terminal
P+、D、C	Use external regenerative resistor	Connect the regenerative resistor to P+ and C terminal, and disconnect P+ and D, set P0- 25 = power value, P0-26 = resistance value
Vacant terminal		/
U、V、W、PE	Motor connection terminal	Connect with the motor

#### ② RS-232 port

② RS-232 port			ort	⑤ CN1-RS485 port		
	Pin	Name	Explanation	Pin	Name	
	1	TXD	Rs232 send	4	485-A	
	2	RXD	RS232 receive	5	485 <b>-</b> B	
	3	GND	RS232 signal ground	6	485 <b>-</b> GND	
				Othors	reserved	

#### ④ CN2 port

255K1 Series 750W and tower		DSSKI Selle:	s iikw and up
Pin	Name	Number	Definition
1	5V	1	PE
2	GND	2	485-A
3	/	3	485 <b>-</b> B
		4	Temperature
<del></del>	/	5	Temperature grour
5	485 <b>-</b> A	6	5V
6	485 <b>-</b> B	7	5V
		8	GND
		9	GND

#### DS5K1-411P0/415P0-PTA

Terminal	Function	Explanation			
R.S.T	Main circuit power supply input terminal	Single phase AC380~440V, 50/60Hz			
•	Vacant terminal	/			
U.V.W	Motor connection terminal	Connection with motor  *Note: The ground wire is on the radiator, please check before powering on			
P+、PB	Use external regenerative resistor	Connect the regeneration resistor to P+ and PB terminal, P0-25=power value, P0-26=resistor value			
P+、P-	Bus terminal	The real-time voltage of the bus can be measured, please pay attention to the danger			
PE\PE	Grounding terminal	Only 11, 15kW supported			

#### ③ CN0 port

#### DS5K1 series 11kW and up

Number	Name	Explanation	Number	Name	Explanation
1	P-	Pulse +5V	11	+24V	Input common terminal
2	P+5	Pulse +24V	12	SI1	Input terminal
3	P+24	Direction –	13	SI2	Input terminal
4	D-	Direction +5V	14	SI3	Input terminal
5	D+5	Direction +24V	15	SI4	Input terminal (high speed)
6	D+24	Output terminal +	16	SI5	Input terminal (high speed)
7	SO1+	Output terminal +	17	SO1-	Output terminal –
8	SO2+	Output terminal +	18	SO2-	Output terminal –
9	SO3+	Output terminal +	19	SO3-	Output terminal –
10	SO4+	Output terminal +	20	SO4-	Output terminal –

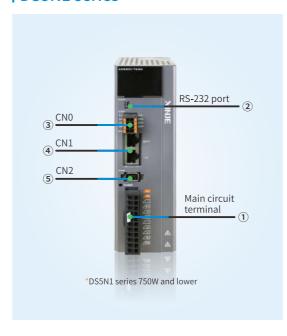
#### 6 CN4 port

Number	Name	Explanation	Number	Name	Explanation
1	1 VREF+ External speed analog differential input +		11	VREF-	External speed analog differential input -
2	TREF+	External torque analog	12	TREF-	External torque analog
3	3 GND differential input + Analog input ground 4 OA+ Encoder frequency division output OA + 5 OB+ Encoder frequency division output OB + 6 OZ+ Encoder frequency division output OZ +		13	GND	differential input - Analog input ground
4			14	OA-	Encoder frequency division output OA -
5			15	OB-	Encoder frequency division output OB -
6			16	OZ-	Encoder frequency division output OZ -
7 OZ Encoder frequency division output OZ		17	GND	Communication terminal ground	
	/	Vacant terminal	18	/	Vacant terminal
9	/	Vacant terminal	19	/	Vacant terminal
10	/	Vacant terminal	20	/	Vacant terminal

#### DS5K1 series



#### DS5N1 series



#### ③ CN0 port

#### DS5K1 series 750W and lower

Number	Name	Explanation	Number	Name	Explanation
1	P-	Pulse –	23	S <b>I</b> 4	
2	P+5	Pulse +5V	24	S <b>I</b> 6	Input terminal
3	P+24	Pulse +24V	25	SI7	
4	D-	Direction –	26	NC	Vacant
5	D+5	Direction +5V	27	S <b>I</b> 8+	High speed SI+
6	D+24	Direction +24V	28	SI8-	High speed SI –
7	SO1+		29	SI5	High speed input terminal
8	SO2+	Output terminal (max	30	+24V	Input common terminal
9	SO3+	load current 50mA)	31	T-REF+	External torque analog differential input +
10	SO4+		32	T-REF-	External torque analog differential input –
11	S05+		33	V-REF+	External speed analog differential input +
12	SO5-		34	V-REF-	External speed analog differential input –
13	SO6+	Output terminal	35	OA+	Encoder frequency division output OA +
14	S06-		36	OA-	Encoder frequency division output OA -
15	COM	Output common terminal	37	OB+	Encoder frequency divisio output OB +
16	485+	Communication terminal +	38	OB-	Encoder frequency divisio output OB -
17	485-	Communication terminal –	39	OZ+	Encoder frequency division output OZ +
18	GND	Analog input ground	40	OZ-	Encoder frequencydivisior output OZ -
19	GND	Communication terminal ground	41	OZ	Encoder frequencydivisior output OZ
20	SI1		42	GND	Frequency division outpur ground
21	SI2	Input terminal	43	NC	In contract to all
22	SI3	1	44	NC	Input terminal

## 1 Main circuit terminal definition

#### DS5N1 series 400W and lower

Terminal	Function	Explanation	
L/N	Main circuit power supply input terminal	Single phase AC200~240V, 50/60Hz	
•	Vacant terminal	/	
P+、C	Use external regenerative resistor	Connect the regeneration resistor to P+ and C terminal, P0-25=power value, P0-26=resistor value	
U.V.W.PE	Motor connection terminal	Connect to the motor	

#### DS5N1 series 750W

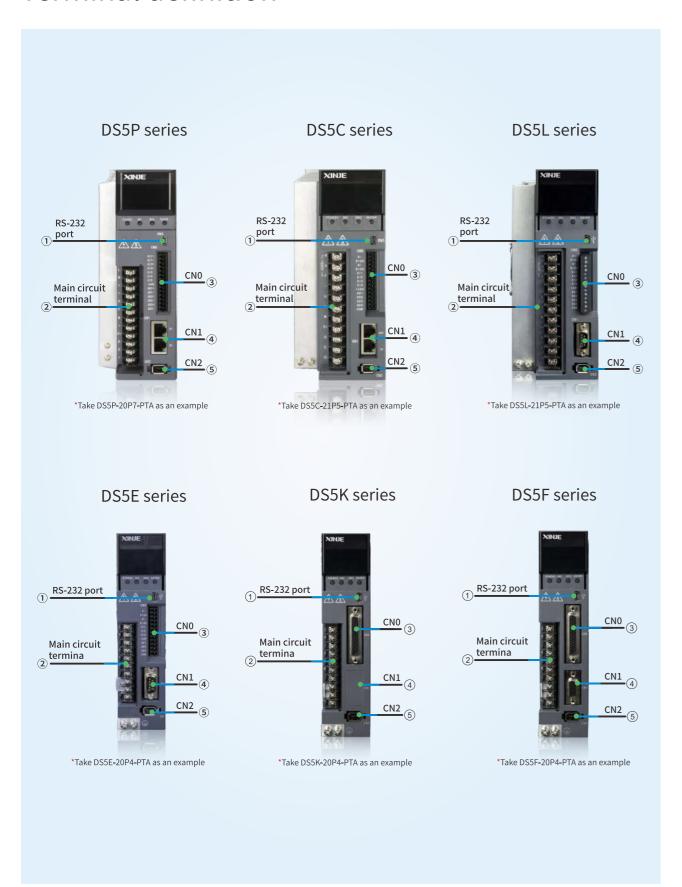
Terminal	Function	Explanation
L/N	Main circuit power supply input terminal	Single phase AC200~240V, 50/60Hz
•	Vacant terminal	/
	Use built-in regenerative resistor	Short connect P+ and D terminal, disconnect P+ and C terminal
P+、D、C	Use external regenerative resistor	Connect the regenerative resistor to P+ and C terminal, and disconnect P+ and D, set P0- 25 = power value, P0-26 = resistance value
Vacant terminal		/
U、V、W、PE	Motor connection terminal	Connect to the motor

#### ② RS-232 port

Pin	Name	Explanation
1	TXD	RS232 send
2	RXD	RS232 receive
3	GND	RS232 signal ground

#### 3 CN0 port 4 CN1 port

Pin	Name	Number	Name	Number	Name	(F) CN2 nort	
SI1	High speed input terminal 1	1	CAN_H	9	CAN_H	⑤ CN2 port	
SI2	High speed input terminal 2	2	CAN_L	10	CAN_L	Pin	Number
SI3	High speed input terminal 3	3	CAN_GND	11	CAN_GND	1	5V
+24V	Input terminal +24V	4	/	12	/	2	GND
SO1	Output terminal 1	5	/	13	/	3	/
SO2	Output terminal 2	6	/	14	/	4	/
SO3	Output terminal 3	7	/	15	/	5	485-A
COM	Output terminal ground	8	/	16	/	6	485-B



#### ① RS-232 port

Apply to DS5C/DS5E/DS5L/DS5K/DS5F/DS5P series

Pin	Name	Explanation
1	TXD	RS232 send
2	RXD	RS232 receive
3	GND	RS232 signal ground

#### 2 Main circuit terminal definition

Terminal	Function	Explanation
L/N R/S/T	Main circuit power supply input terminal	Single/three phase AC200~240V, 50/60Hz Three phase AC380~440V, 50/60hz
Vacant terminal		/
U/V W/PE	Motor connection terminal	Connect to the motor Note: the ground wire is on the radiator, please check before powering on
P+\D\C	Use built-in regenerative resistor	Short connect P+ and D terminal, disconnect P+ and C
	Use external regenerative resistor	Connect the regenerative resistor to P+ and C terminal, disconnect P+ and D, P0-25= power value, P0-26=resistor value

## **DS5P** series

#### 3 CN0 port

Name	Explanation	Name	Explanation
SI1+	High speed SI+	24V	Input common terminal
SI1-	High speed SI-	SO1+	Output terminal
SI2+	High speed SI+	SO1-	Output terminal
SI2-	High speed SI-	SO2+	Output terminal
SI3	Input terminal	SO2-	Output terminal
SI4	Input terminal	SO3+	Output terminal
SI5	Input terminal	SO3-	Output terminal

#### 4 CN1 port

Pin	Definition	Explanation
1	TX+	Explanation
2	TX-	Data send +
3	RX+	Data send –
4	-	-
5	-	-
6	RX-	Data receive –
7	-	-
8	-	-
outer covering	PE	Shield

#### ⑤ CN2 port

Pin	Name
1	5V
2	GND
3	/
4	/
5	485-A
6	485-B

## **DS5C** series

## ③ CN0 port

#### 1.5kW and up

Name	Explanation	Name	Explanation
P-	Pulse input PUL-	SI4	Input terminal 4
P+24V	Pulse input external power supply	+24V	Input terminal +24V
D-	Direction input DIR-	SO1	Output terminal 1
D+24V	Direction input external power supply	SO2	Output terminal 2
SI1	Input terminal 1	SO3	Output terminal 3
SI2	Input terminal 2	SO4	Output terminal 4
SI3	Input terminal 3	СОМ	Output terminal ground

#### ④ CN1 port

Pin	Name	Explanation	Pin	Name	Explanation
1	TX A+	TRANSMIT A+	9	TX B+	TRANSMIT B+
2	TX A-	TRANSMIT A-	10	TX B-	TRANSMIT B-
3	RX A+	RECEIVE A+	11	RX B+	RECEIVE B+
4	/	/	12	/	/
5	/	/	13	/	/
6	RX A-	RECEIVE A-	14	RX B-	RECEIVE B-
7	/	/	15	/	/
8	/	/	16	/	/

#### ⑤ CN2 port

Pin	Name
1	5V
2	GND
3	/
4	/
5	485 <b>-</b> A
6	485 <b>-</b> B

## DS5L series

#### ③ CN0 port

#### 1.5kW and up

Name	Explanation	Name	Explanation
P-	Pulse input PUL-	SI4	Input terminal 4
P+24V	Pulse input external power supply	+24V	Input terminal +24V
D-	Direction input DIR-	S01	Output terminal 1
D+24V	Direction input external power supply	SO2	Output terminal 2
SI1	Input terminal 1	SO3	Output terminal 3
SI2	Input terminal 2	S04	Output terminal 4
SI3	Input terminal 3	COM	Output terminal ground

#### 4 CN1 port

Pin	Name	Explanation
1		
2		
3		
4		
5	NC	Reserved
6		
7		
8		
9		

#### ⑤ CN2 port

Pin	Name
1	5V
2	GND
3	/
4	/
5	485-A
6	485-B

## DS5E series

#### ③ CN0 port

#### 750W and lower

Name	Explanation	Name	Explanation
P-	Pulse input PUL-	SI3	Input terminal 3
P+24V	Pulse input external power supply	+24V	Input terminal +24V
D <b>-</b>	Direction input DIR-	S01	Output terminal 1
D+24V	Direction input external power supply	SO2	Output terminal 2
SI1	Input terminal 1	S03	Output terminal 3
SI2	Input terminal 2	СОМ	Output terminal ground

#### 1.5kW and up

Name	Explanation	Name	Explanation
P-	Pulse input PUL-	SI4	Input terminal 4
P+24V	Pulse input external power supply	+24V	Input terminal +24V
D-	Direction input DIR-	S01	Output terminal 1
D+24V	Direction input external power supply	SO2	Output terminal 2
SI1	Input terminal 1	S03	Output terminal 3
SI2	Input terminal 2	S04	Output terminal 4
SI3	Input terminal 3	COM	Output terminal ground

#### ④ CN1 port

Pin	Name	Explanation
1	GND	GND-485
2	A1	RS485communication +
3	B1	RS485communication -
4	A2	RS485communication +
5	B2	RS485communication-
6	GND	GND-485
7		
8	NC	Reserved
9		

#### ⑤ CN2 port

#### 7.5kW and lower

Pin	Name
1	5V
2	GND
3	/
4	/
5	485 <b>-</b> A
6	485-B

#### 7.5kW and up

Pin	Name
1	Temperature sensor –
2	Temperature sensor +
3	485-B
4	485 <b>-</b> A
5	Shield cable
6	GND
7	/
8	5V
9	/

## DS5K series

#### ③ CN0 port

Pin	Name	Explanation	Pin	Name	Explanation
1	P-	Pulse input PUL-	23	SI4	Input terminal
2	P+5	Pulse input external	24		Vacant terminal
2	P+5	power supply +5V	25	NC	
3	P+24	Pulse input external	26		
3	P+24	power supply +24V	27		
4	D-	Direction input DIR-	28	1	
5	D+5	Direction input external power supply +5V	29	SI5	High speed input terminal
6	D+24	Direction input external	30	+24V	Input terminal +24V
0	D+24	power supply +24V	31		
7	S01		32	NC	Vacant terminal
8	SO2	Output terminal	33	] INC	vacant terminat
9	SO3	Output terriiriat	34		
10	SO4		35	OA+	Encoder frequency
11			33	UAT	division output OA+
12	NC	VC Vacant terminal	36	36 OA-	Encoder frequency
13	INC	vacant terminat	30	OA-	division output OA-
14			37	OB+	Encoder frequency
15	COM	Output terminal ground	31	OD.	division output OB+
16	485+	Communication terminal +	38	OB-	Encoder frequency division output OB-
17	485-	Communication terminal –	39	OZ+	Encoder frequency division output OZ+
18	GND	Communication terminal ground	40	OZ-	Encoder frequency division output OZ-
19	NC	Vacant terminal	41		
20	0 SI1 42	] NC	Vacant terminal		
21	SI2	Input terminal	43	NC	vacant terminal
22	SI3		44		

#### 4 CN1 port (no function)

#### ⑤ CN2 port

Pin	Name
1	5V
2	GND
3	/
4	/
5	485-A
6	485-B

## DS5F series

General | small-sized servo system

#### ③ CN0 port

Pin	Name	Explanation	Pin	Name	Explanation
1	P-	Pulse input PUL-	27	SI8	Input terminal
2	P+5	Pulse input external	28	SI9	mpacterninat
	F + 2	power supply +5V	29	SI10	High speed input
3	P+24	Pulse input external		0.10	terminal
	1 .24	power supply +24V	30	+24V	Input terminal +24V
4	D-	Direction input DIR-	31	T-REF+	External torque analog
5	D+5	Direction input external		I IXEI	differential input +
	D.3	power supply +5V	32	T-REF-	External torque analog
6	D+24	Direction input external		1 1121	differential input +
	J	power supply +24V	33	V-REF+	External torque analo
7	S01				differential input +
8	S02		34	V-REF-	External torque analog
9	S03			V INCI-	differential input +
10	S04	Output terminal	35	OA+	Encoder frequency
11	S05	'		OA-	division output OA+
12	S06		36		Encoder frequency division output OA-
13	S07			-	
14	S08		37	OB+	Encoder frequency division output OB+
15	COM	Output terminal ground			'
16	485+	Communication terminal +	38	ОВ-	Encoder frequency division output OB-
17	485-	Communication	39	OZ+	Encoder frequency
		terminat –			division output OZ+
18	GND	Communication terminal ground	40	OZ-	Encoder frequency division output OZ-
19	GND	Analog input ground	41	LIBLII	Line driver high speed
20	SI1		41	HPUL+	pulse +
21	SI2		42	HPUL-	Line driver high speed
22	SI3		42	HPUL-	pulse -
23	SI4	Input terminal	43	HDIR+	Line driver high speed
24	SI5		43	חטוא+	direction +
25	SI6		44	HDIR-	Line driver high speed
26	SI7		44	אוטור-	direction -

#### ④ CN1 port

Pin	Name	Explanation Pin Name		Explanation		
1	Z-	Full closed loop input Z –	9	Z+	Full closed loop input Z+	
2	B-	Full closed loop input B –	10			
3	B+	Full closed loop input B+	11		Vacant terminal	
4	A+	Full closed loop input A+	12	,		
5	A-	Full closed loop input A –	13	_ ′		
6	GND	Grating ruler power supply GND	14			
7	GND	Grating ruler power supply GND	15			
8	5V	Grating ruler power supply 5V				

#### ⑤ CN2 port

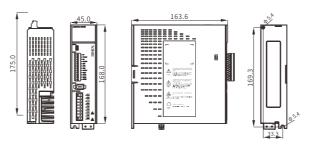
Pin	Name
1	5V
2	GND
3	/
4	/
5	485 <b>-</b> A
6	485-B

## Drive specification

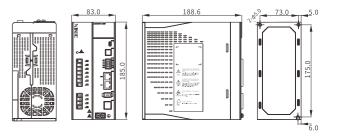
		Model	Pulse	type	EtherCAT	bus type	CANopen bus type	X-NET bus type	Full function type	Standar	d type	PROFINET bus type
S	pecific	cation	DS5L1 series	DS5L series	DS5C1 series	DS5C series	DS5N1 series	DS5E series	DS5F series	DS5K1 series	DS5K series	DS5P series
	Pow	rer range (kW)	0.1~3.0	0.1~2.6	0.1~32	0.1~32	0.1~0.75	0.1~22	0.1~7.5	0.75~15	0.1~3.0	0.1~0.75
		it power supply oder feedback			Single/th		00~240V, 50/60 bit/23 <b>-</b> bit comm			/, 50/60Hz		
		rol mode			Three-ph		ectifier IPM, PW			drive mode		
		Ambient			Operation	n: <b>-</b> 10°C~40°C (	no condensatio	n)/storage: -20	°C~60°C (no co	ndensation)		
	Use	temperature Ambient								· · · · · · · · · · · · · · · · · · ·		
	Use environment	humidity Vibration/shock				Operation/s	torage: 90%RH		condensation)			
	큐	resistance						/ 19.6m/s²				
Bas		Electronic CAM Protection function	Overvolta	age, undervol	tage, overheatin	g, overcurrent, o	No overload, overspe	ne ed, analog inpu	t abnormality, e	xcessive position	n deviation, ou	tput
ic sp			short circ Apply to above				mality protection		tection, oscillati			
eci		Dynamic brake	750W	None	Apply to 1~3kW			ne		Apply to 750W		None
Basic specification	Function	Communication function	RS232: standard ModbusRTU protocol RS485: standard ModbusRTU protocol	RS232: standard ModbusRTU protocol	RS232: sta ModbusRT EtherCAT: EtherCAT I communic (max 32 ax	U protocol support ous cation	Rs232: standard ModbusRTU protocol CANopen: support CANopen bus communication (max 64 axes)	RS232: standard ModbusRTU protocol RS485: standard ModbusRTU protocol Support X-NET bus communication (max 20 axes)		dard ModbusRT dard ModbusRT	•	RS232: standard ModbusRTUprotoco PROFINET: support PROFINET bus communication (max64axes)
		Brake resistor				Built-in brake	resistor, externa	L al brake resisto	r can be conne	cted		1
		Display and operate					ndicator light, p	ower indicator				
	o P	Output form Frequency				No			ABZ differ	ential feedback	coutput	No
	Position output	division function				No				Yes		No
	# 5	Collector Z phase output						Yes				
	Analo	og input				No			2 channe	els input		No
	Digita	al input (S <b>I</b> )	3 channels (750W and below) 5 channels (above 750 W)	3 channels (750W and below) 4 channels (above 750 W)	3 channels (750W and below) 5 channels (above 750 W)	3 channels (750W and below) 4 channels (above 750W)	3 channels	3 channels (750W and below) 4 channels (above 750W)	10 channels	8 channels (below 11kW) 5 channels (above 11kW)	5 cl	hannels
I/O signal						nput prohibitio	n, no reverse rot on, zero speed lo rnal control mo	cking, positio	n deviation clea			
nal	Digita	al output (SO)	3 channels	3 channels (750W and below) 4 channels (above 750 W)	3 channels	3 channels (below 11kW) 4 channels (above 11kW)	3 channels	3 channels (750W and below) 4 channels (above 750W)	8 channels	6 channels (below 11kW) 4 channels (above 11kW)	4 channels	3 channels
			Posit		pletion, servo r		tput, torque lim ake release outp			ion, rotation de	etection, spee	d arrival,
Pos	Max ir freque	nput pulse ency		Collector	open: 200kpps (	5C1/5N1 not s	upport pulse)		Differential in Long li	en: 200kpps [Opt put: 500kpps [Opt ne reception: 2M DS5F series supp	otocoupler]  pps	Not support
tion control mode	Pulse	command mode	3.3V~5V/18~24V pulse+direction, AB phase pulse, CW/CCW signal				pulse, CW/CCW not support ext			-24V pulse+dire ulse, CW/CCW s		Not support
ol mode	Contr	rol mode	External built-in		Built-in position/ EtherCAT motion bus	External pulse/ built-in position /EtherCAT motion bus	Built-in position /CANopen motion bus	External pulse/ built-in position /X-NET motion bus		ulse/built <del>-</del> in po	osition	PROFINET motion bus
		rward compensation				1 05505	0~100% (set th		,	(۵: ۰۰۰۰ ا		
		ning complete width onic gear ratio				1~00535 COF	nmand unit (set 1/10000≤	the resolution B/A≤10000	to 1 command	ı uflit)		
(0	Contro	ol mode		Ar	nalog speed cor	ntrol (only DS5	F support), inte		nents of speed	, external speed	d mode	
pee		and smoothing mode					Low pass filter	, smooth filter	101/ :201/			Ne
d co		Voltage range Input impedance				lo lo				solution 12-bit) KΩ		No No
ntro	Torque	<del></del>			Internal p					er/external analog	Intern	al parameter
Speed control mode	Speed	change rate				Rated	d change 0~100 voltage ±10%:	0.01% (at rate	d speed)			
СО	Contro	ol mode			A	mbient tempe Analog speed	rature 20±25°C d control (only D	: below ±0.01 S5F support).	% (at rated spe internal torque	ed)		
Torque ntrol ma	Analog	Input impedance				lo	- ()	PP90	-10V~+10V (re	solution 12-bit)		No
Torque control mode	Input	Voltage range limit				lo parameter				2KΩ er/external analog	Intern	No al parameter
Bus	Contro	l axis number	N		32 a	ixes	64 axes	20 axes	,	No	, ,,,cerri	64
mode	Comm	unication protocol	No.	0	EtherCAT	protocol	CANopen protocol	X-NET protocol		No		profinetprotocol

## Drive dimension diagram (Unit: mm)

DS5L1-20P1/2/4-PTA DS5L2-20P1/2/4-PTA DS5C1-20P1/2/4-PTA DS5K1-20P1/20P2/20P4-PTA



DS5L1-21P5/22P3/22P6/42P3/43P0-PTA DS5C1-21P5/22P3/22P6/42P3/43P0-PTA

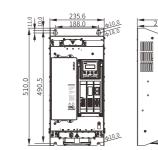


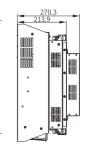
General | small-sized servo system

DS5L1-20P7-PTA DS5C1-20P7-PTA DS5K1-20P7-PTA

174.0

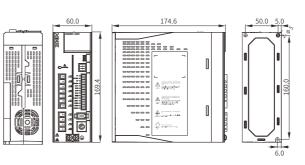
DS5L2-20P7-PTA DS5N1-20P7-PTA DS5N1-20P7-PTA



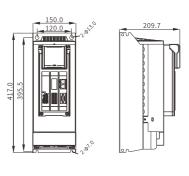




DS5L1-21P0/41P0/41P5-PTA DS5C1-21P0/41P0/41P5-PTA



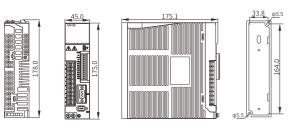
DS5C1-411P0/415P0-PTA DS5K1-411P0/415P0-PTA



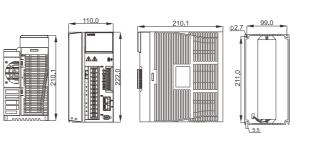


## Drive dimension diagram (Unit: mm)

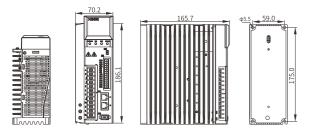
DS5E-20P1/20P2/20P4-PTA DS5F-20P1/20P2/20P4-PTA DS5K-20P1/20P2/20P4-PTA



DS5E-43P0-PTA-H DS5C-43P0-PTA-H DS5K-43P0-PTA-H DS5F-43P0-PTA-H

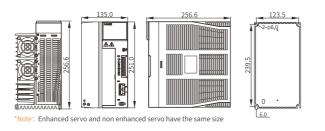


DS5P-20P4/20P7-PTA

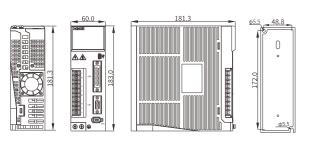


DS5E-45P5/47P5-PTA-H DS5F-45P5/47P5-PTA-H

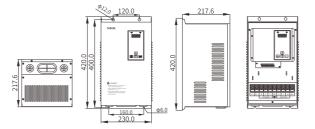
DS5C-45P5/47P5-PTA-H



DS5E-20P7-PTA DS5F-20P7-PTA DS5K-20P7-PTA

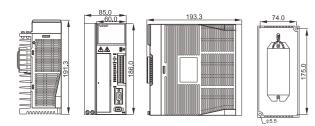


DS5E-411P0/415P0-PTA DS5C-411P0/415P0-PTA

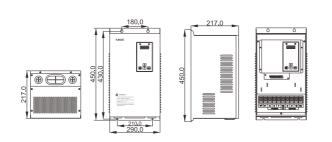


DS5E-21P0/21P5/22P3/22P6/41P0-PTA DS5L-21P0/21P5/22P3-PTA DS5C-21P0/21P5/22P3/41P0-PTA DS5F-21P0/21P5/22P3/22P6-PTA

DS5K-21P0/21P5/22P3/22P6/41P5-PTA



DS5C-422P0/432P0-PTA



## Ms series motor parameters

#### **I MS6 series**

M-16									400	201/							
VOIL	age level	MS6	LI 40	MS6	u en	MSS	S-60	MSe	AC 2 H-60		S-80	MS6	L 00	MS6S-80	MS6H-80	MS6S-80	MS6H-80
Motor mo	odal		CS/CM/TL30B(Z)3		CS/CM/TL30B(Z)3	CS/CM30B(Z)1/2	CS/CM/TL30B3	CS/CM30B(Z)1/2			CS/CM/TL30B(Z)3	CS/CM30B(Z)1/2		CS/CM20B(Z)1/2	CS/CM20B(Z)1/2	CS/CM30B(Z)3	CS/CM30B(Z)3
MOTOL III	ouei		OP1	20			P4		P4		P7	20		20		21	
Rated pov	wer (kW)		0.1	0		0		0			75	0.			75	1	1
Rated spe	eed (rpm)	30	000	30	100	30	00	30	000	30	000	30	00	20	100	30	00
Max spee	ed (rpm)	6.5	500	65	00	65	00	60	00	52	200	52	00	35	00	40	00
Rated ton	que (N·m)	0.	.32	0.	64	1.	27	1.	27	2.	39	2.:	39	3	.5	3	18
Max torqu		0.	.96	2.	24	4.		4.	45	7.	17	7.		10		9.5	
Rated cur	rrent (mA)	850	950	1800	1900	27	00	2600	2800	4000	4100	41	00	41	.00	41	00
Rotor iner (10^-7kg	rtia · m²)	86(93)	64.38(67.18)	277(295)	271(275)	273(262)	285(280)	520(590)	520	980(1030)	980	1670(1691)	1550	1208(1261)	2445(2553)	1182(1196)	2391(2410
Inertia typ	pe	High	inertia	High	inertia	Low	inertia	High i	nertia	Low i	nertia	High i	nertia	Low inertia	High inertia	Low inertia	High inertia
Recomme rotor iner	ended rtia ratio								30								
Electrical τe(ms)	l constant	0.702	1.04	1.91	1.64	2.95	2.96	2.09	1.63	5.184	5.53	4.567	4.58	5.55	4.865	5.89	4.97
Mechanic te(ms)	cal constant	1.635(1.768)	1.16(1.21)	1.74(1.86)	1.26(1.29)	0.603(0.623)	0.57(0.61)	0.929(1.054)	0.93	0.705(0.741)	0.69(0.71)	0.925(0.937)	1(1.02)	0.329(0.344)	0.55(0.574)	0.53	0.93
EMF cons (mV/rpm)		38	33	24.03	31.25	44	44.25	49	43.98	56	55	54	56	120	115.5	75	73
Torque co (Nm/A)	onstant Kt	0.376	0.34	0.36	0.34	0.47	0.47	0.47	0.45	0.598	0.58	0.598	0.58	0.8	75	0.1	78
Pole of pa	airs									5							
Encoder b	bit	17	17/23	17	17/23	17	17/23	17	17/23	17	17/23	17	17/23	1	7	17/	23
Encoder t	type	magnetism	magnetism (photoelectricity)	magnetism	magnetism (photoelectricity)	magnetism	magnetism (photoelectricity)	magnetism	magnetism (photoelectricity)	magnetism	magnetism (photoelectricity)	magnetism	magnetism (photoelectricity)	magn	etism	magn (photoel	etism ectricity)
Motor ins	ulation grade								ClassF	(155°C)							
Protectio	n level	IP65	IP67	IP66	IP67	IP66	IP67	IP66	IP67	IP66	IP67	IP66	IP67	IP	66	IP	67
Use envorin	Ambient temperature								-15°C~+40°C	(no freezing)							
envorin -ment Ambient humidity Relative humidity <90% (no condensation)								Relative									

Voltag	e level			AC 220V						AC 3	80V					AC 220V	
		MS6S-100					•			MS6H-130					•		
Motor mo	odel	CS/CM30B2	CS/CM15B2	CS/CM15BZ2	TL15B2	TL15BZ2	CS/CM15B2	CS/CM15BZ2	TL15B2	TL15BZ2	CS/CM15B2	CS/CM15BZ2	TL15B2	TL15BZ2	CS/CM20B2	TL20B2	CS/CM20BZ2
		21P5	20	P8	20	P8	40	P8	40	P8	41	P3	41	P3	21	.P5	21P5
Rated po		1.5	0.	85	0.	85	0.	85	0.	85	1	.3	1	.3	1	.5	1.5
	eed (rpm)	3000	15	00	15	00		00	15	00	15			00		000	2000
Max spee		4500	30	000	30	00	30	000	30	100	30		30			000	3000
	rque (N·m)	4.8		41	5.			41		41	8		8			16	7.16
	ue (N·m)	12		.23	16	.23		.23	16	.23	24			1.9		.8	18
	rrent (mA)	8000	60	000	60	00	35	00	3.5	00	60	00	60	00	80	000	8000
Rotor ine 10^-7kg		2812	13860	15340	13860	15340	13860	15340	13860	15340	20000	21440	20000	21440	200	000	21440
nertia ty	pe	Low inertia	High i	nertia	High i	nertia	High i	nertia	High i	nertia	High i	nertia	High i	nertia	High i	nertia	High inertia
Recomm otor ine	ended rtia ratio	15	1	.0	1	0	1	.0	1	0	1	0	1	0	1	.0	10
lectrical e(ms)	l constant	10.791	6.9	944	6.9	44	6.7	722	6.7	22	9.2	29	9.2	29	8.4	109	8.409
Mechanio te(ms)	cal constant	0.61	1.823	2.017	1.823	2.017	1.844	2.041	1.844	2.041	1.496	1.603	1.496	1.603	1.5	523	1.633
MF cons		57	8	19	8	9	14	49	1	19	12	27	12	27	8	86	86
orque o Nm/A)	onstant Kt	0.6	0.9	902	0.9	102	1.5	546	1.5	46	1.3	83	1.3	83	0.8	395	0.895
ole of p	airs									5							
ncoder	bit	17	23	17	2	3	1	.7	2	3	1	7	2	3	17	23	17
ncoder	type	magnetism	photoelectricity	magnetism	photoel	ectricity	magn	netism	photoe	ectricity	magn	etism	photoel	ectricity	magnetism	photoelectricity	magnetism
Motor insulation grade								ClassF	(155°C)								
Protection level									I.F	65							
Use Ambient temperature									-15°C~+40°	C (no freezin	g)						
envorin ment Ambient								Relativ	e humidity <	90% (no con	densation)						

Voltag	e level				Α	C 220V								AC 380V			
									MS6H	-130							
Motor mo	del	TL20BZ2	CS/CM15B2	CS/CM15BZ2	TL15B2	TL15BZ2	CS/CM15B2	CS/CM15BZ2	TL15B2	TL15BZ2	CS/CM15B2	CS/CM15BZ2	TL15B2	TL15BZ2	CS/CM15B2	CS/CM15BZ2	TL15B2
		21P5	21	P8	21	P8	22	.P3	22	P3	41	.P8	41	.P8	42	P3	42P3
Rated po	wer (kW)	1.5	1.	8	1	.8	2	.3	2	3	1	.8	1	.8	2	.3	2.3
Rated spe	eed (rpm)	2000	15	00	15	00	15	000	15	00	15	00	15	00	15	00	1500
Max spee		3000	25		25	00	25	500	25	00	30	000	30	000	30	00	3000
	que (N·m)	7.16	11	.5	11	L.5	14	1.6	14	.6	1.	L.5	11	1.5	14	1.6	14.6
Max torq	ue (N·m)	18	34	.5	34	1.5	36	5.5	3€	.5	28	.75	28	.75	36	5.5	36.5
Rated cu	rent (mA)	8000	100	000	100	000	118	800	118	00	74	100	74	100	85	00	8500
Rotor ine (10^-7kg		21440	28500	29940	28500	29940	35240	36260	35240	36260	28500	29940	28500	29940	35240	36260	35240
Inertia ty	pe	High inertia	High i	nertia	High i	nertia	High i	nertia	High i	nertia	High i	nertia	High i	nertia	High i	nertia	High iner
Recomm rotor iner		10	1	0	1	0	1	.0	1	0	1	.0	1	.0	1	0	10
Electrical τe(ms)	constant	8.409	8.3	37	8.	37	9.8	393	9.8	93	9.9	73	9.9	73	9.8	87	9.887
Mechanic te(ms)	al constant	1.633	1.414	1.486	1.414	1.486	1.234	1.27	1.234	1.27	1.252	1.316	1.252	1.316	1.249	1.285	1.249
EMF cons (mV/rpm)		86	10	16	10	06	1:	15	11	.5	1-	14	14	14	15	55	155
Torque co (Nm/A)	onstant Kt	0.895	1.1	15	1	15	1.2	237	1.2	37	1.5	54	1.5	54	1.7	18	1.718
Pole of pa	airs								ŗ						•		
Encoder	oit	23	1	7	2	3	1	.7	2	3	]	.7	2	!3	1	7	17
Encoder	ype	photoelectricity	magne	etism	photoel	ectricity	magn	netism	photoel	ectricity	magn	etism	photoel	ectricity	magn	etism	magnetis
Motor ins	ulation grade	grade						ClassF	(155°C)							1	
Protectio	n level								IP	55							
Use .	Ambient temperature								-15°C~+40°C	(no freezing	)						
envorin -ment	Ambient humidity							Relative	humidity <90	% (no conde	ensation)						

General | small-sized servo system

# MS series motor parameters

## MS6 series

Volta	ge level								F	C 380V								
		MS6H-130								MS6	H-180							
Motor me	odel	TL15BZ2	CS/CM/15B2	CS/CM15BZ2	TL15B2	TL15BZ2	CS/CM15B2	CS/CM15BZ2	TL15B2	TL15BZ2	CS/CM15B2	CS/CM15BZ2	TL15B2	TL15BZ2	CS/CM15B2	CS/CM15BZ2	TL15B2	TL15BZ2
		42P3	43	P0		3P0	44	P4	44	P4	45			P5	47			7P5
Rated po		2.3		3		3		.4		.4	5.		5	.5	7.	.5	7	7.5
	eed (rpm)	1500		00		500		00		00	15			00	15			500
Max spee		3000	30			000		000	30		30			00	30			000
	rque (N·m)	14.6		.9		19		!8		8	3			5		8		48
Max torq		36.5		1.3		1.3		14	8		87			7.5		20		20
	rrent (mA)	8500	110	000	11000	29700	16	500	16	500	197	700	19	700	250	000	25	000
Rotor ine (10^-7kg		36260	51000	55490	51000	55490	73280	78040	73280	78040	90250	95200	90250	95200	132000	134690	132000	134690
Inertia ty	ре	High inertia	High i	nertia	High	inertia	High i	nertia	High i	nertia	High i	nertia	High i	nertia	High i	nertia	High	inertia
Recomm rotor ine		10	1	.0	1	10	1	.0	1	0	1	0	1	0	1	.0	1	10
Electrica τe(ms)	l constant	9.887	22.	539	22.	539	25.	547	25.	547	26.1	195	26.	195	25.	.176	25.	176
Mechaniα τe(ms)	cal constant	1.285	1.251	1.361	1.251	1.361	1.023	1.09	1.023	1.09	0.957	1.01	0.957	1.01	0.907	0.925	0.907	0.925
EMF cons (mV/rpm		155	16	50	1	60	16	50	10	50	16	50	16	50	1	.72	1	72
Torque c (Nm/A)	onstant Kt	1.718	1.7	27	1.7	727	1.6	36	1.6	36	1.7	77	1.7	77	1	.92	1.	92
Pole of p	airs		•				•			5								
Encoder	bit	23	1	.7	2	23	17,	/23	17,	/23	17/	23	17,	/23	17/	23	17,	/23
Encoder	type	photoelectricity	magn	etism	photoe	lectricity		netism lectricity)	magr (photoel	etism ectricity)	magn (photoel		magr (photoel	etism ectricity)	magn (photoele			netism lectricity)
Motor ins	sulation grade				-				C	assF(155°C	)							
Protectio	n level									IP65								
Use	Ambient temperature								-15°C~+4	0°C (no fre	ezing)							
envorin -ment	Ambient humidity							Relat	ive humidi	ty <90% (no	o condensatio	n)						-

## MS5 series

Volta	ge level						AC 22	20V					
				MS5S-1	10STE					MS5G-1	.30STE		
Motor mo	odel	CS/CM03230B	TL03230B□	CS/CM04830B	TL04830B	CS/CM06030B	TL06030B	CS/CM05415B	CS/CM05415BZ	TL05415B	TL05415BZ	CS/CM06025B	CS/CM06025E
		21P0-S01	21P0-S01	21P5-S01	21P5-S01	21P8-S01	21P8-S01	20P8-S01	20P8-S01	20P8-S01	20P8-S01	21P5-S01	21P5-S01
Rated po	wer (kW)	1	1	1.5	1.5	1.8	1.8	0.85	0.85	0.85	0.85	1.5	1.5
Rated spe	eed (rpm)	3000	3000	2000	2000	3000	3000	1500	1500	1500	1500	2500	2500
Max spee	d (rpm)	6000	6000	4500	4500	4500	4500	2000	2000	2000	2000	3000	3000
Rated tor	que (N·m)	3.18	3.18	4.77	4.77	6	6	5.41	5.41	5.41	5.41	6	6
Max torqu	ue (N·m)	7.95	7.95	9.54	9.54	12	12	15.15	15.15	15.15	15.15	15	15
Rated cur	rrent (mA)	7500	7500	7500	7500	9500	7500	4200	4200	4200	4200	7500	7500
Rotor ine (10^-7kg		2869	2869	3360	3360	4170	4170	8480	9717	8480	9717	9440	9440
Inertia ty	ре	Low inertia	Low inertia	Low inertia	Low inertia	Low inertia	Low inertia	Medium inertia	Medium inertia	Medium inertia	Medium inertia	Medium inertia	Medium inert
Recommo		15	15	15	15	10	10	10	10	10	10	10	10
Electrical τe(ms)	constant	18.363	18.363	20.606	20.606	20.863	20.863	7.79	7.79	7.79	7.79	9.368	9.368
Mechanio τe(ms)	cal constant	0.984	0.984	0.727	0.727	0.583	0.583	1.293	1.482	1.293	1.482	1.113	1.32
EMF cons (mV/rpm)		51	51	64	64	62	62	123	123	123	123	76	76
Torque co (Nm/A)	onstant Kt	0.424	0.424	0.636	0.636	0.632	0.632	1.286	1.286	1.286	1.286	0.8	0.8
Pole of pa	airs						5						
Encoder l		17	23	17	23	17	23	17	17	23	23	17	17
Encoder		magnetism	photoelectricity	magnetism	photoelectricity	magnetism	photoelectricity	magnetism	magnetism	photoelectricity	photoelectricity	magnetism	magnetism
Motor insulation grade							ClassF	(155°C)					
Protectio							IP	55					
Use	Ambient temperature						-15°C~+40°C	(no freezing)					
envorin -ment	Ambient humidity					Rela	ative humidity <90	1% (no condensat	tion)				

Volt	age level			AC 2	20V				AC 3	80V		AC 2	220V
							MS5G-						
Motor m	odel	CS/CM10015B	CS/CM10015BZ	CS07220B	CS07220BZ	TL07220B	TL07220BZ	CS/CM07220B	CS/CM07220BZ	TL07220B	TL07220BZ	CS/CM11515B	CS/CM11515BZ
		21P5-S01	21P5-S01	21P5-S01	21P5-S01	21P5-S01	21P5-S01	41P5-S01	41P5-S01	41P5-S01	41P5-S01	21P8-S01	21P8-S01
Rated po		1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.8	1.8
Rated sp	eed (rpm)	1500	1500	2000	2000	2000	2000	2000	2000	2000	2000	1500	1500
Max spee		2500	2500	3000	3000	3000	3000	3000	3000	3000	3000	2000	2000
	rque (N·m)	10	10	7.16	7.16	7.16	7.16	7.16	7.16	7.16	7.16	11.5	11.5
Max torq	jue (N·m)	25	25	17.9	17.9	17.9	17.9	25.06	25.06	25.06	25.06	23	23
Rated cu	irrent (mA)	7500	7500	7500	7500	7500	7500	5000	5000	5000	5000	9000	9000
Rotor ine (10^-7kg		14400	14400	11780	13130	11780	13130	11780	13130	11780	13130	17710	19060
Inertia ty	/pe						Mediun	inertia					
Recomm rotor ine		10	10	10	10	10	10	10	10	10	10	10	10
Electrica te(ms)	l constant	10.084	10.084	8.292	8.292	8.292	8.292	9.874	9.874	9.874	9.874	9.142	9.142
Mechani re(ms)	cal constant	0.847	0.847	1.076	1.199	1.076	1.199	0.925	1.031	0.925	1.031	1.113	0.918
EMF con: (mV/rpm		122	122	88	88	88	88	132	132	132	132	116	116
Torque c (Nm/A)	constant Kt	1.333	1.333	0.955	0.955	0.955	0.955	1.432	1.432	1.432	1.432	1.278	1.278
Pole of p	airs					•		5					
Encoder	bit	17	17	17	17	23	23	17	17	23	23	17	17
Encoder	type	magnetism	magnetism	magnetism	magnetism	photoelectricity	photoelectricity	magnetism	magnetism	photoelectricity	photoelectricity	magnetism	magnetism
Motor in:	sulation grade						ClassF	155°C)				•	•
Protectio	on level						IP	65					
Use	Ambient temperature						-15°C~+40°C	(no freezing)					
envorin -ment	Ambient humidity					Rela	ative humidity <90	)% (no condensat	tion)				

#### MS5 series

Voltage	level	AC 2	20V		AC 38	30V			AC 2	20V		AC 3	80V
							MS5G-1	30STE					
Motor mo	odel	TL11515B	TL11515BZ	CS/CM11515B	TL11515B	CS/CM11515BZ	TL11515BZ	CS/CM14615B	CS/CM14615BZ	TL14615B	TL14615BZ	CS/CM14615B	TL14615B
		21P8-S01	21P8-S01	41P8-S01	41P8-S01	41P8-S01	41P8-S01	22P3-S01	22P3-S01	22P3-S01	22P3-S01	42P3-S01	42P3-S01
Rated po	wer (kW)	1.8	1.8	1.8	1.8	1.8	1.8	2.3	2.3	2.3	2.3	2.3	2.3
Rated sp	eed (rpm)	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Max spee	ed (rpm)	2000	2000	3000	3000	3000	3000	2000	2000	2000	2000	3000	3000
	rque (N·m)	11.5	11.5	11.5	11.5	11.5	11.5	14.6	14.6	14.6	14.6	14.6	14.6
Max torq	ue (N·m)	23	23	28.75	28.75	28.75	28.75	29.2	29.2	29.2	29.2	36.5	36.5
Rated cu	rrent (mA)	9000	9000	6800	6800	6800	6800	9000	9000	9000	9000	8500	8500
Rotor ine (10^-7kg		17710	19060	17710	17710	18974	18974	22324	23560	22324	23560	22320	22320
Inertia ty	/pe	Medium inertia											
Recomm rotor iner		10	10	10	10	10	10	10	10	10	10	10	10
Electrical constant re(ms)		9.142	9.142	10.588	10.588	10.588	10.588	9.394	9.394	9.394	9.394	9.886	9.886
Mechanic te(ms)	cal constant	0.853	0.918	0.762	0.751	0.816	0.816	0.815	0.86	0.815	0.86	0.774	0.774
EMF cons (mV/rpm		116	116	155.54	155.54	155.54	155.54	148.536	148.536	148.536	148.536	156.487	156.487
Torque o (Nm/A)	onstant Kt	1.278	1.278	1.691	1.716	1.691	1.691	1.622	1.622	1.622	1.622	1.718	1.718
Pole of pa	airs						5				•		
Encoder	bit	23	23	17	23	17	23	17	17	23	23	17	23
Encoder		photoelectricity	photoelectricity	magnetism	photoelectricity	magnetism	photoelectricity	magnetism	magnetism	photoelectricity	photoelectricity	magnetism	photoelectricity
	sulation grade						ClassF(						
Protectio	on level						IP6	5					
Use	Ambient temperature						-15°C~+40°C	(no freezing)					
envorin -ment	Ambient humidity					Relat	tive humidity <90	% (no condensati	ion)				

Volta	ge level	AC 3	180V				AC 220V			
		ACS	7001			MS5G-130STE	710 2201			
Motor mo	odel	CS/CM14615BZ	TL14615BZ	CS/CM10025B	CS/CM10025BZ	TL10025B	CS/CM07730B	CS/CM07730BZ	TL07730B	TL07730BZ
		42P3-S01	42P3-S01	22P6-S01	22P6-S01	22P6-S01	22P4	22P4	22P4	22P4
Rated po	wer (kW)	2.3	2.3	2.6	2.6	2.6	2.4	2.4	2.4	2.4
Rated spe	eed (rpm)	1500	1500	2500	2500	2500	3000	3000	3000	3000
Max spee	d (rpm)	3000	3000	3000	3000	3000	4000	4000	4000	4000
Rated tor	que (N·m)	14.6	14.6	10	10	10	7.7	7.7	7.7	7.7
Max torqi	ue (N·m)	36.5	36.5	28.5	28.5	28.5	15.4	15.4	15.4	15.4
Rated cur	rrent (mA)	8500	8500	10.5	10.5	10.5	10000	10000	10000	10000
Rotor ine (10^-7kg		23560	23560	17710	19060	19060	11700	13130	11700	13130
Inertia ty	pe	Medium inertia	Medium inertia	Medium inertia	Medium inertia	Medium inertia	Medium inertia	Medium inertia	Medium inertia	Medium inertia
Recomme rotor iner	ended rtia ratio	10	10	10	10	10	10	10	15	15
Electrical te(ms)	constant	9.886	9.886	9.927	9.927	9.927	10.17	10.17	10.17	10.17
Mechanic te(ms)	cal constant	0.818	0.818	0.816	0.878	0.816	1.15	1.29	1.15	1.29
EMF cons (mV/rpm)		156.48	156.48	83.8	83.8	83.8	72	72	72	72
Torque co (Nm/A)	onstant Kt	1.718	1.718	0.952	0.952	0.952	0.77	0.77	0.77	0.77
Pole of pa	airs					5				
Encoder l	bit	17	23	17	17	17	17	17	23	23
Encoder 1	type	magnetism	photoelectricity	magnetism	magnetism	magnetism	magnetism	magnetism	photoelectricity	photoelectricity
Motor ins	ulation grade					ClassF(155°C)				
Protectio	n level					IP65				
Use envorin	Ambient temperature				=	15°C~+40°C (no freezin	g)			
	Ambient humidity				Relative	humidity <90% (no con	densation)			

#### MS series

Volt	age level	<u> </u>	AC 3	380V		AC 220V
				20STE		MS-110STE
Motor me	odel	TL70015B	TL70015B	TL96015B	TL96015B	T04030B□
		411P0-XJ	411P0-XJ	415P0-XJ	415P0-XJ	21P2
Rated po	wer (kW)	11	11	15	15	1.2
Rated sp	eed (rpm)	1500	1500	1500	1500	3000
Max spee	ed (rpm)	2300	2300	2200	2200	3500
Rated to	rque (N·m)	70	70	96	96	4
Max torq	ue (N·m)	175	175	240	240	12
Rated cu	rrent (mA)	25500	25500	35000	35000	5000
Rotor ine 10^-7kg	ertia · m²)	120270	120270	159500	190837	5400
nertia ty	pe	/	/	/	/	/
Recomm		10	10	10	10	10
Electrica te(ms)	l constant	17.498	17.498	20.576	20.576	/
Mechanio te(ms)	cal constant	1.089	1.089	0.822	0.822	/
MF cons	stant Ke	252	252	262	262	/
Forque c Nm/A)	onstant Kt	2.745	2.745	2.743	2.743	/
ole of p	airs	4	4	4	4	4
ncoder	bit	23	23	23	23	23
ncoder	type	photoelectricity	photoelectricity	photoelectricity	photoelectricity	photoelectricity
Motor insulation grade				ClassF(155°	C)	
Protection level				IP65		
Jse envorin	Ambient temperature			-15°C~+40°C (no	freezing)	
	Ambient humidity			Relative humidity <90% (r	no condensation)	

# MS6 series T/N curve

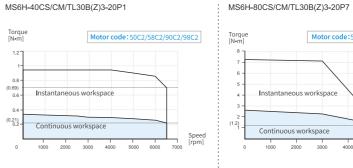
Bral	ke s	oeci <sup>.</sup>	ficat	tion

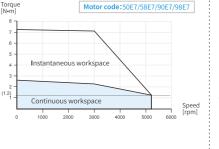
Motor	Ms series	Ms series MS5 series				MS6 series								
	220 flange	110 flange	130 flange	180 flange 19/27	180 flange 35/48			60 flange		80 flange		100 flange	130 flange	180 flange
Brake parameter						B1/B2	B3	B1/B2	B3	B1/B2	B3	100 Hallige	200 Marige	.oo nange
Static friction torque[N·m]	≥115	≥8	≥15	≥30	≥50	≥0.32	≥0.32	≥1.3	≥1.3	≥2.5	≥3.2	≥8	≥15	≥58
Rated power[W]	55	14.4	25	31	51	6.1	6.1	7.2	7.4	8	11.5	17.6	25	30
Attraction time[ms]	<200	<80	<100	<110	<110	<35	≤50	<50	≤50	<80	≤60	<100	<100	<180
Release time[ms]	<80	<40	<60	<80	<80	<20	≤40	<20	€30	<40	€30	<50	<60	<80
Excitation currentDC[A]	2.3	0.6	1	1.3	2.1	0.25	0.32	0.3	0.308	0.233	0.48	0.73	1	1.25
Attraction voltageDC[V]	<19.2	<16.8	<16.8	<18	<19	<16.8	≤16.8	<18	<16.8	<16.8	<16.8	<16.8	<16.8	<16.8
Release voltageDC[V]	>1.5	>1.5	>1.5	>4	>5	>1.5	≥1	>1.5	>1	>1	>1	>1	>1.5	>1.5
Excitation voltageDC[V]	DC24±10%													

\*Note: 04/05 below flange indicates the motor torque.

## MS motor axial and radial force specification

Base number (mm)	40 flange	60 flange	80 flange	100 flange	110 flange	130 flange	180 flange	220 flange
Axial force (N)	57	74	147	≤200	250	300	400	≤500
Radial force (N)	78	245	392	500	500	600	800	1000



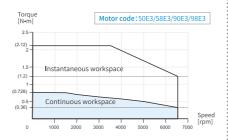




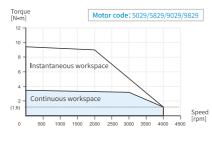
MS6H-60CS/CM30B(Z)□-20P4

MS6S-60CS/CM30B(Z)□-20P4

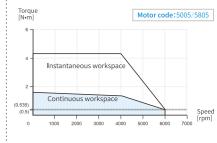
General | small-sized servo system

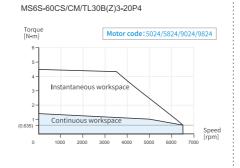


MS6H-60CS/CM/TL30B(Z)3-20P2

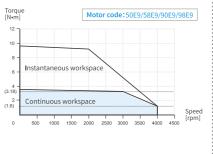


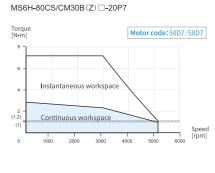
MS6S-80CS/CM/TL30B(Z)3-21P0



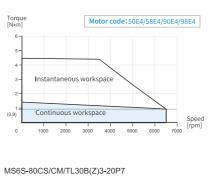


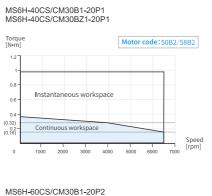
MS6H-60CS/CM/TL30B(Z)3-20P4

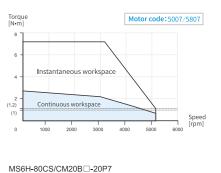


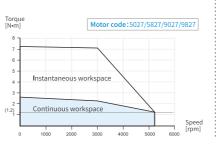


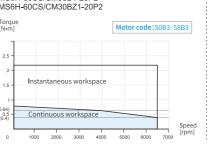
MS6S-80CS/CM30B(Z)□-20P7

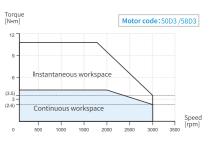






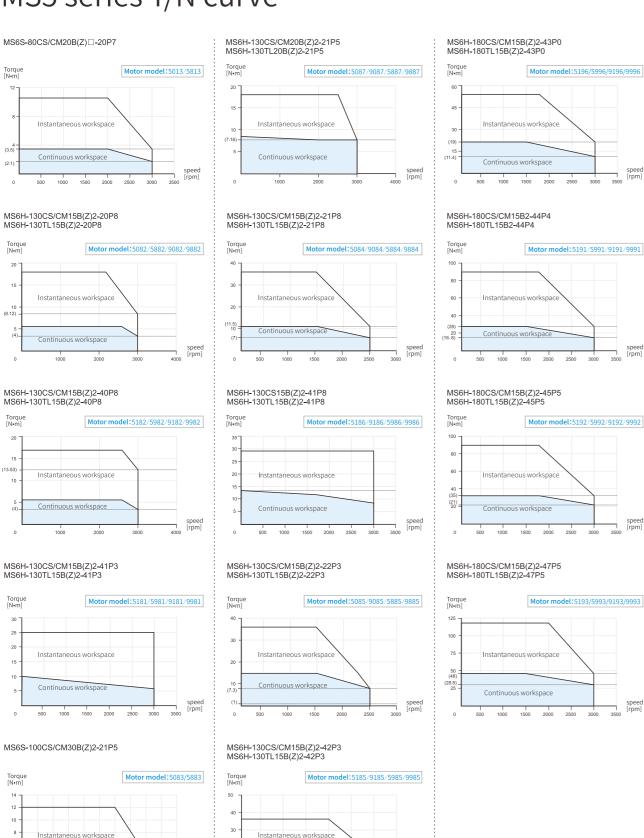




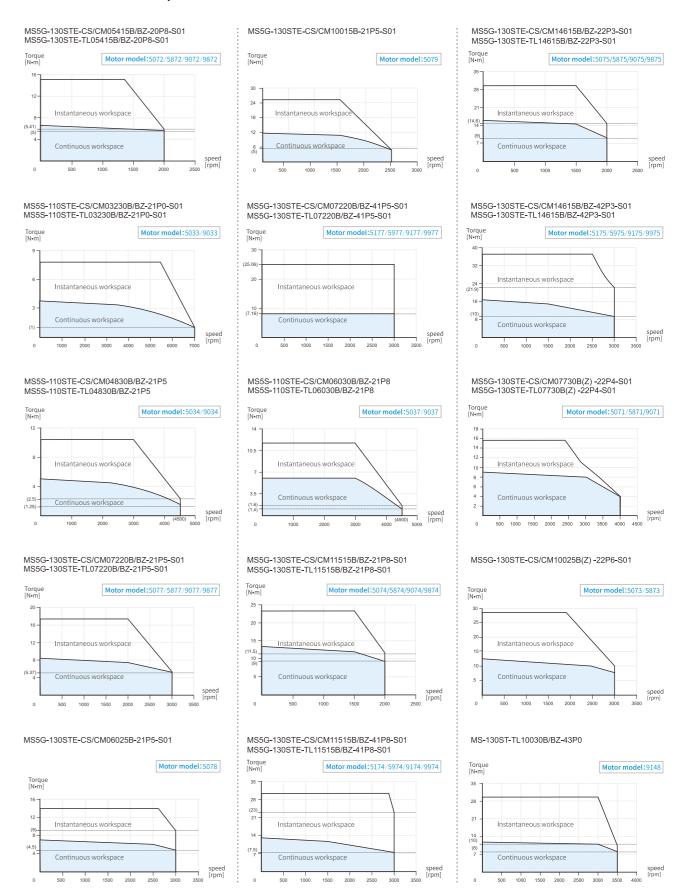


General | small-sized servo system

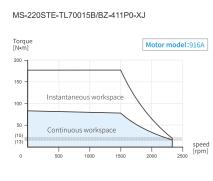
## MS5 series T/N curve

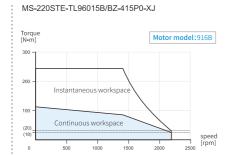


## MS series T/N curve



## MS series T/N curve



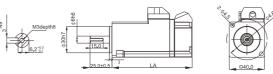


## Motor dimension (Unit: mm)

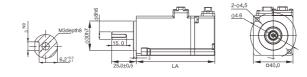
#### MS6 series

#### 40 flange

Motor model LA±1		Inertia level	
Motor model	Normal	With brake	mertia tevet
MS6H-40C□30B□1-20P1	91	122.9	High inertia

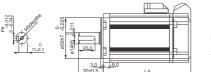


Matarmadal	LA±1		Inertia level
Motor model	Normal	With brake	mertia tevet
MS6H_40\ \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	79.4	112	High inertia

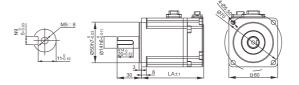


#### 60 flange

Matagaradal	LA±1		In out to Level	
Motor model	Normal	With brake	Inertia level	
MS6H-60C□30B□1-20P2	90	121	High inertia	
MS6S-60C□30B□1/2-20P4	107	139	Low inertia	
MS6H-60C 30B 1/2-20P4	119	151	High inertia	

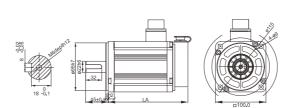


Motor model	LA±1		Inertia level	
Motor modet	Normal	With brake	mertia tevet	
MS6H-60□□30B□3-20P2	76.4	99.15	High inertia	
MS6S-60 30B 3-20P4	98.4	121.15	Low inertia	
MS6H-60□□30B□3-20P4	98.4	121.15	High inertia	



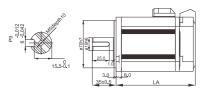
#### 100 flange

Matarmadal	LA	±1	In autic lavel
Motor model	Normal	With brake	Inertia level
MS6S-100 30B2-21P5	154.5	183	Low inertia



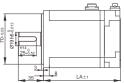
#### 80 flange

Motor model	LA:	Inertia level	
Motor modet	Normal	With brake	mertia tevet
MS6S-80C□30B□1/2-20P7	117	150	Low inertia
MS6H-80C□30B□1/2-20P7	124	157	High inertia
MS6S-80C□20B□1/2-20P7	127	160	Low inertia
MS6H-80C□20B□1/2-20P7	149	182	High inertia



Motor model	LA	±1	to contract our of
Motor modet	Normal	With brake	Inertia level
MS6S-80□□30B□3-20P7	107.1	132.1	Low inertia
MS6H-80 30B 3-20P7	107.1	132.1	High inertia
MS6S-80 30B 3-21P0	117.6	142.6	Low inertia
MS6H-80□□30B□3-21P0	134	159	High inertia

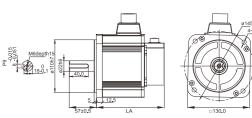






#### 130 flang

Motor model         LA±1 Normal         Inertia level           MS6H-130C□15B□2-20P8         126         156           MS6H-130TL15B□2-20P8         142         172           MS6H-130C□15B□2-40P8         126         156           MS6H-130TL15B□2-40P8         142         172           MS6H-130TL15B□2-41P3         148         178           MS6H-30TL2B□2-41P3         164         194           MS6H-130TL20B□2-21P5         148         178           MS6H-130TL20B□2-21P5         164         194           MS6H-130TL20B□2-21P8         175         205           MS6H-130TL15B□2-21P8         191         221           MS6H-130TL15B□2-41P8         191         221           MS6H-130TL15B□2-22P3         195.6         225.6           MS6H-130TL15B□2-22P3         211.6         241.6					
MS6H-130C□15B□2-20P8         126         156           MS6H-130TL15B□2-20P8         142         172           MS6H-130C□15B□2-40P8         126         156           MS6H-130C□15B□2-40P8         142         172           MS6H-130TL15B□2-41P3         148         178           MS6H-130TL15B□2-41P3         164         194           MS6H-130TL20B□2-21P5         148         178           MS6H-30TL2DB□2-21P5         164         194           MS6H-130TL15B□2-21P8         175         205           MS6H-130TL15B□2-21P8         191         221           MS6H-130TL15B□2-41P8         191         221           MS6H-30TL15B□2-41P8         191         221           MS6H-30TL15B□2-22P3         195.6         225.6	Matanasadal	LA±1		Inortia loval	
MS6H-130TL15B□2-20P8         142         172           MS6H-130C□15B□2-40P8         126         156           MS6H-130TL15B□2-40P8         142         172           MS6H-130TL15B□2-41P3         148         178           MS6H-130TL15B□2-41P3         164         194           MS6H-130TL15B□2-21P5         148         178           MS6H-30TL20B□2-21P5         164         194           MS6H-130TL15B□2-21P8         175         205           MS6H-130TL15B□2-21P8         191         221           MS6H-130TL15B□2-41P8         191         221           MS6H-130TL15B□2-22P3         195.6         225.6	Motor modet	Normal	With brake	mertia tevet	
MS6H-130C□15B□2-40P8         126         156           MS6H-130TL15B□2-40P8         142         172           MS6H-130C□15B□2-41P3         148         178           MS6H-130TL15B□2-41P3         164         194           MS6H-130TL20B□2-21P5         148         178           MS6H-130TL20B□2-21P5         164         194           MS6H-130TL20B□2-21P5         164         194           MS6H-130TL15B□2-21P8         175         205           MS6H-130TL15B□2-21P8         191         221           MS6H-30TL15B□2-41P8         191         221           MS6H-30TL15B□2-41P8         191         221           MS6H-30TL15B□2-22P3         195.6         225.6	MS6H-130C□15B□2-20P8	126	156		
MS6H-130TL15B□2-40P8     142     172       MS6H-130C□15B□2-41P3     148     178       MS6H-130TL15B□2-41P3     164     194       MS6H-130C□20B□2-21P5     148     178       MS6H-30TL15B□2-21P5     164     194       MS6H-130TL15B□2-21P8     175     205       MS6H-130TL15B□2-21P8     191     221       MS6H-130TL15B□2-41P8     175     205       MS6H-130TL15B□2-41P8     191     221       MS6H-130TL15B□2-24P8     191     221       MS6H-130TL15B□2-22P3     195.6     225.6	MS6H-130TL15B□2-20P8	142	172		
MS6H-130C□15B□2-41P3         148         178           MS6H-130TL15B□2-41P3         164         194           MS6H-130C□20B□2-21P5         148         178           MS6H-130TL20B□2-21P5         164         194           MS6H-130TL15B□2-21P8         175         205           MS6H-130TL15B□2-21P8         191         221           MS6H-130TL15B□2-24P8         175         205           MS6H-130TL15B□2-41P8         191         221           MS6H-130TL15B□2-41P8         191         221           MS6H-130TL15B□2-22P3         195.6         225.6	MS6H-130C□15B□2-40P8	126	156		
MS6H-130TL15B□2-41P3     164     194       MS6H-130C□20B□2-21P5     148     178       MS6H-130TL20B□2-21P5     164     194       MS6H-130C□15B□2-21P8     175     205       MS6H-130C□15B□2-21P8     191     221       MS6H-130C□15B□2-41P8     175     205       MS6H-130TL15B□2-41P8     191     221       MS6H-130C□15B□2-22P3     195.6     225.6	MS6H-130TL15B□2-40P8	142	172		
MS6H-130C□20B□2-21P5         148         178           MS6H-130TL20B□2-21P5         164         194           MS6H-130C□15B□2-21P8         175         205           MS6H-130TL15B□2-21P8         191         221           MS6H-130C□15B□2-41P8         175         205           MS6H-130TL15B□2-41P8         191         221           MS6H-130TL15B□2-24P8         191         221           MS6H-130C□15B□2-22P3         195.6         225.6	MS6H-130C□15B□2-41P3	□2-41P3 164 194 □2-21P5 148 178			
MS6H-130TL20B□2-21P5     164     194       MS6H-130TL20B□2-21P8     175     205       MS6H-130TL15B□2-21P8     191     221       MS6H-130TL15B□2-41P8     175     205       MS6H-130TL15B□2-41P8     191     221       MS6H-130TL15B□2-22P3     195.6     225.6	MS6H-130TL15B□2-41P3				
MS6H-130C□15B□2-21P8     175     205       MS6H-130TL15B□2-21P8     191     221       MS6H-130TL15B□2-41P8     175     205       MS6H-130TL15B□2-41P8     191     221       MS6H-130C□15B□2-22P3     195.6     225.6	MS6H-130C□20B□2-21P5				
MS6H-130C□15B□2-21P8     175     205       MS6H-130TL15B□2-21P8     191     221       MS6H-130C□15B□2-41P8     175     205       MS6H-130TL15B□2-41P8     191     221       MS6H-130C□15B□2-22P3     195.6     225.6	MS6H-130TL20B□2-21P5				
MS6H-130C□15B□2-41P8     175     205       MS6H-130TL15B□2-41P8     191     221       MS6H-130C□15B□2-22P3     195.6     225.6	MS6H-130C□15B□2-21P8	175	205	High inertia	
MS6H-130TL15B□2-41P8 191 221 MS6H-130C□15B□2-22P3 195.6 225.6	MS6H-130TL15B□2-21P8	191	221		
MS6H-130C 15B 2-22P3 195.6 225.6	MS6H-130C□15B□2-41P8	175	205		
	MS6H-130TL15B□2-41P8	191	221		
MS6H-130TL15B□2-22P3 211.6 241.6	MS6H-130C□15B□2-22P3	195.6	225.6		
	MS6H-130TL15B□2-22P3	211.6	241.6		
MS6H-130C□15B□2-42P3 195.6 225.6	MS6H-130C□15B□2-42P3	195.6	225.6		
MS6H-130TL15B□2-42P3 211.6 241.6	MS6H-130TL15B□2-42P3	211.6	241.6		

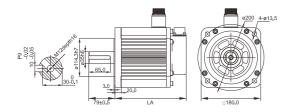


## Motor dimension (Unit: mm)

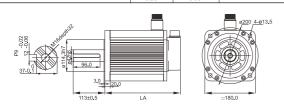
#### MS6 series

#### 180 flange

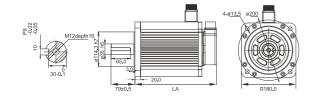
Matagraphal	LA±1		Inertia level	
Motor model	Normal	With brake	illertia tevet	
MS6H-180C□15B2-43P0	215	255		
MS6H-180TL15B2-43P0	215	255	High inoutio	
MS6H-180C□15B2-44P4	247	287	High inertia	
MS6H-180TL15B2-44P4	247	287		



Motor model	LA±1		LA±1		In out a law of	
Motor model	Normal	With brake	Inertia level			
MS6H-180C□15B2-45P5	269	309				
MS6H-180TL15B2-45P5	269	309	High inertia			
MS6H-180C□15B2-47P5	325	365	riigiriilerda			
MS6H-180TL15B2-47P5	325	365				



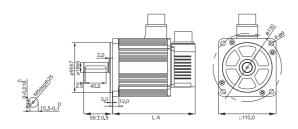
Makawaradal	LA±1		1 2 1 1
Motor model	Normal	With brake	Inertia level
MS6H-180C□15E2-45P5	269	309	High inertia
MCCII 100C 1552 47D5	225	205	nigii illerua



### | MS5/MS series

#### 110 flange

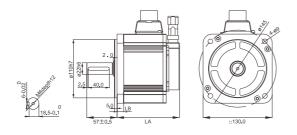
Matanasadal	LA:	±1	Inertia level
Motor model	Normal	With brake	mertia tevet
MS5S-110STE-C□03230B□-21P0-S01	157	205	
MS5S-110STE-C□04830B□-21P5-S01	166	214	
MS5S-110STE-C 06030B -21P8-S01	181	229	Low inertia
MS5S-110STE-TL03230B□-21P0-S01	157	205	
MS5S-110STF-TL04830B -21P5-S01	166	214	



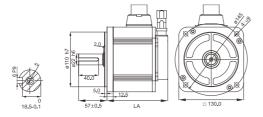
#### MS5/MS series

#### 130 flange

Makananadal	LA	\±1		
Motor model	Normal	With brake	LB	Inertia level
MS5G-130STE-C□05415B□-20P8-S01	117.5	147.5		
MS5G-130STE-C 07220B -21P5-S01	133.5	163.5		
MS5G-130STE-C 07220B -41P5-S01	133.5	163.5		
MS5G-130STE-C□11515B□-21P8-S01	159.5	189.5		
MS5G-130STE-C□11515B□-41P8-S01	159.5	189.5		
MS5G-130STE-C 14615B -22P3-S01	133.5	210.5		
MS5G-130STE-C□14615B□-42P3-S01	133.5	210.5		
MS5G-130STE-C□07730B□-22P4-S01	132.5	163.5		
MS5G-130STE-C 10025B -22P6-S01	159.5	189.5	12.5	Medium inertia
MS5G-130STE-TL05415B□-20P8-S01	134.5	164.5		
MS5G-130STE-TL07220B□-21P5-S01	149.5	179.5		
MS5G-130STE-TL07220B -41P5-S01	149.5	179.5		
MS5G-130STE-TL11515B□-21P8-S01	176.5	206.5		
MS5G-130STE-TL11515B□-41P8-S01	176.5	206.5		
MS5G-130STE-TL14615B -22P3-S01	197.5	227.5		
MS5G-130STE-TL14615B□-42P3-S01	197.5	227.5		
MS5G-130STE-TL07730B□-22P4-S01	149.5	179.5		

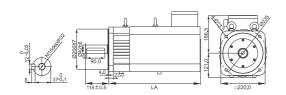


Motor model	LA:	±1	
Motor model	Normal	With brake	Inertia level
MS5G-130STE-C 06025B-21P5-S01	123.5	153.5	Medium inertia
MCEC 120CTF C 1001FD 21DF C01	146 5	17C F	Mediummentia



#### 220 flange

Motor model	LA	±1	1 2 1 1
Motor model	Normal	With brake	Inertia level
MS-220STE-TL70015B -411P0-XJ	454	549	_
MS-220STE-TL96015B -415P0-XJ	507	602	_



## Model selection list

#### **IMS6** series

80 flange	e and below	connector type motors											
Power	Inertia	Motor model	Matched driver	Voltage	Front outg	1	Rear outgo		Transfer cable				
[kW]	level	Motor model	Matched univer	level	Encoder cable	Power cable	Encoder cable	Power cable	Only support front outgoing cable				
		MS6H-40CS30B3-20P1	DS5L1/C1/N1/K1		CP(T)-SE-Length	CM(T)-E03A-Length	CP(T)-SF-M-Length	CM(T)-F03A-Length	CPT-PE				
0.1	High	MS6H-40CM30B3-20P1	-20P1-PTA		CP(T)-SE-BM-Length	CM(T)-E03A-Length	CP(T)-SF-BM-Length	CM(T)-F03A-Length	CMT-PE03				
0.1	inertia	MS6H-40CS30BZ3-20P1	DS5E/F/K/P-20P1-PTA		CP(T)-SE-Length	CMB(T)-E03A-Length	CP(T)-SF-M-Length	CMB(T)-F03A-Length	CPT-PE				
		MS6H-40CM30BZ3-20P1	5002/1/141 20121111		CP(T)-SE-BM-Length	CMB(T)-E03A-Length	CP(T)-SF-BM-Length	CMB(T)-F03A-Length	CMBT-PE03				
		MS6H-60CS30B3-20P2	DS5L1/C1/N1/K1		CP(T)-SE-M-Length	CM(T)-E05A-Length	CP(T)-SF-M-Length	CM(T)-F05A-Length	CPT-PE				
0.2	High	MS6H-60CM30B3-20P2	-20P2-PTA		CP(T)-SE-BM-Length	CM(T)-E05A-Length	CP(T)-SF-BM-Length	CM(T)-F05A-Length	CMT-PE05				
0.2	inertia	MS6H-60CS30BZ3-20P2	DS5E/E/K/P-20P2-PTA		CP(T)-SE-Length	CMB(T)-E05A-Length	CP(T)-SF-M-Length	CMB(T)-F05A-Length	CPT-PE				
		MS6H-60CM30BZ3-20P2	0002/2/19/1 20/2 / 1/1		CP(T)-SE-BM-Length	CMB(T)-E05A-Length	CP(T)-SF-BM-Length	CMB(T)-F05A-Length	CMBT-PE05				
		MS6S-60CS30B3-20P4			CP(T)-SE-Length	CM(T)-E05A-Length	CP(T)-SF-M-Length	CM(T)-F05A-Length	CPT-PE				
	Low	MS6S-60CM30B3-20P4			CP(T)-SE-BM-Length	CM(T)-E05A-Length	CP(T)-SF-BM-Length	CM(T)-F05A-Length	CMT-PE05				
	inertia	MS6S-60CS30BZ3-20P4	DOF! 1/61/N11/W1		CP(T)-SE-Length	CMB(T)-E05A-Length	CP(T)-SF-M-Length	CMB(T)-F05A-Length	CPT-PE				
0.4	0.4 High	MS6S-60CM30BZ3-20P4	DS5L1/C1/N1/K1 -20P4-PTA		CP(T)-SE-BM-Length	CMB(T)-E05A-Length	CP(T)-SF-BM-Length	CMB(T)-F05A-Length	CMBT-PE05				
0.4		MS6H-60CS30B3-20P4	DS5E/F/K/P-20P4-PTA		CP(T)-SE-Length	CM(T)-E05A-Length	CP(T)-SF-M-Length	CM(T)-F05A-Length	CPT-PE				
		MS6H-60CM30B3-20P4			CP(T)-SE-BM-Length	CM(T)-E05A-Length	CP(T)-SF-BM-Length	CM(T)-F05A-Length	CMT-PE05				
	inertia	MS6H-60CS30BZ3-20P4			CP(T)-SE-Length	CMB(T)-E05A-Length	CP(T)-SF-M-Length	CMB(T)-F05A-Length	CPT-PE				
		MS6H-60CM30BZ3-20P4						AC 220V	CP(T)-SE-BM-Length	CMB(T)-E05A-Length	CP(T)-SF-BM-Length	CMB(T)-F05A-Length	CMBT-PE05
		MS6S-80CS30B3-20P7		AC ZZUV	CP(T)-SE-Length	CM(T)-E05A-Length	CP(T)-SF-M-Length	CM(T)-F05A-Length	CPT-PE				
	Low	MS6S-80CM30B3-20P7			CP(T)-SE-BM-Length	CM(T)-E05A-Length	CP(T)-SF-BM-Length	CM(T)-F05A-Length	CMT-PE05				
	inertia	MS6S-80CS30BZ3-20P7			CP(T)-SE-Length	CMB(T)-E05A-Length	CP(T)-SF-M-Length	CMB(T)-F05A-Length	CPT-PE				
0.75		MS6S-80CM30BZ3-20P7			CP(T)-SE-BM-Length	CMB(T)-E05A-Length	CP(T)-SF-BM-Length	CMB(T)-F05A-Length	CMBT-PE05				
0.75		MS6H-80CS30B3-20P7			CP(T)-SE-Length	CM(T)-E05A-Length	CP(T)-SF-M-Length	CM(T)-F05A-Length	CPT-PE				
	High	MS6H-80CM30B3-20P7			CP(T)-SE-BM-Length	CM(T)-E05A-Length	CP(T)-SF-BM-Length	CM(T)-F05A-Length	CMT-PE05				
	inertia	MS6H-80CS30BZ3-20P7	DOE: 1/01/N11/W1		CP(T)-SE-Length	CMB(T)-E05A-Length	CP(T)-SF-M-Length	CMB(T)-F05A-Length	CPT-PE				
		MS6H-80CM30BZ3-20P7	DS5L1/C1/N1/K1 -20P7-PTA		CP(T)-SE-BM-Length	CMB(T)-E05A-Length	CP(T)-SF-BM-Length	CMB(T)-F05A-Length	CMBT-PE05				
		MS6S-80CS30B3-21P0	DS5E/F/K/P-20P7-PTA		CP(T)-SE-Length	CM(T)-E05A-Length	CP(T)-SF-M-Length	CM(T)-F05A-Length	CPT-PE				
	Low	MS6S-80CM30B3-21P0	0552/1/10/1 20171114		CP(T)-SE-BM-Length	CM(T)-E05A-Length	CP(T)-SF-BM-Length	CM(T)-F05A-Length	CMT-PE05				
	inertia	MS6S-80CS30BZ3-21P0			CP(T)-SE-Length	CMB(T)-E05A-Length	CP(T)-SF-M-Length	CMB(T)-F05A-Length	CPT-PE				
,		MS6S-80CM30BZ3-21P0			CP(T)-SE-BM-Length	CMB(T)-E05A-Length	CP(T)-SF-BM-Length	CMB(T)-F05A-Length	CMBT-PE05				
1		MS6H-80CS30B3-21P0			CP(T)-SE-Length	CM(T)-E05A-Length	CP(T)-SF-M-Length	CM(T)-F05A-Length	CPT-PE				
	High	MS6H-80CM30B3-21P0	1		CP(T)-SE-BM-Length	CM(T)-E05A-Length	CP(T)-SF-BM-Length	CM(T)-F05A-Length	CMT-PE05				
	inertia	MS6H-80CS30BZ3-21P0	1		CP(T)-SE-Length	CMB(T)-E05A-Length	CP(T)-SF-M-Length	CMB(T)-F05A-Length	CPT-PE				
		MS6H-80CM30BZ3-21P0	1		CP(T)-SE-BM-Length	CMB(T)-E05A-Length	CP(T)-SF-BM-Length	CMB(T)-F05A-Length					

- \*Note: 1. Please select one between front outgoing cable and rear outgoing cable.

  2. The connection cable please select one between CMT and CMBT, non-brake model please select CMT, brake model please select CMBT.

  3. CPT-SCT-M-length cable, T of CPT refers to high flexible encoder cable, and T of SCT refers to encoder aviation plug with threaded hole.

  4. After the adapter cable is equipped, the power cable and encoder cable of the corresponding B1 motor shall be purchased.

  5. Oil resistant cable CPG-SE-M/BM-length, CMG-E03A-length, CMG-E05A-length are optional for front outgoing cable.

### MS6 series

General | small-sized servo system

	,,, -	K,JI,JF IIIattilet	MS6-B1/B2 mot	.01				
ower[kW]	Inertia level	Motor model	Matched driver	Voltage level	Encoder cable	Power cable	Brake cable	Cable accessorie package
		MS6H-40CS30B1-20P1			CP(T)-SP-Length	CM(T)-P07-M-Length	/	JAM-P9-P4
0.1	High	MS6H-40CM30B1-20P1	DS5E/F/K/P-20P1-PTA		CP(T)-SP-BM-Length	CM(T)-P07-M-Length	/	JAM-P9-P4
0.1	inertia	MS6H-40CS30BZ1-20P1	D352/1/1(1 201111)		CP(T)-SP-M-Length	CM(T)-P07-M-Length	CB(T)-P03-Length	JAM-P9-P4-F
		MS6H-40CM30BZ1-20P1			CP(T)-SP-BM-Length	CM(T)-P07-M-Length	CB(T)-P03-Length	JAM-P9-P4-F
		MS6H-60CS30B1-20P2			CP(T)-SP-M-Length	CM(T)-P07-M-Length	/	JAM-P9-P4
0.2	High	MS6H-60CM30B1-20P2	DS5E/F/K/P-20P2-PTA		CP(T)-SP-BM-Length	CM(T)-P07-M-Length	/	JAM-P9-P4
0.2	inertia	MS6H-60CS30BZ1-20P2	D35L/1/N/F-20F2-F1A		CP(T)-SP-M-Length	CM(T)-P07-M-Length	CB(T)-P03-Length	JAM-P9-P4-F
		MS6H-60CM30BZ1-20P2			CP(T)-SP-BM-Length	CM(T)-P07-M-Length	CB(T)-P03-Length	JAM-P9-P4-F
		MS6S-60CS30B1-20P4			CP(T)-SP-M-Length	CM(T)-P07-M-Length	/	JAM-P9-P4
	Low	MS6S-60CM30B1-20P4			CP(T)-SP-BM-Length	CM(T)-P07-M-Length	/	JAM-P9-P4
	inertia	MS6S-60CS30BZ1-20P4			CP(T)-SP-M-Length	CM(T)-P07-M-Length	CB(T)-P03-Length	JAM-P9-P4-F
		MS6S-60CM30BZ1-20P4			CP(T)-SP-BM-Length	CM(T)-P07-M-Length		JAM-P9-P4-F
0.4		MS6H-60CS30B1-20P4	DS5E/F/K/P-20P4-PTA		CP(T)-SP-M-Length	CM(T)-P07-M-Length	///	JAM-P9-P4
	High	MS6H-60CM30B1-20P4			CP(T)-SP-BM-Length	CM(T)-P07-M-Length	/	JAM-P9-P4
	inertia	MS6H-60CS30BZ1-20P4			CP(T)-SP-M-Length	CM(T)-P07-M-Length	CB(T)-P03-Length	JAM-P9-P4-F
		MS6H-60CM30BZ1-20P4			CP(T)-SP-BM-Length	CM(T)-P07-M-Length	CB(T)-P03-Length	JAM-P9-P4-F
		MS6S-80CS20B1-20P7		AC 220V	CP(T)-SP-M-Length	CM(T)-P07-M-Length	/	JAM-P9-P4
	Low	MS6S-80CM20B1-20P7			CP(T)-SP-BM-Length	CM(T)-P07-M-Length	//	JAM-P9-P4
	inertia	MS6S-80CS20BZ1-20P7			CP(T)-SP-M-Length	CM(T)-P07-M-Length	CB(T)-P03-Length	JAM-P9-P4-F
		MS6S-80CM20BZ1-20P7			CP(T)-SP-M-Length	CM(T)-P07-M-Length	CB(T)-P03-Length	JAM-P9-P4-F
		MS6S-80CM20B21-20P7 MS6H-80CS20B1-20P7			CP(T)-SP-BM-Length	CM(T)-P07-M-Length	CD(1)-FV3-Letigth	JAM-P9-P4-F
	Llich	MS6H-80CS20B1-20P7 MS6H-80CM20B1-20P7				CM(T)-P07-M-Length	/	JAM-P9-P4 JAM-P9-P4
	High inertia				CP(T)-SP-BM-Length	1 7	CD/T) D02 1 1	
	mertia	MS6H-80CS20BZ1-20P7			CP(T)-SP-M-Length	CM(T)-P07-M-Length	. , ,	JAM-P9-P4-F
).75		MS6H-80CM20BZ1-20P7	DS5E/F/K/P-20P7-PTA		CP(T)-SP-BM-Length	CM(T)-P07-M-Length	CB(T)-P03-Length	JAM-P9-P4-F
	,	MS6S-80CS30B1-20P7	,		CP(T)-SP-M-Length	CM(T)-P07-M-Length	/	JAM-P9-P4
	Low inertia	MS6S-80CM30B1-20P7			CP(T)-SP-BM-Length	CM(T)-P07-M-Length	/	JAM-P9-P4
	mertia	MS6S-80CS30BZ1-20P7			CP(T)-SP-M-Length	CM(T)-P07-M-Length	CB(T)-P03-Length	JAM-P9-P4-F
		MS6S-80CM30BZ1-20P7			CP(T)-SP-BM-Length	CM(T)-P07-M-Length	CB(T)-P03-Length	JAM-P9-P4-F
		MS6H-80CS30B1-20P7			CP(T)-SP-M-Length	CM(T)-P07-M-Length	/	JAM-P9-P4
	High	MS6H-80CM30B1-20P7			CP(T)-SP-BM-Length	CM(T)-P07-M-Length	/	JAM-P9-P4
	inertia	MS6H-80CS30BZ1-20P7			CP(T)-SP-M-Length	CM(T)-P07-M-Length	CB(T)-P03-Length	JAM-P9-P4-F
		MS6H-80CM30BZ1-20P7			CP(T)-SP-BM-Length	CM(T)-P07-M-Length	CB(T)-P03-Length	JAM-P9-P4-F
		MS6H-130CS15B2-20P8		1	CP(T)-SC(T)(T)-M-Length	CM(T)-L15-Length	/	JAM-C10-L4
		MS6H-130CM15B2-20P8			CP(T)-SC(T)(T)-B-Length	CM(T)-L15-Length	/	JAM-C10-L4
		MS6H-130CS15BZ2-20P8			CP(T)-SC(T)(T)-M-Length		/	JAM-C10-L7
		MS6H-130CM15BZ2-20P8	DS5L/E/C/K/F-21P0-PTA		CP(T)-SC(T)(T)-B-Length	<u> </u>	',	JAM-C10-L7
		MS6H-130TL15B2-20P8			CP(T)-SC(T)(T)-B-Length		',	JAM-C10-L4
	High	MS6H-130TL15BZ2-20P8			CP(T)-SC(T)(T)-B-Length	CMB(T)-L15-Length	1	JAM-C10-L7
).85	inertia	MS6H-130CS15B2-40P8			CP(T)-SC(T)(T)-M-Length		/	JAM-C10-L4
		MS6H-130CM15B2-40P8			CP(T)-SC(T)-B-Length	CM(T)-L15-Length	/	JAM-C10-L4
		MS6H-130CS15BZ2-40P8			CP(T)-SC(T)-B-Length	CMB(T)-L15-Length	/	JAM-C10-L4
			DS5E/C/F-41P0-PTA			CMB(T)-L15-Length	/	JAM-C10-L7
		MS6H-130CM15BZ2-40P8			CP(T)-SC(T)-B-Length	<u> </u>	/	
		MS6H-130TL15B2-40P8			CP(T)-SC(T)-B-Length	CM(T)-L15-Length	/	JAM-C10-L4
		MS6H-130TL15BZ2-40P8		AC 380V	CP(T)-SC(T)-B-Length	CMB(T)-L15-Length	/	JAM-C10-L7
		MS6H-130CS15B2-41P3			CP(T)-SC(T)-M-Length	CM(T)-L15-Length	/	JAM-C10-L4
		MS6H-130CM15B2-41P3			CP(T)-SC(T)-B-Length	CM(T)-L15-Length	/	JAM-C10-L4
1.3	High	MS6H-130CS15BZ2-41P3	DS5E/K/F-41P5-PTA		CP(T)-SC(T)-M-Length	CMB(T)-L15-Length	/	JAM-C10-L7
1.0	inertia	MS6H-130CM15BZ2-41P3	DODL/N/I HIFD-FIM		CP(T)-SC(T)-B-Length	CMB(T)-L15-Length	/	JAM-C10-L7
		MS6H-130TL15B2-41P3			CP(T)-SC(T)-B-Length	CM(T)-L15-Length	/	JAM-C10-L4
		MS6H-130TL15BZ2-41P3			CP(T)-SC(T)-B-Length	CMB(T)-L15-Length	/	JAM-C10-L7
		MS6S-100CS30B2-21P5			CP(T)-SC(T)-M-Length	CM(T)-L15-Length	/	JAM-C10-L4
	Low	MS6S-100CM30B2-21P5			CP(T)-SC(T)-B-Length	CM(T)-L15-Length	/	JAM-C10-L4
	inertia	MS6S-100CS30BZ2-21P5			CP(T)-SC(T)-M-Length	CMB(T)-L15-Length	/	JAM-C10-L7
		MS6S-100CM30BZ2-21P5			CP(T)-SC(T)-B-Length	CMB(T)-L15-Length	/	JAM-C10-L7
		MS6H-130CS20B2-21P5	DOSE // /= /= /		CP(T)-SC(T)-M-Length	CM(T)-L15-Length	,	JAM-C10-L4
1.5		MS6H-130CM20B2-21P5	DS5E/L/C/F/K-21P5-PTA		CP(T)-SC(T)-B-Length	CM(T)-L15-Length	<u>'</u> ,	JAM-C10-L4
	High	MS6H-130CS20BZ2-21P5			CP(T)-SC(T)-M-Length	CMB(T)-L15-Length	/	JAM-C10-L7
	inertia	MS6H-130CM20BZ2-21P5			CP(T)-SC(T)-B-Length	CMB(T)-L15-Length	//	JAM-C10-L7
		MS6H-130TL20B2-21P5		AC 220V	CP(T)-SC(T)-B-Length	CM(T)-L15-Length	/	JAM-C10-L4
		MS6H-130TL20BZ2-21P5			CP(T)-SC(T)-B-Length	CMB(T)-L15-Length	<del>'</del> ,	JAM-C10-L7
		MS6H-130CS15B2-21P8			CP(T)-SC(T)-M-Length	CM(T)-L15-Length	/	JAM-C10-L7
						CM(T)-L15-Length	/	JAM-C10-L4
		MS6H-130CM15B2-21P8			CP(T)-SC(T)-B-Length		<del>                                     </del>	
		MS6H-130CS15BZ2-21P8	DS5E/F/K-22P6-PTA		CP(T)-SC(T)-M-Length	CMB(T)-L15-Length	/	JAM-C10-L7
		MS6H-130CM15BZ2-21P8			CP(T)-SC(T)-B-Length	CMB(T)-L15-Length	/	JAM-C10-L7
		MS6H-130TL15B2-21P8			CP(T)-SC(T)-B-Length	CM(T)-L15-Length	/	JAM-C10-L4
1.8	High	MS6H-130TL15BZ2-21P8			CP(T)-SC(T)-B-Length	CMB(T)-L15-Length	/	JAM-C10-L7
1.0	inertia	MS6H-130CS15B2-41P8			CP(T)-SC(T)-M-Length	CM(T)-L15-Length	/	JAM-C10-L4
		MS6H-130CM15B2-41P8			CP(T)-SC(T)-B-Length	CM(T)-L15-Length	/	JAM-C10-L4
		MS6H-130CS15BZ2-41P8	DOEE/W/E 41DE DTA	400000	CP(T)-SC(T)-M-Length	CMB(T)-L15-Length	/	JAM-C10-L7
		MS6H-130CM15BZ2-41P8	DS5E/K/F-41P5-PTA	AC 380V	CP(T)-SC(T)-B-Length	CMB(T)-L15-Length	,	JAM-C10-L7
		MS6H-130TL15B2-41P8			CP(T)-SC(T)-B-Length	CM(T)-L15-Length	7	JAM-C10-L4
		MS6H-130TL15BZ2-41P8			CP(T)-SC(T)-B-Length	CMB(T)-L15-Length	· ',	JAM-C10-L7

wer[kW]	Inertia level	Motor model	Matched driver	Voltage level	Encoder cable	Power cable	Brake cable	Cable accessories pack
		MS6H-130CS15B2-22P3	Materioa arror	7010000	CP(T)-SC(T)-M-Length	CM(T)-L15-Length	/	JAM-C10-L4
		MS6H-130CM15B2-22P3			CP(T)-SC(T)-B-Length	CM(T)-L15-Length	/	JAM-C10-L4
		MS6H-130CS15BZ2-22P3			CP(T)-SC(T)-M-Length	CMB(T)-L15-Length	/	JAM-C10-L7
		MS6H-130CM15BZ2-22P3	DS5E/F/K-22P6-PTA	AC 220V	CP(T)-SC(T)-B-Length	CMB(T)-L15-Length	/	JAM-C10-L7
		MS6H-130TL15B2-22P3	-		CP(T)-SC(T)-B-Length	CM(T)-L15-Length	/	JAM-C10-L4
	High	MS6H-130TL15BZ2-22P3	-		CP(T)-SC(T)-B-Length	CMB(T)-L15-Length	/	JAM-C10-L7
2.3	inertia	MS6H-130CS15B2-42P3			CP(T)-SC(T)-M-Length	CM(T)-L15-Length	,	JAM-C10-L4
		MS6H-130CM15B2-42P3			CP(T)-SC(T)-B-Length	CM(T)-L15-Length	/	JAM-C10-L4
		MS6H-130CS15BZ2-42P3			CP(T)-SC(T)-M-Length	CMB(T)-L15-Length	/	JAM-C10-L7
		MS6H-130CM15BZ2-42P3	DS5E/C/F/K-43P0-PTA		CP(T)-SC(T)-B-Length	CMB(T)-L15-Length	7	JAM-C10-L7
		MS6H-130TL15B2-42P3	1		CP(T)-SC(T)-B-Length	CM(T)-L15-Length	,	JAM-C10-L4
		MS6H-130TL15BZ2-42P3	-		CP(T)-SC(T)-B-Length	CMB(T)-L15-Length	<del>'</del> ,	JAM-C10-L7
		MS6H-180CS15B2-43P0		-	CP(T)-SL-M-Length	CM(T)-XL25-Length	<i>'</i> ,	JAM-L15-XL4
		MS6H-180CM15B2-43P0	-		CP(T)-SL-B-Length	CM(T)-XL25-Length	/	JAM-L15-XL4
	High	MS6H-180CS15BZ2-43P0	-		CP(T)-SL-M-Length	CMB(T)-XL25-Length	-/-	
3.0	inertia	MS6H-180CM15BZ2-43P0	DS5E/C/F-43P0-PTA-H		CP(T)-SL-M-Length	CMB(T)-XL25-Length	/	JAM-L15-XL6
			-				/,	JAM-L15-XL6
		MS6H-180TL15B2-43P0	-		CP(T)-SL-B-Length	CM(T)-XL25-Length	/	JAM-L15-XL4
		MS6H-180TL15BZ2-43P0		-	CP(T)-SL-B-Length	CMB(T)-XL25-Length	<del>                                     </del>	JAM-L15-XL6
		MS6H-180CS15B2-44P4	-		CP(T)-SL-M-Length	CM(T)-XL60-Length	/,	JAM-L15-XL4
		MS6H-180CM15B2-44P4	-		CP(T)-SL-B-Length	CM(T)-XL60-Length		JAM-L15-XL4
4.4	High	MS6H-180CS15BZ2-44P4	DS5E/C/F-45P5-PTA-H		CP(T)-SL-M-Length	CMB(T)-XL60-Length	/,	JAM-L15-XL6
	inertia	MS6H-180CM15BZ2-44P4			CP(T)-SL-B-Length	CMB(T)-XL60-Length	/	JAM-L15-XL6
		MS6H-180TL15B2-44P4		AC 380V	CP(T)-SL-B-Length	CM(T)-XL60-Length	/	JAM-L15-XL4
		MS6H-180TL15BZ2-44P4		-	CP(T)-SL-B-Length	CMB(T)-XL60-Length	/	JAM-L15-XL6
		MS6H-180CS15B2-45P5			CP(T)-SL-M-Length	CM(T)-XL60-Length	/	JAM-L15-XL4
		MS6H-180CM15B2-45P5		-	CP(T)-SL-B-Length	CM(T)-XL60-Length	/	JAM-L15-XL4
		MS6H-180CS15BZ2-45P5			CP(T)-SL-M-Length	CMB(T)-XL60-Length	/	JAM-L15-XL6
5.5	High	MS6H-180CM15BZ2-45P5	DS5E/C/F-45P5-PTA-H		CP(T)-SL-B-Length	CMB(T)-XL60-Length	/	JAM-L15-XL6
J.J	inertia	MS6H-180CS15E2-45P5	]		CP(T)-SL-M-Length	CM(T)-XL60-Length	/	JAM-L15-XL4
		MS6H-180CM15E2-45P5			CP(T)-SL-B-Length	CM(T)-XL60-Length	/	JAM-L15-XL4
		MS6H-180TL15BZ2-45P5			CP(T)-SL-B-Length	CM(T)-XL60-Length	/	JAM-L15-XL4
		MS6H-180TL15BZ2-45P5			CP(T)-SL-B-Length	CMB(T)-XL60-Length	/	JAM-L15-XL6
		MS6H-180CS15B2-47P5			CP(T)-SL-M-Length	CM(T)-XL60-Length	/	JAM-L15-XL4
		MS6H-180CM15B2-47P5			CP(T)-SL-B-Length	CM(T)-XL60-Length	/	JAM-L15-XL4
		MS6H-180CS15BZ2-47P5			CP(T)-SL-M-Length	CMB(T)-XL60-Length	/	JAM-L15-XL6
7.5	High	MS6H-180CM15BZ2-47P5	DOEE/C/E 47DE DTA II		CP(T)-SL-B-Length	CMB(T)-XL60-Length	/	JAM-L15-XL6
7.5	inertia	MS6H-180CS15E2-47P5	DS5E/C/F-47P5-PTA-H		CP(T)-SL-M-Length	CM(T)-XL60-Length	/	JAM-L15-XL4
		MS6H-180CM15E2-47P5			CP(T)-SL-B-Length	CM(T)-XL60-Length	/	JAM-L15-XL4
		MS6H-180TL15B2-47P5	1			CP(T)-SL-B-Length	CM(T)-XL60-Length	/
		MS6H-180TL15BZ2-47P5	1		CP(T)-SL-B-Length	CMB(T)-XL60-Length	/	JAM-L15-XL6
0 flang	e and lowe	r small aviation plug matchi	ng list					
		MS6S-60CS30B2-20P4	l		CP(T)-SV-M-Length	CMT-V07-M-Length	/	JAM-V7-V4
	Low	MS6S-60CM30B2-20P4	1		CP(T)-SV-BM-Length	CMT-V07-M-Length	/	JAM-V7-V4
	inertia	MS6S-60CS30BZ2-20P4	1		CP(T)-SV-M-Length	CMBT-V07-M-Length	7	JAM-V7-V6
		MS6S-60CM30BZ2-20P4			CP(T)-SV-BM-Length	CMBT-V07-M-Length	<del>'</del> ,	JAM-V7-V6
0.4		MS6H-60CS30B2-20P4	DS5E/F/K/P-20P4-PTA		CP(T)-SV-M-Length	CMT-V07-M-Length	1	JAM-V7-V4
	High	MS6H-60CM30B2-20P4	1		CP(T)-SV-BM-Length	CMT-V07-M-Length		JAM-V7-V4
	High inertia	MS6H-60CS30BZ2-20P4	1		CP(T)-SV-M-Length	CMBT-V07-M-Length		JAM-V7-V4
		MS6H-60CM30BZ2-20P4	†		CP(T)-SV-BM-Length	CMBT-V07-M-Length	1	JAM-V7-V6
		MS6S-80CS20B2-20P7			CP(T)-SV-M-Length	CMT-V07-M-Length	7	JAM-V7-V4
	1	MS6S-80CM20B2-20P7	-		CP(T)-SV-BM-Length	CMT-V07-M-Length	-/-	JAM-V7-V4
	Low inertia		-				/,	
		MS6S-80CS20BZ2-20P7	-		CP(T)-SV-M-Length CP(T)-SV-BM-Length	CMBT-V07-M-Length	<del>- /,</del>	JAM-V7-V6
		MS6S-80CM20BZ2-20P7	-	AC 220V		CMBT-V07-M-Length CMT-V07-M-Length	,	JAM-V7-V6
	115.5	MS6H-80CS20B2-20P7	-		CP(T)-SV-M-Length		- /,	JAM-V7-V4
	High inertia	MS6H-80CM20B2-20P7	-		CP(T)-SV-BM-Length	CMT-V07-M-Length	/,	JAM-V7-V4
	c.tid	MS6H-80CS20BZ2-20P7	-		CP(T)-SV-M-Length	CMBT-V07-M-Length	/	JAM-V7-V6
).75		MS6H-80CM20BZ2-20P7	DS5E/F/K/P-20P7-PTA		CP(T)-SV-BM-Length	CMBT-V07-M-Length	<u> </u>	JAM-V7-V6
		MS6S-80CS30B2-20P7			CP(T)-SV-M-Length	CMT-V07-M-Length		JAM-V7-V4
	Low	MS6S-80CM30B2-20P7	1		CP(T)-SV-BM-Length	CMT-V07-M-Length	/	JAM-V7-V4
	inertia	MS6S-80CS30BZ2-20P7			CP(T)-SV-M-Length	CMBT-V07-M-Length	/	JAM-V7-V6
		MS6S-80CM30BZ2-20P7			CP(T)-SV-BM-Length	CMBT-V07-M-Length	/	JAM-V7-V6
		MS6H-80CS30B2-20P7	1		CP(T)-SV-M-Length	CMT-V07-M-Length	/	JAM-V7-V4
	High	MS6H-80CM30B2-20P7	]		CP(T)-SV-BM-Length	CMT-V07-M-Length	/	JAM-V7-V4
	inertia	MS6H-80CS30BZ2-20P7			CP(T)-SV-M-Length	CMBT-V07-M-Length	/	JAM-V7-V6
		MS6H-80CM30BZ2-20P7			CP(T)-SV-BM-Length	CMBT-V07-M-Length	/	JAM-V7-V6

### MS6 series

	Inertia level	Motor model	ed MS6-B1/B2 mot	Voltage level	Encoder cable	Power cable	Brake cable	Cable accessories package
wer[kw]	mertia tevet		Matched driver	voitage level				
		MS6H-40CS30B1-20P1			CP(T)-SP-M-Length	CM(T)-P07A-M-Length	/	JAM-P9-P4
0.1	High	MS6H-40CM30B1-20P1	DS5L1/C1/N1/K1-20P1-PTA		CP(T)-SP-BM-Length	CM(T)-P07A-M-Length	/	JAM-P9-P4
	inertia	MS6H-40CS30BZ1-20P1			CP(T)-SP-M-Length	CM(T)-P07A-M-Length	.,	JAM-P9-P4-P
		MS6H-40CM30BZ1-20P1			CP(T)-SP-BM-Length	CM(T)-P07A-M-Length	CB(T)-P03-Length	JAM-P9-P4-F
		MS6H-60CS30B1-20P2			CP(T)-SP-M-Length	CM(T)-P07A-M-Length	/	JAM-P9-P4
0.0	High	MS6H-60CM30B1-20P2	DCCI 1/C1/N11/W1 20D2 DTA		CP(T)-SP-BM-Length	CM(T)-P07A-M-Length	/	JAM-P9-P4
0.2	inertia	MS6H-60CS30BZ1-20P2	DS5L1/C1/N1/K1-20P2-PTA		CP(T)-SP-M-Length	CM(T)-P07A-M-Length		JAM-P9-P4-I
		MS6H-60CM30BZ1-20P2	-		CP(T)-SP-BM-Length	CM(T)-P07A-M-Length		JAM-P9-P4-I
		MS6S-60CS30B1-20P4			CP(T)-SP-M-Length	CM(T)-P07A-M-Length	/ CD(1)-1 03-Length	
			_				/	JAM-P9-P4
	Low inertia	MS6S-60CM30B1-20P4	_		CP(T)-SP-BM-Length	CM(T)-P07A-M-Length	/	JAM-P9-P4
	Illertia	MS6S-60CS30BZ1-20P4			CP(T)-SP-M-Length	CM(T)-P07A-M-Length		JAM-P9-P4-I
0.4		MS6S-60CM30BZ1-20P4	DS5L1/C1/N1/K1-20P4-PTA		CP(T)-SP-BM-Length	CM(T)-P07A-M-Length	CB(T)-P03-Length	JAM-P9-P4-I
0.1		MS6H-60CS30B1-20P4			CP(T)-SP-M-Length	CM(T)-P07A-M-Length	/	JAM-P9-P4
	High	MS6H-60CM30B1-20P4			CP(T)-SP-BM-Length	CM(T)-P07A-M-Length	/	JAM-P9-P4
	inertia	MS6H-60CS30BZ1-20P4			CP(T)-SP-M-Length	CM(T)-P07A-M-Length	CB(T)-P03-Length	JAM-P9-P4-F
		MS6H-60CM30BZ1-20P4			CP(T)-SP-BM-Length	CM(T)-P07A-M-Length	CB(T)-P03-Length	JAM-P9-P4-I
		MS6S-80CS20B1-20P7			CP(T)-SP-M-Length	CM(T)-P07A-M-Length	/	JAM-P9-P4
	1		-			<del>                                     </del>	/	
	Low inertia	MS6S-80CM20B1-20P7	-		CP(T)-SP-BM-Length	CM(T)-P07A-M-Length	CD/T) D02 11	JAM-P9-P4
	IIICILIA	MS6S-80CS20BZ1-20P7	-	AC 220V	CP(T)-SP-M-Length	CM(T)-P07A-M-Length		JAM-P9-P4-I
		MS6S-80CM20BZ1-20P7	4	-	CP(T)-SP-BM-Length	CM(T)-P07A-M-Length	CB(T)-P03-Length	JAM-P9-P4-F
		MS6H-80CS20B1-20P7			CP(T)-SP-M-Length	CM(T)-P07A-M-Length	/	JAM-P9-P4
	High	MS6H-80CM20B1-20P7	_		CP(T)-SP-BM-Length	CM(T)-P07A-M-Length	/	JAM-P9-P4
	inertia	MS6H-80CS20BZ1-20P7			CP(T)-SP-M-Length	CM(T)-P07A-M-Length	CB(T)-P03-Length	JAM-P9-P4-F
		MS6H-80CM20BZ1-20P7	DOEL 1/01/01/01		CP(T)-SP-BM-Length	CM(T)-P07A-M-Length		JAM-P9-P4-I
).75		MS6S-80CS30B1-20P7	DS5L1/C1/N1/K1-20P7-PTA		CP(T)-SP-M-Length	CM(T)-P07A-M-Length	/	JAM-P9-P4
	Low	MS6S-80CM30B1-20P7	†		CP(T)-SP-BM-Length	CM(T)-P07A-M-Length	',	JAM-P9-P4
	inertia	MS6S-80CS30BZ1-20P7	-		CP(T)-SP-M-Length	CM(T)-P07A-M-Length	CB(T)-P03-Length	
			_					JAM-P9-P4-F
		MS6S-80CM30BZ1-20P7	_		CP(T)-SP-BM-Length	CM(T)-P07A-M-Length	CB(T)-P03-Length	JAM-P9-P4-I
		MS6H-80CS30B1-20P7		-	CP(T)-SP-M-Length	CM(T)-P07A-M-Length	/	JAM-P9-P4
	High	MS6H-80CM30B1-20P7			CP(T)-SP-BM-Length	CM(T)-P07A-M-Length	/	JAM-P9-P4
	inertia	MS6H-80CS30BZ1-20P7			CP(T)-SP-M-Length	CM(T)-P07A-M-Length	CB(T)-P03-Length	JAM-P9-P4-F
		MS6H-80CM30BZ1-20P7			CP(T)-SP-BM-Length	CM(T)-P07A-M-Length	CB(T)-P03-Length	JAM-P9-P4-F
		MS6H-130CS15B2-20P8			CP(T)-SC(T)-M-Length	CM(T)-L15B-Length	/	JAM-C10-L4
		MS6H-130CM15B2-20P8			CP(T)-SC(T)-B-Length	<del></del>	/	JAM-C10-L4
		MS6H-130CS15BZ2-20P8	-			CMB(T)-L15B-Length	,	JAM-C10-L7
		MS6H-130CM15BZ2-20P8	DS5L1/C1-21P0-PTA		CP(T)-SC(T)-B-Length		1	
			_				/	JAM-C10-L7
	High	MS6H-130TL15B2-20P8	_		CP(T)-SC(T)-B-Length		/	JAM-C10-L4
).85	inertia	MS6H-130TL15BZ2-20P8			CP(T)-SC(T)-B-Length	CMB(T)-L15B-Length	/	JAM-C10-L7
	mercia	MS6H-130CS15B2-40P8			CP(T)-SC(T)-M-Length	1 1	/	JAM-C10-L4
		MS6H-130CM15B2-40P8			CP(T)-SC(T)-B-Length	CM(T)-L15B-Length	/	JAM-C10-L4
		MS6H-130CS15BZ2-40P8	DCEL 1/C1 41D0 DTA		CP(T)-SC(T)-M-Length	CMB(T)-L15B-Length	/	JAM-C10-L7
		MS6H-130CM15BZ2-40P8	DS5L1/C1-41P0-PTA		CP(T)-SC(T)-B-Length	CMB(T)-L15B-Length	/	JAM-C10-L7
		MS6H-130TL15B2-40P8			CP(T)-SC(T)-B-Length	CM(T)-L15B-Length	/	JAM-C10-L4
		MS6H-130TL15BZ2-40P8			CP(T)-SC(T)-B-Length	CMB(T)-L15B-Length	,	JAM-C10-L7
		MS6H-130CS15B2-41P3		AC 380V	CP(T)-SC(T)-M-Length		,	
			-				/	JAM-C10-L4
		MS6H-130CM15B2-41P3	4		CP(T)-SC(T)-B-Length	,	/	JAM-C10-L4
1.3	High	MS6H-130CS15BZ2-41P3	DS5L1/C1-41P5-PTA		CP(T)-SC(T)-M-Length	1 7	/	JAM-C10-L7
	inertia	MS6H-130CM15BZ2-41P3			CP(T)-SC(T)-B-Length		/	JAM-C10-L7
		MS6H-130TL15B2-41P3	_		CP(T)-SC(T)-B-Length	CM(T)-L15B-Length	/	JAM-C10-L4
		MS6H-130TL15BZ2-41P3			CP(T)-SC(T)-B-Length	CMB(T)-L15B-Length	/	JAM-C10-L7
		MS6S-100CS30B2-21P5			CP(T)-SC(T)-M-Length	CM(T)-L15B-Length	/	JAM-C10-L4
	Low	MS6S-100CM30B2-21P5	1		CP(T)-SC(T)-B-Length		/	JAM-C10-L4
	inertia	MS6S-100CS30BZ2-21P5	1			CMB(T)-L15B-Length	',	JAM-C10-L7
		MS6S-100C330BZ2-21F5	1			CMB(T)-L15B-Length	1	
			-				/	JAM-C10-L7
1.5		MS6H-130CS20B2-21P5	DS5L1/C1-21P5-PTA		CP(T)-SC(T)-M-Length		/	JAM-C10-L4
		MS6H-130CM20B2-21P5			CP(T)-SC(T)-B-Length		/	JAM-C10-L4
	High	MS6H-130CS20BZ2-21P5	_			CMB(T)-L15B-Length	/	JAM-C10-L7
	inertia	MS6H-130CM20BZ2-21P5		AC 220V		CMB(T)-L15B-Length	/	JAM-C10-L7
		MS6H-130TL20B2-21P5		AC 220V	CP(T)-SC(T)-B-Length	CM(T)-L15B-Length	/	JAM-C10-L4
		MS6H-130TL20BZ2-21P5	1			CMB(T)-L15B-Length	/	JAM-C10-L7
		MS6H-130CS15B2-21P8			CP(T)-SC(T)-M-Length	. , ,	',	JAM-C10-L1
		MS6H-130CM15B2-21P8	+		CP(T)-SC(T)-B-Length		/	
			-				1	JAM-C10-L4
		MS6H-130CS15BZ2-21P8	DS5L1/C1-22P6-PTA			CMB(T)-L15B-Length	/	JAM-C10-L7
		MS6H-130CM15BZ2-21P8	1		CP(T)-SC(T)-B-Length	1 ' '	/	JAM-C10-L7
		MS6H-130TL15B2-21P8	_		CP(T)-SC(T)-B-Length		/	JAM-C10-L4
1.0	High	MS6H-130TL15BZ2-21P8			CP(T)-SC(T)-B-Length	CMB(T)-L15B-Length	/	JAM-C10-L7
1.8	inertia	MS6H-130CS15B2-41P8			CP(T)-SC(T)-M-Length		/	JAM-C10-L4
		MS6H-130CM15B2-41P8	1		CP(T)-SC(T)-B-Length		',	JAM-C10-L4
			+			CMB(T)-L15B-Length	1	
		MS6H-130CS15BZ2-41P8	DS5L1/C1-42P3-PTA	AC 380V			/	JAM-C10-L7
		MS6H-130CM15BZ2-41P8	4		CP(T)-SC(T)-B-Length	. , ,	/	JAM-C10-L7
		MS6H-130TL15B2-41P8	1		CP(T)_SC(T)_R_Length	CM(T)-L15B-Length	1 /	JAM-C10-L4

ower[kW]	Inertia level	Motor model	Matched driver	Voltage level	Encoder cable	Power cable	Brake cable	Cable accessories package
		MS6H-130CS15B2-22P3			CP(T)-SC(T)-M-Length	CM(T)-L15B-Length	/	JAM-C10-L4
		MS6H-130CM15B2-22P3	1		CP(T)-SC(T)-B-Length	CM(T)-L15B-Length	/	JAM-C10-L4
		MS6H-130CS15BZ2-22P3	1	AC 220V	CP(T)-SC(T)-M-Length	CMB(T)-L15B-Length	/	JAM-C10-L7
		MS6H-130CM15BZ2-22P3	DS5L1/C1-22P6-PTA	AC 220V	CP(T)-SC(T)-B-Length	CMB(T)-L15B-Length	/	JAM-C10-L7
		MS6H-130TL15B2-22P3	1		CP(T)-SC(T)-B-Length	CM(T)-L15B-Length	/	JAM-C10-L4
	High	MS6H-130TL15BZ2-22P3	1		CP(T)-SC(T)-B-Length	CMB(T)-L15B-Length	/	JAM-C10-L7
2.3	inertia	MS6H-130CS15B2-42P3			CP(T)-SC(T)-M-Length	CM(T)-L15B-Length	/	JAM-C10-L4
		MS6H-130CM15B2-42P3	1		CP(T)-SC(T)-B-Length	CM(T)-L15B-Length	/	JAM-C10-L4
		MS6H-130CS15BZ2-42P3	1		CP(T)-SC(T)-M-Length	CMB(T)-L15B-Length	/	JAM-C10-L7
		MS6H-130CM15BZ2-42P3	DS5L1/C1-42P3-PTA		CP(T)-SC(T)-B-Length	CMB(T)-L15B-Length	/	JAM-C10-L7
		MS6H-130TL15B2-42P3	1		CP(T)-SC(T)-B-Length	CM(T)-L15B-Length	/	JAM-C10-L4
		MS6H-130TL15BZ2-42P3	1	AC 380V	CP(T)-SC(T)-B-Length	CMB(T)-L15B-Length	/	JAM-C10-L7
		MS6H-180CS15B2-43P0			CP(T)-SL-M-Length	CM(T)-XL20A-Length	/	JAM-L15-XL4
		MS6H-180CM15B2-43P0	-	-	CP(T)-SL-B-Length	CM(T)-XL20A-Length	- /	JAM-L15-XL4
	High	MS6H-180CS15BZ2-43P0			CP(T)-SL-M-Length	CMB(T)-XL20A-Length	- /	JAM-L15-XL6
3.0	inertia	"6" DS5I 1/C1_43P0_PT4 I		-	CP(T)-SL-B-Length	CMB(T)-XL20A-Length	7	JAM-L15-XL6
		MS6H-180TL15B2-43P0	-	-	CP(T)-SL-B-Length	CM(T)-XL20A-Length	<del>,</del>	JAM-L15-XL4
		MS6H-180TL15BZ2-43P0	-	-	CP(T)-SL-B-Length	CMB(T)-XL20A-Length	<del>,</del>	JAM-L15-XL6
0 flange	and lower	small aviation plug matchin	g list		or (1) or a rengar	OND(1) NEZON Zengan		07111 220 7120
ro mangi	und tower	MS6S-60CS30B2-20P4	8 1130		CP(T)-SV-M-Length	CMT-V07A-M-Length	/	JAM-V7-V4
	Low	MS6S-60CM30B2-20P4	DS5L1/C1/N1/K1-20P4-PTA		CP(T)-SV-BM-Length	CMT-V07A-M-Length	/	JAM-V7-V4
	inertia	MS6S-60CS30BZ2-20P4		-	CP(T)-SV-M-Length	CMBT-V07A-M-Length		JAM-V7-V6
		MS6S-60CM30BZ2-20P4		-	CP(T)-SV-BM-Length	CMBT-V07A-M-Length		JAM-V7-V6
0.4		MS6H-60CS30B2-20P4			CP(T)-SV-M-Length	CMT-V07A-M-Length		JAM-V7-V4
	High	MS6H-60CM30B2-20P4			CP(T)-SV-BM-Length	CMT-V07A-M-Length		JAM-V7-V4
	inertia	MS6H-60CS30BZ2-20P4	-		CP(T)-SV-M-Length	CMBT-V07A-M-Length	/	JAM-V7-V6
		MS6H-60CM30BZ2-20P4		-	CP(T)-SV-BM-Length	CMBT-V07A-M-Length		JAM-V7-V6
		MS6S-80CS20B2-20P7		-	CP(T)-SV-M-Length	CMT-V07A-M-Length		JAM-V7-V4
	Low	MS6S-80CM20B2-20P7	-	-	CP(T)-SV-BM-Length	CMT-V07A-M-Length		JAM-V7-V4
	inertia	MS6S-80CS20BZ2-20P7	-	-	CP(T)-SV-M-Length	CMBT-V07A-M-Length		JAM-V7-V6
		MS6S-80CM20BZ2-20P7	-	-	CP(T)-SV-BM-Length	CMBT-V07A-M-Length		JAM-V7-V6
		MS6H-80CS20B2-20P7	-	AC 220V	CP(T)-SV-M-Length	CMT-V07A-M-Length		JAM-V7-V4
	High	MS6H-80CM20B2-20P7	-	-	CP(T)-SV-BM-Length	CMT-V07A-M-Length		JAM-V7-V4
	inertia	MS6H-80CS20BZ2-20P7	-	-	CP(T)-SV-M-Length	CMBT-V07A-M-Length		JAM-V7-V6
		MS6H-80CM20BZ2-20P7	-	-	CP(T)-SV-BM-Length	CMBT-V07A-M-Length		JAM-V7-V6
0.75		MS6S-80CS30B2-20P7	DS5L1/C1/N1/K1-20P7-PTA	-	CP(T)-SV-M-Length	CMT-V07A-M-Length		JAM-V7-V4
	Low	MS6S-80CM30B2-20P7	-		CP(T)-SV-BM-Length	CMT-V07A-M-Length	/	JAM-V7-V4
	inertia	MS6S-80CS30BZ2-20P7	-		CP(T)-SV-M-Length	CMBT-V07A-M-Length	/	JAM-V7-V6
		MS6S-80CM30BZ2-20P7	-		CP(T)-SV-BM-Length	CMBT-V07A-M-Length	/	JAM-V7-V6
		MS6H-80CS30B2-20P7	-		CP(T)-SV-M-Length	CMT-V07A-M-Length	/	JAM-V7-V4
	□iαh	MS6H-80CM30B2-20P7	-		CP(T)-SV-BM-Length	CMT-V07A-M-Length	1	JAM-V7-V4
	High inertia	MS6H-80CM30BZ-20P7	-		CP(T)-SV-BM-Lerigiti		/	JAM-V7-V4 JAM-V7-V6
		M30H-80C330DZZ-Z0P7	1		CF ( I /-SV-IVI-LEITELL)	CMBT-V07A-M-Length	/	JAW-V1-V0

### |MS5/MS series

ower[kW]	Inertia level	,5F,5K,5P	Matched driver	Voltage level	Encoder cable	Power cable	Brake cable	Cable accessories pack
OWCI[KW]	merda tever	MS5G-130STE-CS05415B-20P8-S01	Materied driver	voltage tever	CP(T)-SC(T)-M-Length		/	JAM-C10-L4
		MS5G-130STE-CM05415B-20P8-S01	†		CP(T)-SC(T)-B-Length	CM(T)-L15A-Length	/	JAM-C10-L4
	Medium	MS5G-130STE-CS05415BZ-20P8-S01		Single phase	CP(T)-SC(T)-M-Length	CMB(T)-L15A-Length	/	JAM-C10-L7
0.85	inertia	MS5G-130STE-CM05415BZ-20P8-S01	DS5E/F/K/P-20P7-PTA	220V	CP(T)-SC(T)-B-Length	CMB(T)-L15A-Length	/	JAM-C10-L7
		MS5G-130STE-TL05415B-20P8-S01	-	2200	CP(T)-SC(T)-B-Length	CM(T)-L15A-Length	/	JAM-C10-L4
		MS5G-130STE-TL05415BZ-20P8-S01	1		CP(T)-SC(T)-B-Length	CMB(T)-L15A-Length	/	JAM-C10-L7
		MS5S-110STE-CS03230B -21P0-S01			CP(T)-SL-M-Length	CM(T)-L15-Length	/	JAM-L15-L4
1.0	Low inertia	MS5S-110STE-CM03230B□-21P0-S01	DS5E/L/C/F/K-21P0-PTA		CP(T)-SL-B-Length	CM(T)-L15-Length	/	JAM-L15-L4
	Illertia	MS5S-110STE-TL03230B□-21P0	1		CP(T)-SL-B-Length	CM(T)-L15-Length	/	JAM-L15-L4
		MS5S-110STE-CS04830B□-21P5			CP(T)-SL-M-Length	CM(T)-L15-Length	/	JAM-L15-L4
	Low	MS5S-110STE-CM04830B□-21P5	-		CP(T)-SL-B-Length	CM(T)-L15-Length	/	JAM-L15-L4
	inertia	MS5S-110STE-TL04830B□-21P5	1		CP(T)-SL-B-Length	CM(T)-L15-Length	/	JAM-L15-L4
		MS5G-130STE-CS06025B-21P5-S01			CP(T)-SC(T)-M-Length	CM(T)-L15-Length	/	JAM-C10-L4
		MS5G-130STE-CM06025B-21P5-S01	1		CP(T)-SC(T)-B-Length	CM(T)-L15-Length	/	JAM-C10-L4
		MS5G-130STE-CS06025BZ-21P5-S01	1		CP(T)-SC(T)-M-Length	CMB(T)-L15-Length	/	JAM-C10-L7
		MS5G-130STE-CM06025BZ-21P5-S01	1		CP(T)-SC(T)-B-Length	CMB(T)-L15-Length	/	JAM-C10-L7
		MS5G-130STE-CS10015B-21P5-S01	1		CP(T)-SC(T)-M-Length		/	JAM-C10-L4
1.5		MS5G-130STE-CM10015B-21P5-S01			CP(T)-SC(T)-B-Length	CM(T)-L15-Length	/	JAM-C10-L4
	Medium	MS5G-130STE-CS10015BZ-21P5-S01	1		CP(T)-SC(T)-M-Length		/	JAM-C10-L7
	inertia	MS5G-130STE-CM10015BZ-21P5-S01	1		CP(T)-SC(T)-B-Length	CMB(T)-L15-Length	/	JAM-C10-L7
		MS5G-130STE-CS07220B-21P5-S01			CP(T)-SC(T)-M-Length	CM(T)-L15-Length	/	JAM-C10-L4
		MS5G-130STE-CM07220B-21P5-S01			CP(T)-SC(T)-B-Length	CM(T)-L15-Length	/	JAM-C10-L4
		MS5G-130STE-CS07220BZ-21P5-S01	DS5E/L/C/F/K-21P5-PTA		CP(T)-SC(T)-M-Length	CMB(T)-L15-Length	/	JAM-C10-L7
		MS5G-130STE-CM07220BZ-21P5-S01			CP(T)-SC(T)-B-Length	CMB(T)-L15-Length	/	JAM-C10-L7
		MS5G-130STE-TL07220B-21P5-S01			CP(T)-SC(T)-B-Length	CM(T)-L15-Length	/	JAM-C10-L4
		MS5G-130STE-TL07220BZ-21P5-S01			CP(T)-SC(T)-B-Length	CMB(T)-L15-Length	/	JAM-C10-L7
		MS5G-130STE-CS11515B-21P8-S01			CP(T)-SC(T)-M-Length	CM(T)-L15-Length	/	JAM-C10-L4
		MS5G-130STE-CM11515B-21P8-S01			CP(T)-SC(T)-B-Length	CM(T)-L15-Length	/	JAM-C10-L4
	Medium	MS5G-130STE-CS11515BZ-21P8-S01			CP(T)-SC(T)-M-Length	CMB(T)-L15-Length	/	JAM-C10-L7
	inertia	MS5G-130STE-CM11515BZ-21P8-S01		Single/three	CP(T)-SC(T)-B-Length	CMB(T)-L15-Length	/	JAM-C10-L7
1.8		MS5G-130STE-TL11515B-21P8-S01		phase	CP(T)-SC(T)-B-Length	CM(T)-L15-Length	/	JAM-C10-L4
		MS5G-130STE-TL11515BZ-21P8-S01		220V	CP(T)-SC(T)-B-Length	CMB(T)-L15-Length	/	JAM-C10-L7
		MS5S-110STE-TL06030B□-21P8			CP(T)-SL-B-Length	CM(T)-L15-Length	/	JAM-L15-L4
	Low inertia	MS5S-110STE-CS06030B□-21P8			CP(T)-SL-M-Length	CM(T)-L15-Length	/	JAM-L15-L4
	Incrua	MS5S-110STE-CM06030B□-21P8			CP(T)-SL-B-Length	CM(T)-L15-Length	/	JAM-L15-L4
		MS5G-130STE-CS14615B-22P3-S01		7	CP(T)-SC(T)-M-Length	CM(T)-L15-Length	/	JAM-C10-L4
		MS5G-130STE-CM14615B-22P3-S01	1		CP(T)-SC(T)-B-Length	CM(T)-L15-Length	/	JAM-C10-L4
2.2	Medium	MS5G-130STE-CS14615BZ-22P3-S01			CP(T)-SC(T)-M-Length	CMB(T)-L15-Length	/	JAM-C10-L7
2.3	inertia	MS5G-130STE-CM14615BZ-22P3-S01			CP(T)-SC(T)-B-Length	CMB(T)-L15-Length	/	JAM-C10-L7
		MS5G-130STE-TL14615B-22P3-S01			CP(T)-SC(T)-B-Length	CM(T)-L15-Length	/	JAM-C10-L4
		MS5G-130STE-TL14615BZ-22P3-S01	DCEE/L/C/E/V 22D2 DTA		CP(T)-SC(T)-B-Length	CMB(T)-L15-Length	/	JAM-C10-L7
		MS5G-130STE-CS07730B-22P4-S01	DS5E/L/C/F/K-22P3-PTA		CP(T)-SC(T)-M-Length	CM(T)-L15-Length	/	JAM-C10-L4
		MS5G-130STE-CM07730B-22P4-S01			CP(T)-SC(T)-B-Length	CM(T)-L15-Length	/	JAM-C10-L4
2.4	Medium	MS5G-130STE-CS07730BZ-22P4-S01	1		CP(T)-SC(T)-M-Length	CMB(T)-L15-Length	/	JAM-C10-L7
2.4	inertia	MS5G-130STE-CM07730BZ-22P4-S01			CP(T)-SC(T)-B-Length	CMB(T)-L15-Length	/	JAM-C10-L7
		MS5G-130STE-TL07730B-22P4-S01			CP(T)-SC(T)-B-Length	CM(T)-L15-Length	/	JAM-C10-L4
		MS5G-130STE-TL07730BZ-22P4-S01			CP(T)-SC(T)-B-Length	CMB(T)-L15-Length	/	JAM-C10-L7
		MS5G-130STE-CS10025B-22P6-S01			CP(T)-SC(T)-M-Length	CM(T)-L15-Length	/	JAM-C10-L4
		MS5G-130STE-CM10025B-22P6-S01			CP(T)-SC(T)-B-Length	CM(T)-L15-Length	/	JAM-C10-L4
2.6	Medium inertia	MS5G-130STE-CS10025BZ-22P6-S01	DS5E/F/K-22P6-PTA		CP(T)-SC(T)-M-Length	CMB(T)-L15-Length	/	JAM-C10-L7
	Illertia	MS5G-130STE-CM10025BZ-22P6-S01			CP(T)-SC(T)-B-Length	CMB(T)-L15-Length	/	JAM-C10-L7
		MS5G-130STE-TL10025-22P6-S01			CP(T)-SC(T)-B-Length	CM(T)-L15-Length	/	JAM-C10-L4
		MS5G-130STE-CS07220B-41P5-S01			CP(T)-SC(T)-M-Length	CM(T)-L15-Length	/	JAM-C10-L4
		MS5G-130STE-CM07220B-41P5-S01			CP(T)-SC(T)-B-Length	CM(T)-L15-Length	/	JAM-C10-L4
1.5		MS5G-130STE-CS07220BZ-41P5-S01			CP(T)-SC(T)-M-Length	CMB(T)-L15-Length	/	JAM-C10-L7
1.3		MS5G-130STE-CM07220BZ-41P5-S01			CP(T)-SC(T)-B-Length	CMB(T)-L15-Length	/	JAM-C10-L7
		MS5G-130STE-TL07220B-41P5-S01			CP(T)-SC(T)-B-Length	CM(T)-L15-Length	/	JAM-C10-L4
	Medium	MS5G-130STE-TL07220BZ-41P5-S01	DOEE/K/E A1DE DTA	Three phase	CP(T)-SC(T)-B-Length		/	JAM-C10-L7
	inertia	MS5G-130STE-CS11515B-41P8-S01	DS5E/K/F-41P5-PTA	380V	CP(T)-SC(T)-M-Length		/	JAM-C10-L4
		MS5G-130STE-CM11515B-41P8-S01	7		CP(T)-SC(T)-B-Length	CM(T)-L15-Length	/	JAM-C10-L4
1.0		MS5G-130STE-CS1515BZ-41P8-S01	1		CP(T)-SC(T)-M-Length		/	JAM-C10-L7
1.8		MS5G-130STE-CM11515BZ-41P8-S01	1		CP(T)-SC(T)-B-Length		/	JAM-C10-L7
		MS5G-130STE-TL11515B-41P8-S01	1		CP(T)-SC(T)-B-Length		/	JAM-C10-L4
		MS5G-130STE-TL11515BZ-41P8-S01	1		CP(T)-SC(T)-B-Length		,	JAM-C10-L7

DS5E	5L,5C,	,5F,5K,5P							
Power[kW]	Inertia level	Motor model	Matched driver	Voltage level	Encoder cable	Power cable	Brake cable	Cable accessories packag	
		MS5G-130ST-CS14615B-42P3-S01		three phase -	CP(T)-SC(T)-Length	CM(T)-L15-Length	/	JAM-C10-L4	
		MS5G-130ST-CM14615B-42P3-S01	DS5E/C/F/K-43P0-PTA		CP(T)-SC(T)-B-Length	CM(T)-L15-Length	/	JAM-C10-L4	
2.2	2.3 Medium inertia	MS5G-130ST-CS14615BZ-42P3-S01			CP(T)-SC(T)Length	CMB(T)-L15-Length	/	JAM-C10-L7	
2.3		MS5G-130ST-CM14615BZ-42P3-S01			CP(T)-SC(T)-B-Length	CMB(T)-L15-Length	/	JAM-C10-L7	
		MS5G-130ST-TL14615B-42P3-S01			CP(T)-SC(T)-B-Length	CM(T)-L15-Length	/	JAM-C10-L4	
		MS5G-130ST-TL14615BZ-42P3-S01			CP(T)-SC(T)-B-Length	CMB(T)-L15-Length	/	JAM-C10-L7	
3	/	MS-130ST-TL10030B(Z)-43P0			CP(T)-SL-B-Length	CM(T)-L15-Length	/	JAM-L15-L4	
11	/	MS-220STE-TL70015B□-411P0-XJ	DS5E/C-411P0-PTA		CPT-ZDL-B-Length	CM(T)-D60-Length	/	,	
15	/	MS-220STE-TL96015B□-415P0-XJ	DS5E-415P0-PTA		CPT-ZDL-B-Length	CM(T)-D60-Length	/	/	

ower[kW]	Inertia level	Motor model	Matched driver	Voltage level	Encoder cable	Power cable	Cable accessori
		MS5G-130STE-CS05415B-20P8-S01		- G			JAM-C10-L
		MS5G-130STE-CM05415B-20P8-S01	7		., .,	. ,	JAM-C10-L
	Medium	MS5G-130STE-CS05415BZ-20P8-S01	DCEL 1 /C1 /N11 /W1 20D7 DTA	Single phase	., .,		JAM-C10-L
0.85	inertia	MS5G-130STE-CM05415BZ-20P8-S01	DS5L1/C1/N1/K1-20P7-PTA	220V			JAM-C10-L
		MS5G-130STE-TL05415B-20P8-S01	7		., .,		JAM-C10-L
		MS5G-130STE-TL05415BZ-20P8-S01	7		CP(T)-SC(T)-M-Length         CM(T)-L15B-Length           CP(T)-SC(T)-B-Length         CM(T)-L15B-Length           CP(T)-SC(T)-M-Length         CMS(T)-L15B-Length           CP(T)-SC(T)-B-Length         CMS(T)-L15B-Length           CP(T)-SC(T)-B-Length         CMS(T)-L15B-Length           CP(T)-SC(T)-B-Length         CMS(T)-L15B-Length           CP(T)-SL-M-Length         CM(T)-L15B-Length           CP(T)-SL-B-Length         CM(T)-L15B-Length           CP(T)-SL-B-Length         CM(T)-L15B-Length           CP(T)-SL-B-Length         CM(T)-L15B-Length           CP(T)-SL-B-Length         CM(T)-L15B-Length           CP(T)-SL-B-Length         CM(T)-L15B-Length           CP(T)-SL-B-Length         CM(T)-L15B-Length           CP(T)-SC(T)-M-Length         CMS(T)-L15B-Length           CP(T)-SC(T)-M-Length         CMB(T)-L15B-Length           CP(T)-SC(T)-M-Length         CMS(T)-L15B-Length           CP(T)-SC(T)-M-Length         CMS(T)-L15B-Length           CP(T)-SC(T)-M-Length         CMS(T)-L15B-Length           CP(T)-SC(T)-M-Length         CMS(T)-L15B-Length           CP(T)-SC(T)-M-Length         CM(T)-L15B-Length           CP(T)-SC(T)-B-Length         CM(T)-L15B-Length           CP(T)-SC(T)-B-Length         CM(T)-L15B-Length           CP(T)-SC(T	JAM-C10-L	
		MS5S-110STE-CS03230B□-21P0-S01					JAM-L15-L
1.0	Low inertia	MS5S-110STE-CM03230B -21P0-S01	7		CP(T)-SL-B-Length		JAM-L15-L
	Inertia	MS5S-110STE-TL03230B□-21P0	1			. ,	JAM-L15-L
		MS5S-110STE-CS04830B□-21P5	7		.,	. ,	JAM-L15-L
	Low inertia	MS5S-110STE-CM04830B□-21P5	1		1,	L	JAM-L15-L
	inertia	MS5S-110STE-TL04830B -21P5	-			1 ,	JAM-L15-L
		MS5G-130STE-CS06025B-21P5-S01	_		. , ,	. ,	JAM-C10-L
		MS5G-130STE-CM06025B-21P5-S01			1, 1,		JAM-C10-L
		MS5G-130STE-CS06025BZ-21P5-S01	1		1 7 1 7		JAM-C10-L
		MS5G-130STE-CM06025BZ-21F5-S01	1				JAM-C10-L
		MS5G-130STE-CS10015B-21P5-S01	-		1, 1,		JAM-C10-L
1.5		MS5G-130STE-CM10015B-21P5-S01	-		1, 1,		JAM-C10-L
1.5	Medium	MS5G-130STE-CS10015BZ-21P5-S01	-				JAM-C10-L
	inertia	MS5G-130STE-CM10015BZ-21P5-S01	-		., .,	1 1	JAM-C10-L
		MS5G-130STE-CS07220B-21P5-S01	DS5L1/C1-21P5-PTA		., .,		JAM-C10-L
		MS5G-130STE-CM07220B-21P5-S01	03321/61 21/3 / 1//		., .,	L ' '	JAM-C10-L
		MS5G-130STE-CS07220BZ-21P5-S01	-				JAM-C10-L
		MS5G-130STE-CM07220BZ-21P5-S01	-		., .,	. ,	JAM-C10-L
		MS5G-130STE-TL07220B-21P5-S01	-			_ ' '	JAM-C10-L
		MS5G-130STE-TL07220BZ-21P5-S01	-				JAM-C10-L
		MS5G-130STE-CS11515B-21P8-S01	-			\ /	JAM-C10-L
		MS5G-130STE-CM11515B-21P8-S01	-		1, 1,	. ,	JAM-C10-L
	Medium	MS5G-130STE-CM11515B-217-6-301 MS5G-130STE-CS11515BZ-21P8-S01	-	Single/	., .,		JAM-C10-L
	inertia	MS5G-130STE-CM11515BZ-21P8-S01	-	Single/ three phase		1 1	JAM-C10-L
1.8	c.c.d	MS5G-130STE-TL11515B-21P8-S01	-	220V	1, 1,	1 1	
1.0		MS5G-130STE-TL11515B-21F8-301	-	2200	1 , 1 ,	. ,	JAM-C10-L
		MS5S-110STE-TL06030B 2-21P8	-		., .,	. , .	JAM-C10-L
	Low	MS5S-110STE-CS06030B -21P8	-		` '	. ,	JAM-L15-L
	inertia	MS5S-110STE-CS00030B -21P8	-		- ' '	, ,	JAM-L15-L
						1 ,	JAM-L15-L JAM-C10-L
		MS5G-130STE-CS14615B-22P3-S01	$\dashv$				JAM-C10-L
	Markey	MS5G-130STE-CM14615B-22P3-S01	-		., ., .		
2.3	Medium inertia	MS5G-130STE-CS14615BZ-22P3-S01	-				JAM-C10-L JAM-C10-L
	IIICIUa	MS5G-130STE-CM14615BZ-22P3-S01	+				JAM-C10-L JAM-C10-L
		MS5G-130STE-TL14615B-22P3-S01	-			1 7	
		MS5G-130STE-TL14615BZ-22P3-S01	DS5L1/C1-22P3-PTA		., .,		JAM-C10-L
		MS5G-130STE-CS07730B-22P4-S01	-		1, 1,		JAM-C10-L
	Marak	MS5G-130STE-CM07730B-22P4-S01	-		., .,		JAM-C10-L
2.4	Medium inertia	MS5G-130STE-CS07730BZ-22P4-S01	-				JAM-C10-L
	incitia	MS5G-130STE-CM07730BZ-22P4-S01	-		., .,	. ,	JAM-C10-L
		MS5G-130STE-TL07730B-22P4-S01	-		1 / 1 /		JAM-C10-L
		MS5G-130STE-TL07730BZ-22P4-S01			1, 1,	1 1	JAM-C10-L
		MS5G-130STE-CS10025B-22P6-S01	-		., .,		JAM-C10-L
2.6	Medium	MS5G-130STE-CM10025B-22P6-S01	DCEL 1 /C1 22DC DT/				JAM-C10-L
/ h		MS5G-130STE-CS10025BZ-22P6-S01	DS5L1/C1-22P6-PTA		CP(I)-SC(I)-M-Length	CMR(1)-L15B-Length	JAM-C10-L
2.0	inertia	MS5G-130STE-CM10025BZ-22P6-S01			CD/T) CC/T) D ! !!	CMD/T) L15D L	JAM-C10-L

#### MS5/MS series

DS5L	1,5C1,5	N1,5K1					
Power[kw]	Inertia level	Motor model	Matched driver	Voltage level	Encoder cable	Power cable	Cable accessories packag
		MS5G-130STE-CS07220B-41P5-S01			CP(T)-SC(T)-M-Length	CM(T)-L15B-Length	JAM-C10-L4
		MS5G-130STE-CM07220B-41P5-S01			CP(T)-SC(T)-B-Length	CM(T)-L15B-Length	JAM-C10-L4
1.5		MS5G-130STE-CS07220BZ-41P5-S01	DS5L1/C1-41P5-PTA		CP(T)-SC(T)-M-Length	CMB(T)-L15B-Length	JAM-C10-L7
1.5		MS5G-130STE-CM07220BZ-41P5-S01	D35L1/C1-41F5-F1A		CP(T)-SC(T)-B-Length	CMB(T)-L15B-Length	JAM-C10-L7
		MS5G-130STE-TL07220B-41P5-S01			CP(T)-SC(T)-B-Length	CM(T)-L15B-Length	JAM-C10-L4
		MS5G-130STE-TL07220BZ-41P5-S01			CP(T)-SC(T)-B-Length	CMB(T)-L15B-Length	JAM-C10-L7
		MS5G-130STE-CS11515B-41P8-S01			CP(T)-SC(T)-M-Length	CM(T)-L15B-Length	JAM-C10-L4
	Mar att	MS5G-130STE-CM11515B-41P8-S01		Single/three phase	CP(T)-SC(T)-B-Length	CM(T)-L15B-Length	JAM-C10-L4
1.8	Medium inertia	MS5G-130STE-CS1515BZ-41P8-S01	DS5L1/C1-42P3-PTA		CP(T)-SC(T)-M-Length	CMB(T)-L15B-Length	JAM-C10-L7
1.0		MS5G-130STE-CM11515BZ-41P8-S01			CP(T)-SC(T)-B-Length	CMB(T)-L15B-Length	JAM-C10-L7
		MS5G-130STE-TL11515B-41P8-S01			CP(T)-SC(T)-B-Length	CM(T)-L15B-Length	JAM-C10-L4
		MS5G-130STE-TL11515BZ-41P8-S01			CP(T)-SC(T)-B-Length	CMB(T)-L15B-Length	JAM-C10-L7
		MS5G-130ST-CS14615B-42P3-S01		380V	CP(T)-SC(T)-M-Length	CM(T)-L15B-Length	JAM-C10-L4
		MS5G-130ST-CM14615B-42P3-S01	1		CP(T)-SC(T)-B-Length	CM(T)-L15B-Length	JAM-C10-L4
2.3		MS5G-130ST-CS14615BZ-42P3-S01	DS5L1/C1-42P3-PTA		CP(T)-SC(T)-M-Length	CMB(T)-L15B-Length	JAM-C10-L7
2.3		MS5G-130ST-CM14615BZ-42P3-S01	D33L1/C1-42P3-P1A		CP(T)-SC(T)-B-Length	CMB(T)-L15B-Length	JAM-C10-L7
		MS5G-130ST-TL14615B-42P3-S01			CP(T)-SC(T)-B-Length	CM(T)-L15B-Length	JAM-C10-L4
		MS5G-130ST-TL14615BZ-42P3-S01	1		CP(T)-SC(T)-B-Length	CMB(T)-L15B-Length	JAM-C10-L7
3	/	MS-130ST-TL10030B(Z)-43P0	DS5L1/C1-43P0-PTA		CP(T)-SL-B-Length	CM(T)-L15B-Length	JAM-L15-L4
11	/	MS-220STE-TL70015B□-411P0-XJ	DS5C1/K1-411P0-PTA		CPT-ZDL-B-Length	CM(T)-D60-Length	
15	/	MS-220STE-TL96015B□-415P0-XJ	DS5C1/K1-415P0-PTA		CPT-ZDL-B-Length	CM(T)-D60-Length	/
22	Medium inertia	MS5G-220STE-TL140015B-422P0-S01	DS5C1-422P0-PTA		CPT-ZDL-B-Length	CM-D100-Length	

## **Product accessories**

#### **Quick connector**

- Provide convenient wiring terminals
- Used by 100W ~ 15kW drivers
- Suitable for DS5F, DS5K series 44 bits terminal: DTHDB44M-BK10









#### X-NET module

- Bus module: JA-NE-L
- Twisted pair shielded cable for bus module: JC-EA-Length

#### Battery box

- Battery box model: CP-B-BATT
- The battery cannot be charged



#### | JC-CB bus wiring cable

- Special communication cable for EhterCAT motion bus
- CAT5e 4-core Ethernet cable





## B3 to AMP convertion cable DB9 side cable

- Power cable
- Encoder cable

- Cable specification is 1.5m
- Connect to the PC to control the servo





Power cable

- Cable specification: 2/3/5/8/10/12/16/20/25/30m
- The length can be customized
- Cable connectors can be purchased optionally (excluding cables)



#### **Encoder cable**

Encoder cable

- Cable specification:
- 2/3/5/8/10/12/16/20/25/30m
- The length can be customized
- Cable connectors can be purchased optionally (excluding cables)







### | Regenerative resistor

- Release bus capacitor regeneration voltage
- Refer to the selection table of regenerative resistance in the user manual for specific selection



#### | Differential module

- Realize the conversion of collector signal and differential signal
- Differential to differential isolation circuit board: JS-ID-AB
- Differential to collector circuit board: JS-IDC-AB(AB phase), JS-IDC-ABZ(ABZ phase)









## Low voltage servo system

Low voltage servo system

## Light and compact | Easy to install and debug

Xinje's low-voltage servo system, which can be used for AGV/RGV trolley, adopts low-voltage servo motor for its motion axis, which can provide different motor power options of 0.1kW~1.5kW according to the load size, so as to realize rapid response, high stability and high-precision control in the whole motion control process. Through the cooperative movement between motors, it can realize accurate walking and reversing, and provide a solid and reliable solution for the realization of intelligent logistics.



## DF3E driver

Interface: pulse, RS232, RJ45

Input output: 4 inputs 3 outputs (non-brake model), 3 inputs 3 outputs (brake model) Control mode: position control, speed control, torque control, bus control



#### Appearance innovation

The new appearance design, rich interfaces, small volume and light body meet the equipment installation requirements of AGV industry

#### Powerful function

Support a variety of control modes, with 24V brake output, alarm synchronous braking and other functions to meet customer requirements

#### Diverse communication

Support EtherCAT\*, CANopen, MODBUS and other communication protocols to meet different communication function requirements of users

#### Convenient debugging

The gain adjustment only needs three steps, which greatly reduces the equipment debugging time and greatly improves the on-site debugging efficiency

### MF3S series motor

Power: 0.2~1.5kW Using occasion: light load high speed positioning



Note: "the product with is under development, please look forward to it!

#### Overload capacity

The whole series is equipped with 3 times overload as standard, and the start and stop in heavy load situations are faster and more stable

#### Accuracy assurance

The motor is equipped with self-developed 17-bit magnetic encoder, and the positioning accuracy is greatly improved

#### Excellent performance

The insulation level reaches the highest level F in the industry, which fully ensures the stability of field application

#### Protective ability

he protection grade reaches IP66, which can easily deal with the occasions with harsh environment such as oil, water vapor and dust, so as to ensure the reliability of the motor

## Naming rule

#### Low voltage servo driver



#### 1 Name

4 Driver power

Display	Product name	
DF	Low voltage servo driver	

#### ② Series no.

Display	Specification
3	Series no.

Display	Rated output power
01	100W
02	200W
04	400W
07	750W
15	1.5kW

#### ⑤ Rated current

Display	Rated output current
03	3A
06	6A
10	10A
20	20A
40	40A

#### 3 Control function

Display	Function
Е	Pulse, RS485,CANopen
С	EtherCATtype <sup>Under development</sup>

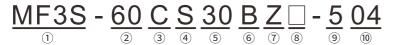
#### 6 Driver function

Display	Driver function
Z	Servo can drive the brake directl
Vacant	Cannot drive the brake directly

#### 7 Driver appearance

	• • • • • • • • • • • • • • • • • • • •
Display	Appearance type
Α	Small size

#### Low voltage servo motor



#### ① Type

Display	Inertia
MF3S	Low inertia
MF3G	Medium inertia
MF3H	High inertia

#### ② Base no.

Display	Base no.
40	40flange
60	60flange
80	80flange
130	130flange

#### ③ Encoder type

Display	Type
С	Magnetic encoder
Т	Photoelectric encoder

#### 4 Encoder precision

Display	Specification
S	Single turn 17-bit
М	Multi-turn 17-bit
L	Multi-turn 23-bit

#### ⑤ Rated speed

Display	Rated speed
15	1500rpm
20	2000rpm
30	3000rpm

#### ⑥ Motor shaft specification ⑦ Power loss brake

Display	Shaft key, oil seal
Α	With key, no oil seal
В	With key, with oil seal
С	No key, no oil seal
D	No key, with oil seal

Display	Charification
Display	Specification
Z	With brake
Vacant	Without brake

	_
Specification	
With brake	
Without brake	
	_

Display	Plug type
1	AMP plug
2	Aviation plug

Display	Voltage
2	24V
5	48V
6	60V

#### 10 Rated power

Display	Power
01	100W
02	200W
04	400W
07	750W
15	1.5kW

### Low voltage servo cable

$$\underline{CP} - \underline{SP} - \underline{M} - \underline{Length}$$

#### ① Cable type

Symbol	Cable specification
CP	Normal encoder cable
CPT	High flexibility encoder cable

Symbol	Plug specification
SP	9-core AMP plug
SV	7-core waterproof small aviation plug
SC	10-core small aviation plug

#### 3 Battery box type

Battery box type
Without battery box
With battery box
With battery box

#### 4 Cable length

Symbol	Length (m)
02	2
03	3
05	5

## Naming rule

#### Low voltage servo driver

## <u>CM</u> - <u>P</u> <u>15</u> <u>A</u>- <u>Length</u>

#### ① Cable type

Symbol	Cable specification
CM	Normal power cable
CMT	High flexibility power cable
СМВ	Normal brake power cable
CMBT	High flexibility brake

#### ② Plug type

n	Symbol	Plug specification
ole	Р	4-core AMP plug
ver	V	4-core waterproof small aviation plug
/er	XL	6-core aviation plug
ke		

#### ③ Cable diameter type ④ Terminal type

Symbol	Cable diameter (mm²)
07	0.75
15	1.5
20	2
60	6

Specification	Symbol
eedle cold rolling terminal	02
terminai	03

#### ⑤ Cable length

Symbol	Length(m)
02	2
03	3
05	5

## Model list

#### Low voltage servo driver

Series	Driver name	Power(w)	Max continuous output current (A)	Peak current (A)	Control mode
	DF3E-0103 <sup>Under development</sup>	100	3	10	RS485、PULSE、CANopen
	DF3E-0206 <sup>Under development</sup>	200	6	15	RS485、PULSE、CANopen
DF3 series	DF3E-0410	400	10	30	RS485、PULSE、CANopen
DC24~70V	DF3E-0720	750	20	60	RS485、PULSE、CANopen
	DF3E-1540	1500	40	120	RS485、PULSE、CANopen
	DF3E-0410-A	400	10	30	RS485、PULSE、CANopen

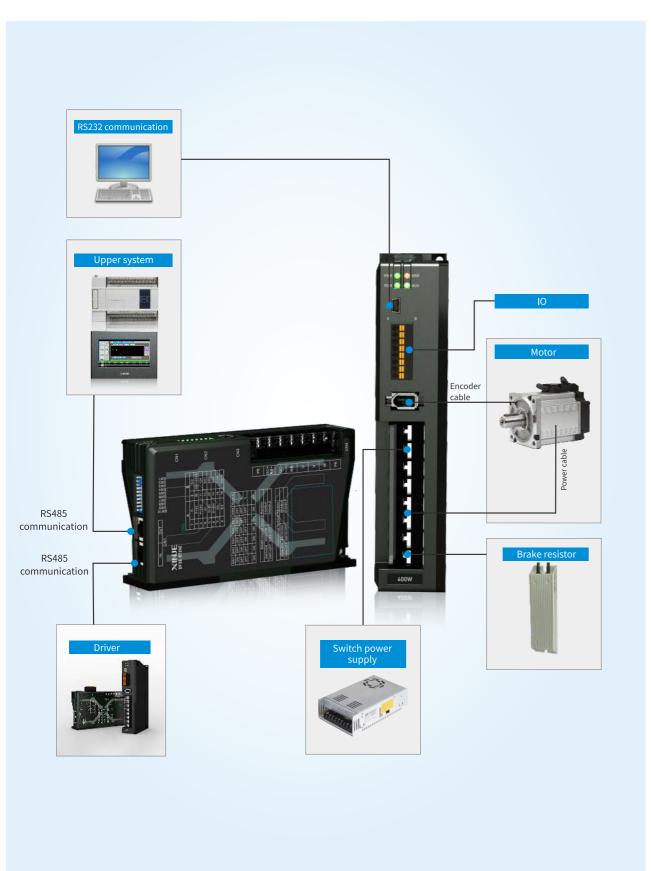
#### Low voltage servo driver

Series	Power supply voltage(V)	Model	Power(w)	Rated torque(N.m)	Rated speed(rpm)	Rated current(A)	Encoder type
	DC24	MF3S-40CS/CM30B(Z)1-201 <sup>Under development</sup>	100	0.32	3000	3	Magnetic encoder 17-bit
		MF3H-60CS/CM30B(Z)1-502	200	0.64	3000	5	Magnetic encoder 17-bit
Mf2corios		MF3H-60CS/CM30B(Z)1-504	400	1.27	3000	10	Magnetic encoder 17-bit
Mf3series	DC48	MF3S-60CS/CM30B(Z)1-504	400	1.27	3000	10	Magnetic encoder 17-bit
		MF3S-80CS/CM30B(Z)2-507	750	2.39	3000	20	Magnetic encoder 17-bit
		MF3S-130CS/CM30B(Z)2-515	1500	4.8	3000	40	Magnetic encoder 17-bit

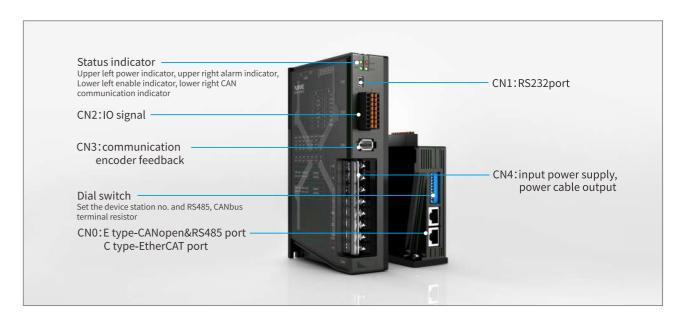
## Low voltage servo matching list

Series	Power(w)	Servo motor	Matched driver	Encoder cable	Power cable	
Low inertia	100	MF3S-40CS30B(Z)1-201 <sup>Under development</sup>	- DF3E-0103 <sup>Under development</sup>	CP(T)-SP-—Length		
DC24V	100	MF3S-40CM30B(Z)1-201 <sup>Under development</sup>	DI 3E 0103	CP(T)-SP-BM-Length	CM(T)-P07 A-M-Length	
	200	MF3H-60CS30B(Z)1-502	DF3E-0206 Under development	CP(T)-SP-—Length	CM(1)-1 01 A-M-Length	
	200	MF3H-60CM30B(Z)1-502	DF3E-0206	CP(T)-SP-BM-Length		
	400	MF3S/H-60CS30B(Z)1-504	DESE 0410( A)(7)	CP(T)-SP-—Length	CM/T) D15 L +l-	
	400	MF3S/H-60CM30B(Z)1-504	DF3E-0410(-A)(Z)	CP(T)-SP-BM-Length	CM(T)-P15-Length	
Low inertia		MF3S-80CS30B(Z)2-507	DF3E-0720(Z)	CP(T)-SV-—Length	CM/T) V20 Longth	
DC48V	750	MF3S-80CM30B(Z)2-507	DI 3E 0120(2)	CP(T)-SV-BM-Length	CM(T)-V20-Length	
		MF3S-130CS30B2-515		CP(T)-SC-—Length	CM(T)-XL60-Length	
	1500	MF3S-130CS30BZ	MF3S-130CS30BZ2-515	DF3E-1540	CP(T)-SC-—Length	CMB(T)-XL60-Length
		MF3S-130CM30B2-515	DI 3L-1340	CP(T)-SC-B-Length	CM(T)-XL60-Length	
		MF3S-130CM30BZ2-515		CP(T)-SC-B-Length	CMB(T)-XL60-Length	

## Peripheral wiring diagram



## Terminal definition



#### CN0 port (E type)

Pin	Definition
1	CAN_H
2	CAN_L
3	CGND
4	485+
5	485-
6	GND

## CN4 port (Main circuit terminal)

Pin	Definition
1	PE
2	W
3	V
4	U
5	RB-
6	DC-
7	DC+/RB+
8	PE

#### \* Note: 1.RB+, RB- connect to external resistor. 2.DF3E-1540、DF3E-0206、DF3E-0410-A have no PE terminal.

#### CN1 port

Pin	Definition	Explanation
1	TXD	RS232 send
2	RXD	RS232 receive
3	GND	RS232 signal ground

#### CN3 port (communication encoder feedback)

Pin	Definition
1	5V
2	GND
3	/
4	/
5	485+
6	485-

## \*Note: the terminal functions of CN2 are divided into two types. One is non-brake model. The function of terminal 10 is SI4 and terminal 16 is empty. The other is the brake model. The function of terminal 10 is +24VS and terminal 16 is GNDS, which can be used in braking control.

D+5V D+24V SI1 SI2

\$I4/+24V\$ +24V \$01 \$02

SO3 COM

CN2 port

## Set the communication station number of low-voltage servo through the dial switch SW1~SW6

Station no.	SW1	SW2	SW3	SW4	SW5	SW6
1	ON	OFF	OFF	OFF	OFF	OFF
2	OFF	ON	OFF	OFF	OFF	OFF
3	ON	ON	OFF	OFF	OFF	OFF
63	ON	ON	ON	ON	ON	ON
64	OFF	OFF	OFF	OFF	OFF	OFF

## SW7,SW8 are used to control whether the internal terminal resistance of RS485 is turned on

RS485 internal terminal resistance				
SW7=ON	SW8=ON	ON		
SW7=OFF	SW8=OFF	OFF		

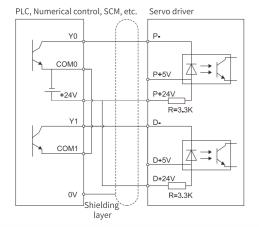
## SW9,SW10 are used to control whether the internal terminal resistance of CANbus is turned on

CAN internal terminal resistance				
SW9=ON	SW10=ON	ON		
SW9=OFF	SW10=OFF	OFF		

## Typical connection diagram

P+ D, CW, CCW, AB phase interface circuit wiring diagram:

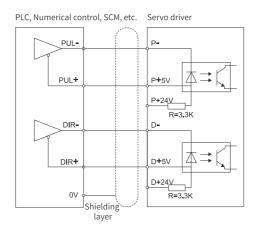
#### Collector open type (24V)



When the upper device adopts open collector output, this connection method is adopted. Please note that P+ 5V and D+ 5V are suspended.

\* Note: ① The power supply range of P-/P+24V, D-/D+24V is 18V~25V. If it is lower than 18V, the pulse and direction maybe abnormal.
② For anti-interference, be sure to use twisted pair shielded cable.

#### Differential mode (5V)



When the upper device adopts 5V differential output, this connection method is adopted. Please note that P+ 24V and D+ 24V are suspended.

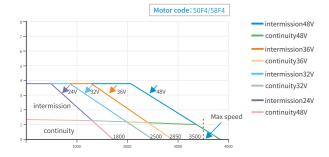
\*Note: ① The power supply range of P-/P+5V, D-/D+5V is 3.3V-5V. If it is lower than 3.3V, the pulse and direction maybe abnormal.

② For anti-interference, be sure to use twisted pair shielded cable.

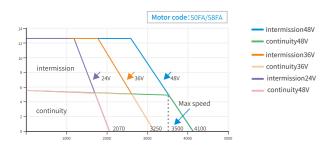
3 The servo pulse input port is turned on at 10mA.

## Torque frequency characteristic curve

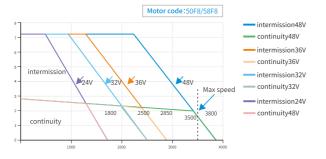
#### MF3S-60CS/CM30B1-504 MF3S-60CS/CM30BZ1-504



#### MF3S-130CS/CM30B2-515 MF3S-130CS/CM30BZ2-515



#### MF3S-80CS/CMB2-507 MF3S-80CS/CMBZ2-507



#### MF3H-60CS(CM)30B1-502



## Typical connection diagram (Unit: mm)

#### MF3H-60CS(CM)30B1-504



## Specification table

#### | Driver specification

Item		DF3E-0103 Under development	DF3E-0206 Under development	DF3E-0410(-A)	DF3E-0720	DF3E-1540	
Powe		100W	200W	400W	750W	1500W	
	power supply			DC24V-70V			
Rated outpu	Max continuous output current(Arms)	3	6	10	20	40	
current	Peak current(PEAK)	10	15	30	60	120	
	ler feedback		17bit co	mmunication encoder			
Comr	nunication mode		RS23	32,RS485,CANopen			
Comr	Using environment	C	peration: -10°C~40°C (no con	ndensation)/storage: -20	°C~60°C (no condensation	)	
	Ambient temperature		Operation/stora	ge: below 90%RH (no c	ondensation)		
Using environment environment Energy	Vibration and impact resistance		$4.9 \text{m/s}^2 / 19.6 \text{m/s}^2$				
=   environmen	Installation location		Places without dust, dry, vibration and corrosive substances				
2	Installation method	Vertical or horizontal installation					
Energ	y consumption braking	Can connect external brake resistor					
-	tion function	Overvoltage, undervoltage, overheating, overcurrent, overload, overspeed, excessive position deviation, output short circuit, encoder abnormality, regeneration abnormality protection, overtravel protection, oscillation protection, operation disconnection protection, etc.					
Load	hange rate	$0-100\%$ load: below $\pm 0.1\%$ (at rated speed)					
Voltag	ge change rate		Rated voltage	±10%: 0.01% (at rated	speed)		
	erature change rate	1008. 20±25°C: below ±0.1% (at rated speed)					
		4 channels digital input (3 channels digital input for brake models)					
5  ~	l input specification	Servo enable, alarm clear, no forward rotation, no reverse rotation, torque limit selection, internal speed selection, gear ratio switching, mode switching, pulse input prohibition, position deviation clear, internal position step change signal					
<u>5</u> .			3 chann	els digital output			
Digita	output specification	Positioning completed, servo ready, alarm output, speed arrival, rotation detection, torque limit output, same speed detection, brake release output				output, same	
Pulse	direction	Support P+D, AB phase, CW/CCW					

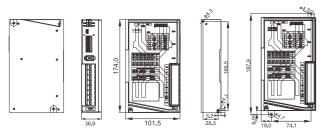
#### | Motor specification

Voltage level			DC	48V		
	3H	I <b>-</b> 60	3S-60	3S-80	3S-130	
Motor model MF	CS/CI	M30B1	CS/CM30B(Z)1	CS/CM30B(Z)2	130CS/CM30B(Z)2	
	502	504	504	507	515	
Rated power (W)	200	400	400	750	1500	
Rated current (A)	5	10	10	19.2	40	
Rated speed (rpm)	3000	3000	3000	3000	3000	
Max speed (rpm)	3500	3500	3500	3500	3500	
Rated torque (N.m)	0.64	1.27	1.27	2.39	4.8	
Max torque (N.m)	1.92	3.81	3.81	7.17	14.4	
Rotor inertia (10^-7kg.m2)	274	536	358.4 (374.9)	980 (1030)	15018 (15275)	
Static friction torque (N.m)	≥	1.3	≥1.3	≥2.5	≥15	
Bearing axial force (N)	7	74	74	147	300	
Bearing radial force (N)	2	45	245	392	600	
Inertia type	High	inertia		Lowinertia		
Pole-pair number			5	;		
Encoder bit			17			
Encoder type			Magnetism			
Cooling method			Natural	cooling		
Motor insulation level	CLASSF (155°C)					
Protection level			IP6	56		
Ambient temperature			-15°C~+40°C(no f	reezing)Relative		
sing environment Ambient humidity			humidity < 90% (r	no condensation)		

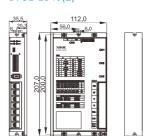
## Low voltage servo driver

Installation dimension diagram (unit: mm)

#### DF3E-0720(Z)/ DF3E-0410(Z)



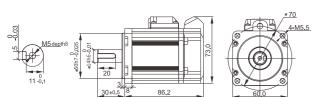
#### DF3E-1540(Z)

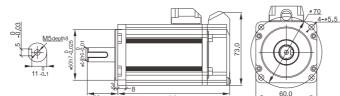


### Low voltage servo motor

Motor model	Inertia type
MF3H-60CS/CM30B1-502	High inertia

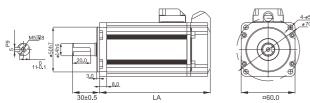
Matarmadal	LA		the state of the same
Motor model	Normal	With brake	Inertia type
145011 60 60 (0140 604 504			100 1 0 00





Motor model	LA		to cost o some
Motor model	Normal	With brake	Inertia type
ME3S-60CS/CM30B(7)1-504	123.5	155.5	Low inertia

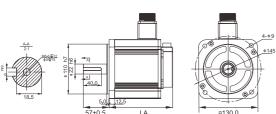
Motor model	LA		to contract of	
Motor modet	Normal	With brake	Inertia type	
ME3S_80CS/CM30B(7)2_507	122.0	155.0	Lowinertia	



Motor model MF3S-130CS/CM30B(Z)2-515

235

15.5-0.1	25.0	80 LA	4-96.5
	' 35±0.5 '	LA	U0U.U



## Two in one servo system

## More accurate positioning Faster response **Support gantry synchronization**

#### DM5F series

Flat appearance structure design, convenient wiring and saving installation space Support gantry synchronization and realize double-axis accurate and CANopen

Support Modbus RTU, EtherCAT communication protocols

More accurate positioning and faster response

Support position, speed, torque mode, multi-mode seamless

Power::0.1kW~1.0kW Interface: pulse, RS232, RS485

Control mode: position control, speed control,

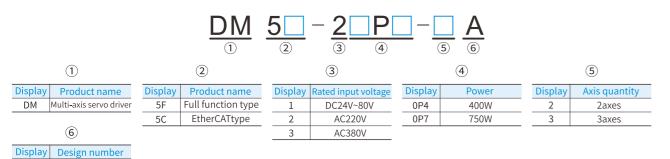


Note: Refer to the subsequent list for the models that have been put into operation. Some models have not been put into operation. Please look forward to it.

\*Note: 750W driver can match the motor of 400W and 750W.

## Naming rule

A Design no.A



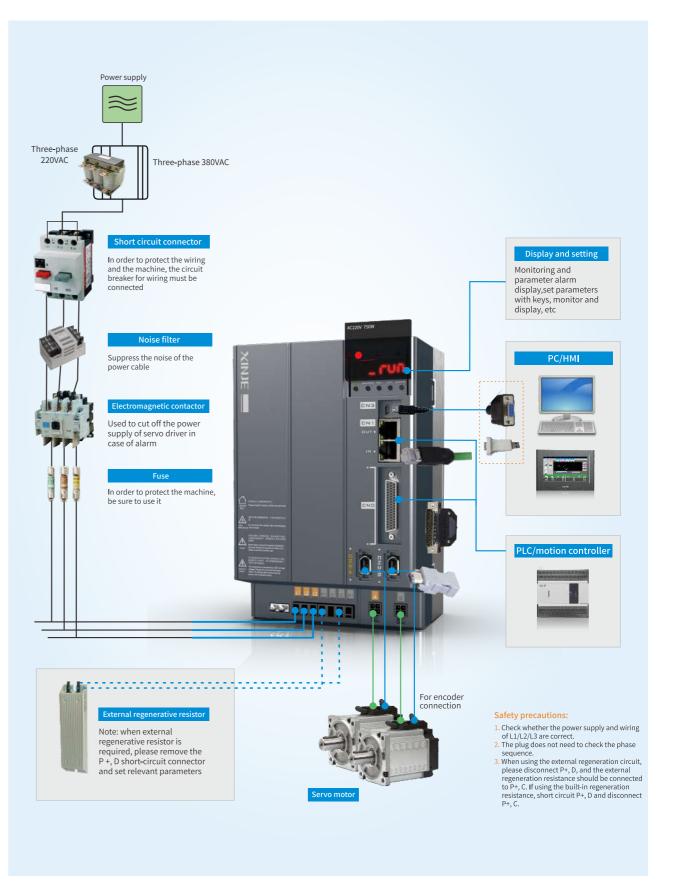
## Driver model list

Series	series AC220V	Rated power(W)	Diquantity	Doquantity
DM5 Series AC220V	DM5F-20P4-2A	400	6	6
DIVID Series AC220V	DM5F-20P7-2A	750	6	6

## Driver specification

	Item	DM5F series general model
	Power range	0.1kW~1kW
	Input power supply	Single phase/three-phase 200~240V, 50~60Hz
	Encoder feedback	17bit/23bit communication encoder
	Control mode	Three-phase full wave rectifier IPM, PWM control, sine wave current drive mode
0	Ambient temperature	Operation: -10°C~40°C (no condensation)/storage: -20°C~60°C (no condensation)
ĬŽ.,	Ambient humidity	Operation/storage: below 90% (no condensation)
environment	Vibration and impact resistance	4.9m/s² / 19.6m/s²
et et	Installation place	Places without dust, dry, vibration and corrosive substances
8	Installation mode	Vertical or horizontal installation
ment Functi	Protection function	Overvoltage, undervoltage, overheating, overcurrent, overload, overspeed, analog input abnormality, excessive position deviation, output short circuit, encoder abnormality, regeneration abnormality protection, overtravel protection, oscillation protection, phase loss protection, etc
ti   nct	Dynamic brake	None
Function	Communication	RS232: standardModbusRTUprotocol RS485: standardModbusRTUprotocol
	Brake resistor	Built-in brake resistor, can connect external brake resistor
	Display and operate	5 digits LED indicator light, power indicator, 2 operation indicators and 5 keys
Output state ABZ differential feedback output		
output	Frequency division funnction	Yes
7-1	Collector Z phase output	Yes
		6 channels digital input
5	Digital input	Servo enable, alarm clear, no forward rotation, no reverse rotation, torque limit selection, internal speed selection, gear ratio switching, mode switching, pulse input prohibition, position deviation clear, internal position step change signal
5		6 channels digital input
<u> </u>	Digital output	Positioning completed, servo ready, alarm output, speed arrival, rotation detection, torque limit output, same speed detection, brake release output and frequency division output
Pu	lse direction control	Support P+D, AB phase, CW/CCW
- Ма	x pulse frequency	Collector open: 200kpps, differential input 500kpps
Pos. Pu	lse command mode	3.3~5V/18~24V pulse+direction, AB phase pulse, CW/CCW signal
Co Fee	ntrol mode	External pulse, internal position
6 Fee	dforward compensation	0~100% (set the resolution to 1%)
Pos	sitioning completion width	0∼65535 command unit (set the resolution to 1 command unit)
Ele	ctronic gear ratio	1/10000≤B/A≤10000
Co	ntrol mode	Internal 3-segment speed, external speed mode
Co	mmand smooth mode	Low pass filter, smoothing filter
S An	alog input	None
E To	rque limit	Internal parameter
Speed To		When the external load rated change is $0^{-1}00\%$ of load: below $\pm 0.01\%$ (at rated speed)
Sp	eed change rate	Rated voltage ±10%: ±0.01% (at rated speed)
		Ambient temperature 20 $\pm$ 25°C: below $\pm$ 0.01% (at rated speed)
Co	ntrol mode	Internal torque
Speed An	alog input	None
Sp	eed limit	Internal parameter

## Peripheral wiring diagram



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## Peripheral wiring diagram

### | Terminal definition

#### ① CN3 port (RS232)

Pin	Name	Explanation
1	TXD	RS232 send
2	RXD	RS232 receive
3	GND	RS232 signal ground

#### 2 Main circuit terminals

Terminal	Function	Explanation
Terrimat		
L1,L2,L3	Main circuit power supply input terminal	Single/three phase AC 200~240V, 50/60Hz
	Use built-in regenerative resistor	Short circuit P+ and D, disconnect P+ and C
P+\D\C	Use external regenerative resistor	Connect the regeneration resistance to P+ and C, remove the short connectors of P+ and D, and set P0-25=power value, P0-26=resistor value
P+、P-	Bus terminal	The real-time voltage of the bus can be measured, please pay attention
	P+、D、C	L1.L2.L3  Main circuit power supply input terminal Use built-in regenerative resistor  P+.D.C  Use external regenerative resistor



#### ③ CN0 port

Pin	Name	Explanation	Pin	Name	Explanation
1	P1-	Axis 1 pulse -	23	SI5	Input terminal
2	P1+5	Axis 1 pulse +5V	24	SI6	High speed input terminal
3	P1+24	Axis 1 pulse +24V	25	+24V	Common terminal of input
4	D1-	Axis 1 direction -	26	SO1-2	Axis 2 output terminal (500mA)
5	D1+5	Axis 1 direction +5V	27	SO2-2	Axis 2 output terminal (50mA)
6	D1+24	Axis 1 direction +24V	28	SO3-2	Axis 2 output terminal (50mA)
7	SI1	Input terminal	29	СОМ	Common terminal of output
8	SI2	Input terminal	30	NC	Vacant terminal
9	SI3	High speed input terminal	31	OA1+	Axis 1 encoder frequency division output OA+
10	+24V	Common terminal of input	32	OA1-	Axis 1 encoder frequency division output OA-
11	SO1-1	Axis 1 output terminal (500mA)	33	OB1+	Axis 1 encoder frequency division output OB+
12	SO2-1	Axis 1 output terminal (50mA)	34	OB1-	Axis 1 encoder frequency division output OB-
13	SO3-1	Axis 1 output terminal (50mA)	35	OZ1+	Axis 1 encoder frequency division output OZ1+
14	СОМ	Common terminal of output	36	OZ1-	Axis 1 encoder frequency division output OZ1-
15	NC	Vacant terminal	37	GND	Frequency division output ground
16	P2-	Axis 2 pulse –	38	OA2+	Axis 2 encoder frequency division output OA+
17	P2+5	Axis 2 pulse +5V	39	OA2-	Axis 2 encoder frequency division output OA-
18	P2+24	Axis 2 pulse +24V	40	OB2+	Axis 2 encoder frequency division output OB+
19	D2-	Axis 2 direction -	41	OB2-	Axis 2 encoder frequency division output OB-
20	D2+5	Axis 2 direction +5V	42	OZ2+	Axis 2 encoder frequency division output OZ+
21	D2+24	Axis 2 direction +24V	43	OZ2-	Axis 2 encoder frequency division output OZ-
22	SI4	Input terminal	44	GND	Frequency division output ground

#### 4 CN2 port

Pin	Name
1	5V
2	GND
3	/
4	/
5	485 <b>-</b> A
6	485-B

#### ⑤ CN1 port (from down to up)

Pin	Name	Pin	Name
1	/	7	/
2	/	8	/
3	/		
4	485-A		
5	5 485-B		
6	485-GND		

#### 6 Motor power terminals

Pin	Name
1	V
2	U
3	W
4	PE

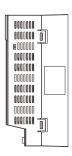
## Driver motor matching list

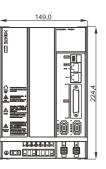
### DM5F matched MS6 motor

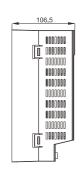
Power(kw)	Inertia level	Motor model	Matched driver	Voltage level	Encoder cable	Power cable	Brake cable	Cable accessories package
		MS6H-60CS30B1-20P2			CP(T)-SP-Length	CM(T)-PP07-M-Length	/	JAM-P9-P4-P4
0.2	High inertia	MS6H-60CM30B1-20P2	DM5F-20P4-2A		CP(T)-SP-BM-Length	CM(T)-PP07-M-Length	/	JAM-P9-P4-P4
0.2 0.4 0.75	nign inertia	MS6H-60CS30BZ1-20P2			CP(T)-SP-M-Length	CM(T)-PP07-M-Length	CB(T)-P03-Length	JAM-P9-P4-P4-P2
		MS6H-60CM30BZ1-20P2			CP(T)-SP-BM-Length	CM(T)-PP07-M-Length	CB(T)-P03-Length	JAM-P9-P4-P4-P2
	Low inertia	MS6S-60CS30B1-20P4			CP(T)-SP-M-Length	CM(T)-PP07-M-Length	/	JAM-P9-P4-P4
		MS6S-60CM30B1-20P4			CP(T)-SP-BM-Length	CM(T)-PP07-M-Length	/	JAM-P9-P4-P4
		MS6S-60CS30BZ1-20P4			CP(T)-SP-M-Length	CM(T)-PP07-M-Length	CB(T)-P03-Length	JAM-P9-P4-P4-P2
0.4		MS6S-60CM30BZ1-20P4			CP(T)-SP-BM-Length	CM(T)-PP07-M-Length	CB(T)-P03-Length	JAM-P9-P4-P4-P2
0.4		MS6H-60CS30B1-20P4	DM5F-20P4/20P7-2A		CP(T)-SP-M-Length	CM(T)-PP07-M-Length	/	JAM-P9-P4-P4
	High inertia	MS6H-60CM30B1-20P4			CP(T)-SP-BM-Length	CM(T)-PP07-M-Length	/	JAM-P9-P4-P4
	I ligit illertia	MS6H-60CS30BZ1-20P4			CP(T)-SP-M-Length	CM(T)-PP07-M-Length	CB(T)-P03-Length	JAM-P9-P4-P4-P2
		MS6H-60CM30BZ1-20P4	1		CP(T)-SP-BM-Length	CM(T)-PP07-M-Length	CB(T)-P03-Length	JAM-P9-P4-P4-P2
		MS6S-80CS20B1-20P7			CP(T)-SP-M-Length	CM(T)-PP07-M-Length	/	JAM-P9-P4-P4
		MS6S-80CM20B1-20P7			CP(T)-SP-M-Length	CM(T)-PP07-M-Length	/	JAM-P9-P4-P4
	Low inertia	MS6S-80CS20BZ1-20P7		AC 220V	CP(T)-SP-BM-Length	CM(T)-PP07-M-Length	CB(T)-P03-Length	JAM-P9-P4-P4-P2
		MS6S-80CM20BZ1-20P7			CP(T)-SP-M-Length	CM(T)-PP07-M-Length	CB(T)-P03-Length	JAM-P9-P4-P4-P2
		MS6H-80CS20B1-20P7	1		CP(T)-SP-BM-Length	CM(T)-PP07-M-Length	/	JAM-P9-P4-P4
	High inertia	MS6H-80CM20B1-20P7	-		CP(T)-SP-M-Length	CM(T)-PP07-M-Length	1	JAM-P9-P4-P4
		MS6H-80CS20BZ1-20P7	1		CP(T)-SP-BM-Length	CM(T)-PP07-M-Length	CB(T)-P03-Length	JAM-P9-P4-P4-P2
		MS6H-80CM20BZ1-20P7	1		CP(T)-SP-M-Length	CM(T)-PP07-M-Length		JAM-P9-P4-P4-P2
0.75	Low inertia	MS6S-80CS30B1-20P7	DM5F-20P7-2A		CP(T)-SP-BM-Length	CM(T)-PP07-M-Length	/	JAM-P9-P4-P4
		MS6S-80CM30B1-20P7	1		CP(T)-SP-M-Length	CM(T)-PP07-M-Length	1	JAM-P9-P4-P4
		MS6S-80CS30BZ1-20P7	-		CP(T)-SP-BM-Length	CM(T)-PP07-M-Length	CB(T)-P03-Length	JAM-P9-P4-P4-P2
		MS6S-80CM30BZ1-20P7	-		CP(T)-SP-M-Length	CM(T)-PP07-M-Length	CB(T)-P03-Length	JAM-P9-P4-P4-P2
	High inertia	MS6H-80CS30B1-20P7	-		CP(T)-SP-BM-Length	CM(T)-PP07-M-Length	/ /	JAM-P9-P4-P4
		MS6H-80CM30B1-20P7	-		CP(T)-SP-M-Length	CM(T)-PP07-M-Length	1	JAM-P9-P4-P4
		MS6H-80CS30BZ1-20P7	-		CP(T)-SP-BM-Length	CM(T)-PP07-M-Length	CB(T)-P03-Length	JAM-P9-P4-P4
		MS6H-80CS30BZ1-20P7 MS6H-80CM30BZ1-20P7	-		CP(T)-SP-BM-Length	CM(T)-PP07-M-Length		JAM-P9-P4-P4-P2
80 flang	a and holow	small aviation plug model matchi	ng list		CI (1)-SI -DM-Length	CM(T)-FF07-M-Letigui	CB(1)-P03-Length	JAM-P9-P4-P4-P2
oo italig	C and below	MS6S-60CS30B2-20P4	ing tist		CP(T)-SV-M-Length	CMT-PV07-M-Length	/	JAM-V7-V4-P4
	-	MS6S-60CM30B2-20P4	-		CP(T)-SV-BM-Length	CMT-PV07-M-Length	/	JAM-V7-V4-P4
	Low inertia	MS6S-60CS30BZ2-20P4	-		/ /	/	/	JAM-V7-V6-P4
		MS6S-60CM30BZ2-20P4	-	A	/	/	/	JAM-V7-V6-P4
0.4		MS6H-60CS30B2-20P4	DM5F-20P4/20P7-2A		CP(T)-SV-M-Length	CMT-PV07-M-Length	/	JAM-V7-V4-P4
		MS6H-60CM30B2-20P4	-		CP(T)-SV-BM-Length	CMT-PV07-M-Length	/	JAM-V7-V4-P4
	High inertia		-		CI (I)-3V-DM-Leligtii	CMT-I VOT-M-Letigui	/	
	-	MS6H-60CS30BZ2-20P4	-		/	/	/	JAM-V7-V6-P4
		MS6H-60CM30BZ2-20P4			CP(T)-SV-M-Length	CMT-PV07-M-Length	/	JAM-V7-V6-P4
		MS6S-80CS20B2-20P7	_		CP(T)-SV-M-Length	CMT-PV07-M-Length	/	JAM-V7-V4-P4
	Low inertia	MS6S-80CM20B2-20P7	-		CP(T)-SV-BM-Length	CMT-PV07-M-Length	/	JAM-V7-V4-P4
		MS6S-80CS20BZ2-20P7	-		/	/	/	JAM-V7-V6-P4
		MS6S-80CM20BZ2-20P7	-	AC 220V	CD(T) CV M I am at la	CMT DV07 M I I	/	JAM-V7-V6-P4
		MS6H-80CS20B2-20P7	_		CP(T)-SV-M-Length	CMT-PV07-M-Length	/	JAM-V7-V4-P4
	High inertia	MS6H-80CM20B2-20P7	4		CP(T)-SV-BM-Length	CMT-PV07-M-Length	/	JAM-V7-V4-P4
	"	MS6H-80CS20BZ2-20P7	4		/	/	/	JAM-V7-V6-P4
0.75		MS6H-80CM20BZ2-20P7	DMEE 2007 24		/	/	//	JAM-V7-V6-P4
		MS6S-80CS30B2-20P7	DM5F-20P7-2A		CP(T)-SV-M-Length	CMT-PV07-M-Length	/	JAM-V7-V4-P4
	Low inertia	MS6S-80CM30B2-20P7	_		CP(T)-SV-BM-Length	CMT-PV07-M-Length	/	JAM-V7-V4-P4
		MS6S-80CS30BZ2-20P7			/	/	/	JAM-V7-V6-P4
		MS6S-80CM30BZ2-20P7			/	/	/	JAM-V7-V6-P4
		MS6H-80CS30B2-20P7			CP(T)-SV-M-Length	CMT-PV07-M-Length	/	JAM-V7-V4-P4
	High inertia	MS6H-80CM30B2-20P7			CP(T)-SV-BM-Length	CMT-PV07-M-Length	/	JAM-V7-V4-P4
	High inertia	MS6H-80CS30BZ2-20P7			/	/	/	JAM-V7-V6-P4

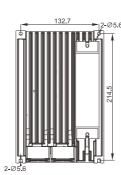
## Installation dimension (Unit: mm)

DM5F-20P4-2A、DM5F-20P7-2A











# Frequency conversion system

VH6·VHL·VH5·VH1

VH6 frequency inverter

## VH6 fully functional closed-loop vector inverter

VH6 series is a fully functional closed-loop vector converter developed by Xinje company. The product adopts vector control technology, which realizes the open-loop and closed-loop vector control of asynchronous and synchronous motors, and also strengthens the reliability and environmental adaptability of the product. In addition, the product provides a wealth of expansion cards for customers to choose from to meet customers' diversified needs.



#### Panel

- LCD and LED keyboard are rich in information and convenient for debugging
- It has multi-functional combination keys, which can realize remote and local switching, emergency shutdown, etc
- The LCD panel contains a parameter storage chip, which is convenient for users to store, upload and download parameters. It is especially suitable for batch supporting customers, which can greatly save debugging time and improve installation efficiency
- Support up to 5m extension cable



#### I/O Expansion Card

- I/O terminals with different functions are designed in different colors, which greatly reduces the probability of user wiring errors
- The terminals are pluggable for easy maintenance and replacement
- Quick wiring of spring terminals, no need to worry about screw slip



#### Motor adaptability

- Support asynchronous motor, synchronous motor
- Support three control modes VVF / open loop vector / closed loop vector



#### Multifunctional Network Port

- Connect the LCD panel to realize dialogue interaction
- Connect the debugging software, observe the motion waveform and effectively analyze the problem
- The inverter software is easy to upgrade



#### Appearance and protection

- The new narrow book body design saves installation space
- EMC and high protection design, stable operation of equipment
- The built-in circuit board has enhanced protection, which can effectively resist the harsh environment such as humidity, corrosion and dust



#### PG card feedback

- Support photoelectric encoder and rotary encoder, suitable for high-precision driving occasions
- PG card supports 0 to 63 arbitrary frequency division multiple
   output
- Support differential, collector and push-pull signal input

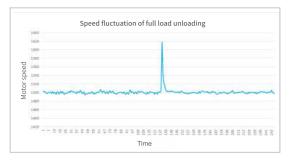


#### Networking function

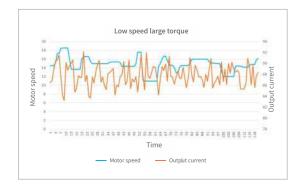
- Optional communication card CANopen and EtherCAT, networking with control products
- Modbus communication is equipped with 32 groups of customer free mapping addresses to realize continuous reading of parameters
- The two-channel network ports are in from the bottom and out from the top, with switch function, and the wiring is clean and concise

## Excellent Product Performance

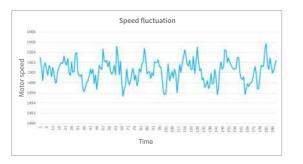
#### I Excellent performance



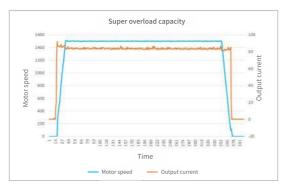
The speed fluctuation of VH6 series frequency converter driving the motor to suddenly reduce to no-load at rated torque and speed, and recovering the speed within 2 seconds



When the VH6 series frequency converter drives the motor at 0.5Hz, the torque output is as high as 180%, reflecting the strong low-frequency torque performance.

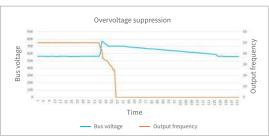


The speed fluctuation of VH6 series frequency converter driving the motor at rated torque and speed is stable at +0.2%

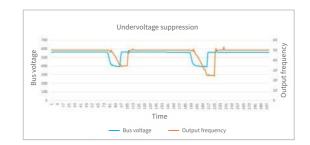


VH6 series frequency converter drives the motor to drive the load. The maximum overload can reach 180% and last for 3 seconds.

### | Perfect protection mechanism



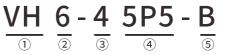
Overvoltage suppression is that when the bus voltage reaches or exceeds the bus overvoltage suppression point, the frequency converter will automatically adjust the operation frequency to suppress the rise of bus voltage, so as to ensure that the frequency converter will not cause overvoltage protection due to high bus voltage.



Undervoltage suppression is that when the bus voltage drops to the bus undervoltage suppression point, the frequency converter will automatically adjust the operation frequency, so as to ensure that the frequency converter will not report undervoltage fault due to low bus voltage in a short time. Once the power supply is restored within the validity period of undervoltage suppression, the frequency converter can continue to operate normally.

## Naming Rule

#### I VH6 frequency inverter naming rule



#### 1) Product code

③ Input voltage level

Sign	Name
VH	General frequency inverter

#### ② Product series

Sign	Name
6	Fully functional closed-loop vector converter (asynchronous motor)
6S	Fully functional closed-loop vector converter (synchronous motor)

#### ⑤ Brake unit

Sign	Brake unit
В	Built-in brake unit
Vacant	No

#### 4 Power level

Sign	Power level (kW)	
0P7	0.75	
1P5	1.5	
•••	•••	
5P5	5.5	
•••		
011	11	
018	18.5	
055	55	
075	75	
090	90	
110	110	

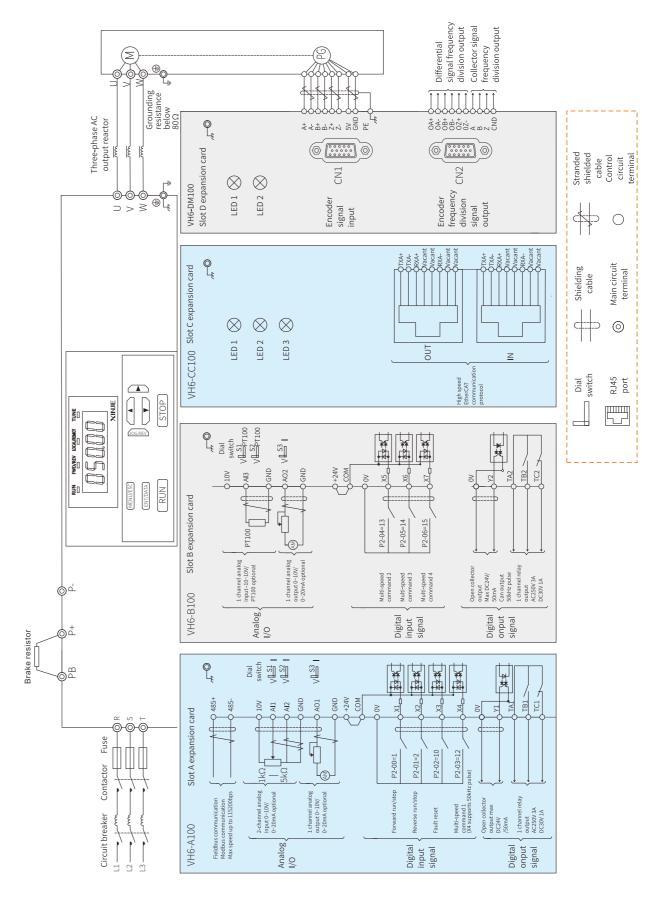
## Technical Parameters

Model	Power supply capacity (KVA)	Input current (A)	Output current (A)	Adaptive motor (kW)
		Three-phase 380V 50/60Hz		
VH6-43P7-B	5.9	11.0	9.0	3.7
VH6-45P5-B	8.9	14.6	13.0	5.5
VH6-47P5-B	11.0	20.5	17.0	7.5
VH6-4011-B	17.0	26.0	25.0	11.0
VH6-4015-B	21.0	35.0	32.0	15.0
VH6-4018-B	24.0	38.5	37.0	18.5
VH6-4022-B	30.0	46.5	45.0	22.0
VH6-4030-B	40.0	62.0	60.0	30.0
VH6-4037-B	63.0	69.0	75.0	37.0
VH6-4045-B	81.0	89.0	90.0	45.0
VH6-4055-B	97.0	106.0	110.0	55.0
VH6-4075-B	127.0	139.0	152.0	75.0
VH6-4090-B	150.0	164.0	176.0	90.0
VH6-4110-B	179.0	196.0	210.0	110.0
VH6-4132	220.0	240.0	253.0	132.0
VH6-4160	263.0	287.0	304.0	160.0
VH6-4185	293.0	343.0	360.0	185.0
VH6-4200	334.0	365.0	377.0	200.0
VH6-4220	375.0	410.0	426.0	220.0
VH6-4250	404.0	441.0	465.0	250.0
VH6-4280	453.0	495.0	520.0	280.0
VH6-4315	517.0	565.0	585.0	315.0
VH6-4355	565.0	617.0	650.0	355.0
VH6-4400	629.0	687.0	725.0	400.0
VH6-4450	716.0	782.0	820.0	450.0

## Technical Specifications

	Item name	VH6 high performance	closed loop vector frequency	inverter specification					
	Power range	3.7kW~450kW							
Input	Rated voltage, frequency	Three-phase 380V: three-phase 380V,	50/60Hz						
iii pac	Allowable voltage fluctuation range	Three-phase 380V: 320~440V							
Output	Voltage	0~input voltage							
	Frequency Control motor type	0~600Hz	net synchronous motor, variable frequency	motor					
	Control mode	Vector control with speed sensor (FVC							
	Speed precision	±0.2%	±0.5%	±1%					
	Speed fluctuation	±0.2%	±0.3%	±0.5%					
	Speed regulation range	1:2000	1:100	1:50					
Control	Startup torque	0Hz:180%	0.5Hz:150%	1.0Hz:150%					
performance	Torque accuracy	±5% rated torque	±10% rated torque	/					
	Torque response	≤10ms	≤20ms	/					
	Overload ability	150% rated current 60s	la hiab fuarusa a caratina ara da 0 111a						
	Frequency precision		Iz, high frequency operation mode: 0.1Hz						
	Frequency resolution	High frequency operation mode: digit	al setting 0.01Hz, analog setting max free al setting 0.1Hz, analog setting max free	quency ×0.1%					
Control	Digital input channel	3-channel (X5~X7), X4 can support ma	has 4-channel (X1~X4), resolution is less tha x 50kHz high speed pulse input	an 2ms, card B has					
terminal input	Analog input channel	1 channel (AI3).	A has 2-channel (AI1, AI2), resolution is less tut, AI3 support -10~10V input, can support F						
Control	Digital output channel		A has 1 channel (Y1) + 1 channel (TA1TB1TC)						
terminal	orgital output challier		2).Y2 can support max 50kHz high speed pul						
output	Analog analog channel	Up to 2-channel analog output AO, ca AO1, AO2 support the output 0~10V o	rd A has 1 channel (AO1), card B has 1 chann r 0~20mA	nel (AO2)					
	Start command given mode		pen, EtherCAT), operate panel given, termin						
	Frequency given mode	Communication given (Modbus, CANopen, EtherCAT), operate panel given, terminal given, analog Al given, multi-speed given, simple PLC given, PID main and auxiliary given							
Product performance	Typical function	Frequency main and auxiliary operation, no reverse rotation, torque increase, nine VF curve settings, five section AI curve settings, acceleration and deceleration curve settings, terminal delay and filtering, terminal multi-functional input and output, DC braking, dynamic braking, jog operation, 16-section speed, built-in two-channel PID, speed tracking restart, carrier modulation, fault recording, fault self reset, pre-excitation start, 30 groups of user-defined parameters							
	Important function	Carrier modulation, torque control, motor self-tuning, current limiting control, overvoltage control, undervoltage control, speed tracking, droop control, oscillation suppression, overvoltage overcurrent stall control, automatic voltage regulation (AVR), automatic energy-saving operation, etc							
	Protection function	Power on motor short circuit detection, input and output phase loss protection, overcurrent protection, overvoltage protection, overload protection, underload protection, overcurrent overvoltage stall protection, relay pull in protection, terminal protection, instantaneous power failure nonstop, etc.							
	Dynamic braking	380V level driver: brake unit braking voltage: 650~750V. 3.7kW~110kW models have built-in brake unit, please connect brake resistor between P+ and PB							
	DC reactor	18.5kw and above models are built-in	DC reactors						
	Common DC bus		he frequency converter decelerates, improve and save the additional space and cost requ						
	Multiple bus support	Standard Modbus, can expand EtherCAT, CANopen							
	Multiple encoder support	Differential input encoder, OC input encoder, rotary encoder							
	LCD panel	LCD display, parameter setting, status monitoring, parameter copy, fault analysis and location, program download, mass storage of parameters							
Features	Instant stop nonstop	In case of instantaneous power failure, the load feedback energy compensates for the reduction of voltage to maintain the continuous operation of the frequency converter in a short time							
function	Timing control	U U	ning control function: time range 0.1min~6500min						
ranca011	Multi-motor switching		realize the switching control of two motors						
	Motor overheating protection	Al3 supports PT100 sensor signal input							
	Flexible and diversified terminal functions	There are 51 kinds of multifunctional terminals X, 41 kinds of terminals Y, and 19 kinds of logic function options AO, which meet the requirements of general frequency converter control functions							
	Communication customization parameters Software		rite the parameters of the frequency conver s to facilitate on-site data acquisition and de						
				00 0					
Display and	Keyboard display  Key lock	and other parameters  Realize partial or full locking of keys to		equency, output voltage, output current, input and output status					
keyboard			meter keyboard, optional LCD English displa	v kevboard					
,	Parameter copy	(parameter upload/download)	neyboara, optional Leb English displa	,yoodid					
	Optional accessories	3 1 2 2	therCAT, CANopen), encoder PG card (incre	mental pulse, resolver)					
	Place of use	Indoor, free from direct sunlight, no d	ust, corrosive gas, combustible gas, oil mist,	water vapor, drip or salt					
	Altitude	Less than 1000m (When it is higher th rated current for each increase of 100	an 1000m, the output current needs to be red)m)	duced by about 10% of the					
	Ambient temperature		nhance the heat dissipation when ambient t	emperature is 40°C~50°C)					
Environment	Ambient humidity	Less than 95%RH, no condensation o	water droplets						
	Vibration	Less than 5.9m/s2 (0.6g)							
	Storage temperature	-40°C~+70°C							
	Protection level	IP20							
	Cooling mode	Forced air cooling							

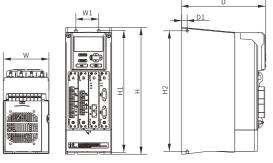
## Terminal Wiring Diagram



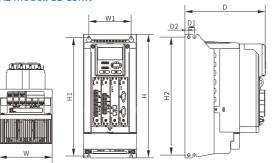
## Installation Dimension (Unit: mm)

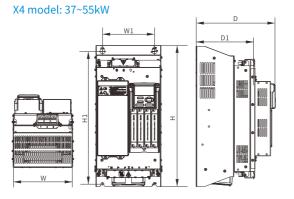
#### X1 model: 3.7~7.5kW

X3 model: 18-30kW

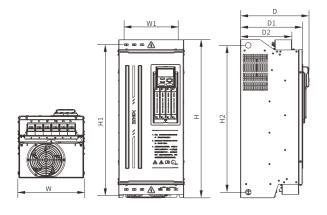


X2 model: 11-15kW

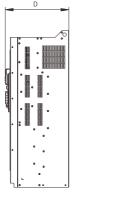


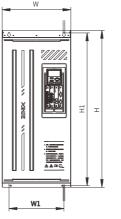


#### X5 model: 75-110kW

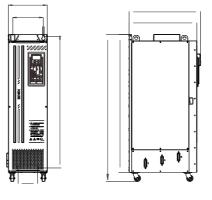


X6 model: 132~160kW

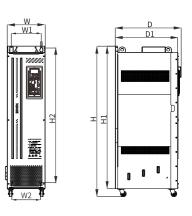




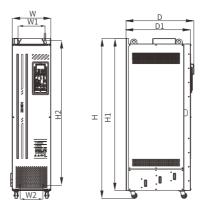
#### X7 model: 185~220kW



X8 model: 250~280kW



#### X9 model: 315~450kW



Voltage	Driver model	Ov	erall inst	tallation	dimensi	on (widt	h×heigl	nt×dept	:h)			Mounting screw	Weight
level	el Dilvermodel	Body code	W	Н	D	W1	W2	H1	H2	D1	D2	specification	(Kg)
	VH6-43P7-B						/	290	290				
	VH6-45P5-B	X1	110	305	202	55				14	/	M5	4
	VH6-47P5-B												
	VH6-4011-B	- X2	150	350	228	120	/	335	334	27	11	M6	5.7
	VH6-4015-B	//Z	150	330	220	120	/	333	334	21	11	IVIO	J.1
	VH6-4018-B												
	VH6-4022-B	Х3	150	417	228	120	/	402	402	27	11	M6	10
	VH6-4030-B												
	VH6-4037-B				287.9	188	/	490	/	213.9	/	M8	
	VH6-4045-B	X4	235.6	510									25
	VH6-4055-B												
380V	VH6-4075-B	X5 X6	290	705	306	240	/	683	635	276.5	229	M8	45
380V	VH6-4090-B												
	VH6-4110-B												
	VH6-4132		400	915	371	320	/	890	/ /	/	/	M8	80
	VH6-4160	Λ0	100	313	3/1	320	/	030	/	,	/	1110	
	VH6-4185	X7			553.5								100
	VH6-4200		300	1135		240	150	1065	1025	524	/	M12	
	VH6-4220												
	VH6-4250	X8	330	1310	590	235	250	1240	1162.5	560.5	/	M12	120
	VH6-4280	Λ0	330	1010	330	255	250	1210	1102.0	300.3		11112	120
	VH6-4315												
	VH6-4355	Х9	340	1415	597	240	200	1345	1280	567.5	/	M12	155
	VH6-4400	//3	370	1413	551	270	200	1373	1200	301.3	′	14177	133
	VH6-4450												

Panel size

251

VH6-PE100

ENT/DATA

RUN - FTOP - RESET

## Accessory Description

## Standard I/O card

VH6-A100



1 channel RS485 communication + 2 channels AI +1 channel AO + 4 channels bipolar input + 1 channel YT + 1 channel YR

#### Expansion I/O card VH6-B100



CANopen communication card VH6-CN100



The expansion interface card specially designed for CANopen protocol is suitable for Xinje frequency converter. Xinje frequency converter can be connected to CANopen network and exist as a lave station through this card.

#### Panel mounting bracket drawing

#### VH6-PE100/VH6-PC100 VH6-PE200 81.5±0.3 The shaded area is the opening are Panel mounting bracket instructions Panel mounting bracket instructions The gray area represents the hollowed out area, with a central hollowed out Make holes on the outer surface of the required installation position according to area of 84.6× 101.5 and a four corner hollowed out area with a diameter of the dimensions on the drawing, then remove the panel from the slot on the body 4.34 circle. M4 screws and nuts are placed to fix the bracket on the door and install it on the panel base. Then, install the panel into the hole and gently push it into place to complete the installation.

VH6-PC100

VH6-PE200

RUM PHO LOOK TUNE

RUN STOP

MUNE ESC

#### EtherCAT communication card VH6-CC100



The expansion interface card specially designed for EtherCAT protocol is suitable for Xinje frequency converter. Xinje frequency converter can be connected to EtherCAT network and exist as a slave station through this card.

### Simple incremental encoder PG card



It is used for receiving and detecting motor encoder signal by frequency converter. The frequency converter can control the motor speed and torque more accurately. The types of encoder signals that this PG card can receive are: differential type, NPN collector open circuit, push-pull type. However, this PG card does not support frequency division output function.

### LCD panel VH6-PE100

The panel is LED display, which can set parameters, monitor the operation status of the frequency converter and operate the frequency converter



#### Upper computer connection cable JC-EV-15

To connect the frequency inverter and PC, to connect the frequency inverter software



### Panel expansion cable

JC-RD-20

The extension cable of the operation panel is a standard network cable, which only provides 2 or 3 meters. Users can also make other lengths of network cables by



#### Mounting base VH6-DPANEL

Base of VH6 frequency converter operation panel during extension installation.



#### LCD panel VH-PC100

The panel adopts LCD display, which can set parameters, upload and download parameters, monitor the operation status of the frequency converter, and facilitate the debugging of the frequency converter.



#### Knob panel VH6-PE200

The panel uses a knob to adjust the speed, which can set parameters, monitor the operation status and facilitate the speed control of the frequency converter.



#### Expansion card protection cover VH6-A100-PC

It can be used for protection of VH6 converter A/B expansion card. Model: VH6-A100-PC



## Typical Application Industry

It is applicable to machine tools, air compressors, papermaking, oil fields, municipal engineering, plastic machinery industry, metal processing, textile industry, printing and packaging, ceramic machinery, wood processing, cable processing, sewage treatment and other fields.



















## VH1 open-loop vector VFD

The VH1 series is a single-phase 220VAC and three-phase 380VAC open-loop vector frequency converter launched by Xinje Company based on the market demand for small power, small volume, and simple speed regulation. As an economical frequency converter with small volume and large capacity, the VH1 series has significant advantages such as high EMC specification design and high protection. It can be widely used in small automated application machinery represented by woodworking carving, food canning, automated production lines, packaging equipment, logistics conveyor lines, edge banding machines, etc.

#### Operate panel

- Adjustable knob design for simpler speed regulation
- Multifunctional indicator light, rich in information and impressions



- Standard RS485 communication, building a multi-axis control
- system

A brand new ARM platform system that supports both asynchronous and synchronous motors



## Appearance and protection

- Small volume, compact and exquisite design
- Guide rails side by side installation, saving time and effort
- Strengthening the coating to improve product protection, easily facing oil mist, moisture, and corrosion environment
- The entire series is equipped with built-in RFI filters, effectively reducing EMC external interference and ensuring stable equipment operation
- Full range of modular machines to enhance product stability
- Supports external LCD panels, enabling one click parameter download and upload

#### VH1 frequency inverter -

## Excellent product performance

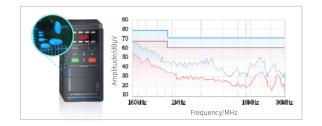
#### ■ Integrated and versatile

- Support VF and SVC algorithms.
- Based on a brand new ARM platform, it supports synchronous and asynchronous simultaneously. (2.2KW and above support).



#### ■ High specification EMC design

The entire series is equipped with built-in RFI filters, effectively reducing EMC external interference and meeting precision control requirements.



#### Debugging is easy and fast

- The potentiometer type adjustable knob makes speed regulation
- Support external LCD panel for one click parameter download
- Support upper computer software debugging, making on-site frequency converter debugging and monitoring more convenient and efficient.



#### The air duct is completely isolated from the PCB board

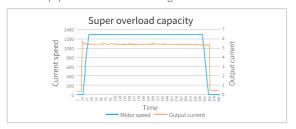
Independent air duct design, smooth heat dissipation, ensuring long-term stable operation of electronic components.



#### Heavy load output

- The VH1 series comes standard with an IGBT integrated module,
- achieving 150% overload output for 1 minute.

The VH1 series comes standard with braking function to ensure stable equipment shutdown for a long time.



#### Compact design

- Optimal power density design to minimize product volume.
- Support seamless parallel installation in the smallest space (ambient temperature below 40°C).
- Support screw installation and rail installation.



#### ■ Full coverage of PCB board coating

Adopting automatic spraying line equipment with three-proofing paint, different spraying strategies can be designed according to different circuit boards, achieve full coverage of the three-proofing paint coating, without fear of oil and moisture erosion.

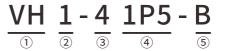


#### Obtaining EU CE certification



## Naming rule

#### | VH1 VFD naming rule



① Product code		
Symbol Name		
VH General VFD		

2 Product series		
Symbol Name		
1 Open-loop vector VFD		

③ Input	4 P	
Symbol	Power supply	Sym
Syllibot	voltage	OF
4	380V	1F
2	220V	

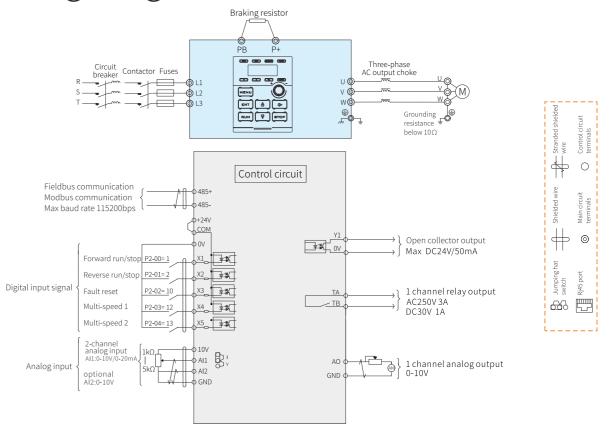
POWE	rtevet	э Біаке	um
mbol	Power level (kW)	Symbol	I
0P7	0.75	В	Bui
1P5	1.5	Vacant	

Symbol	Brake unit
В	Built-in brake unit
Vacant	None

## Technical parameters

VFD model	Power supply capacity (KVA)	Input current (A)	Output current (A)	Suitable motor (kW)			
	Single phase 220V 50/60Hz						
VH1-20P4-B	1	1.3	2.5	0.4			
VH1-20P7-B	1.5	9.8	4	0.75			
	Three phases 380V 50/60Hz						
VH1-40P4-B	1	1.8	1.5	0.4			
VH1-41P7-B	1.5	2.3	2.1	0.75			
VH1-41P5-B	3.0	4.4	3.8	1.5			
VH1-42P2-B	4	5.8	5.1	2.2			
VH1-43P7-B	5.9	10.5	9	3.7			

Wiring diagram



Power range

Input

Output

Control

Control

Control

Function

Feature

Display

and keyboard

Environment

Installation

257

performance

terminal input

Technical specification

Rated voltage, frequency

frequency

Control motor type

peed fluctuations Speed regulation ran

tarting torque

Torque accuracy orque response

Overload capacity

Frequency resoluti

Digital input channel

Analog input channel

Digital output channel

Frequency setting mode

Typical functions

Key functions

Fieldbus

LCD panel

Timing control

parameters

Keyboard display

Parameter copying

Optional accessorie

Surrounding temperature

Surrounding humidity Vibration

Storage temperature

Software

Kev lock

Place of use

Altitude

Multi-motor switching

Protection function

Energy consumption braking

Instantly stop without stopping

Diversified terminal functions

Communication customization

Starting command setting mode

terminal output | Analog output channel

Frequency accuracy

Control mode Speed accuracy VH1 open-loop vector VFD

Asynchronous motor, synchronous motor

1AC 220V; 50/60Hz

G-type 150% rated current 60 seconds, P-type 120% rated current 60 seconds

Standard configuration: 5 digital inputs X, supports NPN and PNP inputs

Standard configuration: 1 analog output AO, supports 0-10V voltage output

Setting through communication (Modbus), operate panel and terminals

Built in braking unit, suitable braking resistor needs to be selected

Timing control function: Set the time range from 0.1Min to 6500.0Min

Convenient for users to continuously read and write VFD parameters

Two sets of motor parameters can achieve switching control between two motors

Implement partial or complete locking of buttons to prevent accidental triggering

Rich backend monitoring functions, convenient for on-site data collection and debugging

and high-capacity storage of parameters

Less than 95% RH, no water droplet condensation

Standard configuration: 2 analog inputs AI, AI1 supports 0-10V and 0-20mA, AI2 supports 0-10V

Standard configuration: 1 digital output Y and 1 relay output (supports one pair of normally open)

Setting through communication(Modbus), operate panel, terminals, analog input, multi-speed, simple PLC, PID, main and auxiliary

Carrier modulation, torque control, motor self-tuning, current limiting control, overvoltage control, undervoltage control, speed tracking, droop control, oscillation suppression, overvoltage overcurrent stall control, automatic voltage regulation (AVR),

Power on motor short circuit detection, input/output phase loss protection, overcurrent protection, overvoltage protection undervoltage protection, overheating protection, overload protection, underload protection, overcurrent and overvoltage stall protection, relay excitation protection, terminal protection, instantaneous power failure without stopping, etc

Frequency main and auxiliary operation, reverse run prohibition, torque improving, nine V/F curve settings, five segments Al curve settings, acceleration and deceleration curve settings, terminal delay and filtering, terminal multifunctional input and output, DC braking, energy consumption braking, jog operation, 16 multi-speeds, built-in two channels PID , speed tracking

restart, carrier modulation, fault recording, fault self reset, preexcitation start, 30 sets of user-defined parameters

 $LCD\ display, parameter\ setting, status\ monitoring, parameter\ copying, fault\ analysis, program\ download,$ 

The multifunctional terminals X have 51 types, Y has 41 types, and AO has 19 logical function options,

It can display various parameters such as set frequency, output frequency, output voltage, output current,

Indoor, not exposed to direct sunlight, without dust, corrosive gases, flammable gases, oil mist, water vapor, dripping water or salt, etc

For every additional 1000 meters of height, the output current will decrease by about 10% of the rated current.) -10°C~+40°C (ambient temperature between 40°C~50°C, please reduce the rating or enhance heat dissipation

Standard LED digital potentiometer keyboard, optional LCD display keyboard (parameter download

Below 1000 meters. (When the height exceeds 1000 meters, it needs to be used with a reduced rating.

 $During \ an instantaneous \ power \ outage, the \ reduction \ in \ voltage \ is \ compensated \ through \ load \ feedback \ energy \ to \ maintain \ the \ frequency \ converter's \ continued \ operation \ for \ a \ short \ period \ of \ time$ 

Low frequency operation mode: 0.01Hz, High frequency operation mode: 0.1Hz Digital setting -0.01Hz, analog setting - maximum frequency  $\times$  0.1%

3AC 380V: 50/60Hz

V/F control (VVF), vector

0~input voltag

0~600Hz

1.0Hz: 150%

Modbus

LCD keyboard

Less than 5.9m/s2(0.6g)

-40°C~+70°C

IP20

±1%

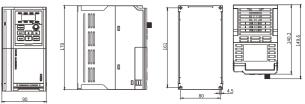
VH1 frequency inverter

## Dimension (unit: mm)

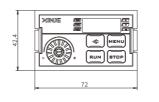
#### VH1-20P4/20P7/40P4/40P7/41P5-B

## VH1-42P2/43P7-B

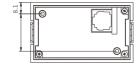


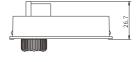


#### VH1-PE100



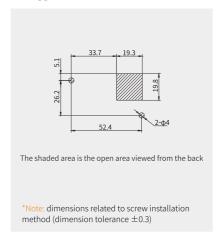


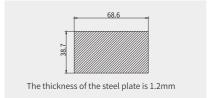




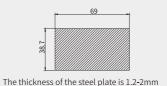
#### VH1-PE100 installation dimension

① Suggested screw installation size



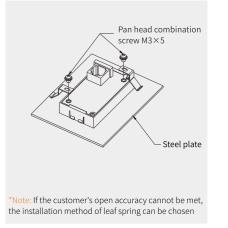


② Suggested buckle installation size



Note: dimensions related to buckle installation method (dimension tolerance  $\pm 0.3$ )

#### 3 Leaf spring installation



## Accessory



<sup>\*</sup>Note: the installation screws are all M4.

## VHL general open-loop vector converter

VHL series is a general open-loop vector converter developed by Xinje Company. With the book structure design, the volume is greatly reduced compared with the previous generation of products, and at the same time, the appearance value and protection level are significantly improved. The internal coating is strengthened, which conforms to the 3C3 standard. The whole system is equipped with IGBT integrated module, which can achieve 150% heavy load output. It can be widely used in wire drawing machines, air compressors, livestock farms, grinders, wire cutting, edge banding machines and other application machinery.

#### **Operation Panel**

- Shuttle keyboard design, easy for customers to adjust speed
- Silicone key design, greatly improved touch feeling
- White LED and blue indicator light, full of sense of technology

#### Motor terminal UVW

- Support 150% 60s interval 300s overload
- Support asynchronous synchronous motor control



#### Appearance and protection

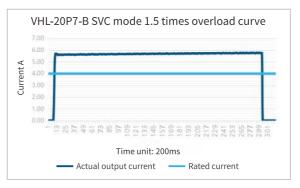
- Book structure design, saving installation space
- Independent air duct design can prevent dust from entering the inverter to cause short circuit and other faults, and improve reliability
- Close the body to prevent foreign matters and ensure the long-term stable operation of electronic components
- The coating is strengthened to prevent oil mist and moisture corrosion, meeting 3C3 standard

#### Control terminals

• Quick wiring of spring terminals, no need to worry about screw slipping

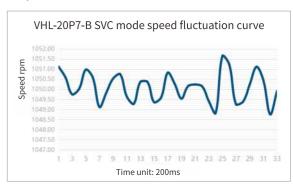
## **Excellent Product Performance**

#### Overload capacity



VHL inverter 1.5 times overload time 60s

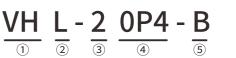
#### | Speed fluctuation



VHL inverter speed fluctuation  $\pm 0.3\%$ 

## Naming Rule

#### VHL inverter naming rule



1 Product code ② Product series ③ Input voltage level 4 Power level ⑤ Brake unit Symbol Power level (kW) Brake unit Name VH General VFD 0.4 Built-in brake unit Book-type open-loop vector converter 380V 0.75 220V

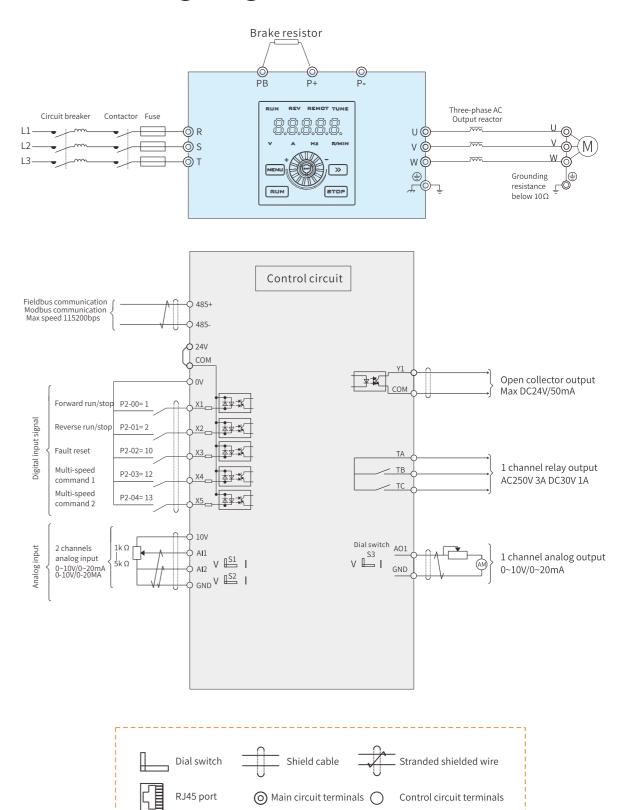
## **Technical Parameters**

VFD model	Power supply capacity (KVA)	Input current (A)	Output current (A)	Adaptive motor	
	Single phase 220V 50/60Hz				
VHL-20P4-B	1	5.4	2.3	0.4	
VHL-20P7-B	1.5	5.6	4	0.7	
	Three phase 380V 50/60Hz				
VHL-40P4-B	1	1.9	1.5	0.4	
VHL-40P7-B	1.5	3.4	2.1	0.7	

## Technical Specification

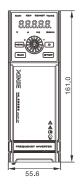
	Item name	VHL general open-loop vector co	onverter	
	Power range	0.4kW~5.5kW		
la consta	Rated voltage, frequency	3AC 380V;50/60Hz 1AC 220V;50/60Hz		
Input	Allowable voltage fluctuation range	±15%		
0.1.1	Voltage	0~input voltage		
Output	Frequency	0~600Hz		
	Control motor type	Asynchronous motor, synchronous motor		
	Control mode	Vector control without speed sensor (SVC)	V/F control (VVF)	
	Speed precision	±0.5%	±1%	
	Speed fluctuation	±0.3%	±0.5%	
	Speed regulation range	1:100	1:50	
Control	Startup torque	0.5Hz:150%	1.0Hz:150%	
performance	Torque accuracy	±10% rated torque	/	
	Torque response	≤20ms	/	
	Overload ability	150% rated current 60s		
	Frequency precision	0.01Hz		
	Frequency resolution	Digital setting 0.01Hz, analog setting max frequ	ency ×0.1%	
Control	Digital input channel	Standard: 5 digital bipolar input X terminal		
terminal input	Analog input channel	Standard: 2 analog input AI1/AI2, support 0~10V vo	Itage input or 0~20mA current input	
Control	Digital output channel	Standard: 1 multi-functional Y1 output terminal, 1		
terminal output	Analog analog channel	Standard: 1 mail analog output terminal AO1, support 0	9	
a.oacpat	Start command given mode	Communication given (Modbus), operate panel giv		
			en, terminal given, analog Al given, multi-speed given,	
	Frequency given mode	simple PLC given, PID main and auxiliary given	en, cerminat given, anatogra given, matti-speed given,	
Product performance	Typical function	Frequency main and auxiliary operation, no reverse rotation, torque increase, nine VF curve settings, five section AI curve settings, acceleration and deceleration curve settings, terminal delay and filtering, terminal multi-functional input and output, DC braking, energy consumption braking, jog operation, 16-section speed, built-in two-channel PID, speed tracking restart, carrier modulation, fault recording, fault self reset, pre-excitation start, 30 groups of user-defined parameters		
	Important function	Carrier modulation, torque control, motor self-tuning, current limiting control, overvoltage control, undervoltage control, speed tracking, droop control, oscillation suppression, overvoltage overcurrent stall control, automatic voltage regulation (AVR), automatic energy-saving operation, etc		
Protection function		Power on motor short circuit detection, input and output phase loss protection, overcurrent protection, overvoltage protection, undervoltage protection, overheat protection, overload protection, underload protection, overcurrent overvoltage stall protection, relay pull in protection, terminal protection, instantaneous power failure nonstop, etc		
	Dynamic braking	Built-in brake unit, please select suitable brake res	stor	
	Multiple bus support	Standard Modbus		
	Multiple encoder support	LCD display, parameter setting, status monitoring, parameter copy, fault analysis and location, program download, mass storage of parameters		
	Instant stop nonstop	In case of instantaneous power failure, the load feedback energy compensates for the reduction of voltage to maintain the continuous operation of the frequency converter in a short time		
		maintain the continuous operation of the frequence	y converter in a short time	
	Timing control	Timing control function: time range 0.1min~6500m	-	
			in	
	Timing control	Timing control function: time range 0.1min~6500m Two groups of motor parameters can realize the sv	in vitching control of two motors I1 kinds of terminals Y, and 19 kinds of logic function	
	Timing control Multi-motor switching	Timing control function: time range 0.1min~6500m Two groups of motor parameters can realize the sw There are 51 kinds of multifunctional terminals X, 4 options AO, which meet the requirements of gener	in vitching control of two motors I1 kinds of terminals Y, and 19 kinds of logic function al frequency converter control functions	
	Timing control  Multi-motor switching  Flexible and diversified terminal functions  Communication customization parameters	Timing control function: time range 0.1min~6500m Two groups of motor parameters can realize the sw There are 51 kinds of multifunctional terminals X, 4 options AO, which meet the requirements of gener It is convenient for users to read and write the para	in  vitching control of two motors  I kinds of terminals Y, and 19 kinds of logic function al frequency converter control functions meters of the frequency converter continuously	
	Timing control Multi-motor switching Flexible and diversified terminal functions	Timing control function: time range 0.1min-6500m Two groups of motor parameters can realize the sw There are 51 kinds of multifunctional terminals X, options AO, which meet the requirements of gener It is convenient for users to read and write the para Rich background monitoring functions to facilitate It can display the set frequency, output frequency,	in  vitching control of two motors  I kinds of terminals Y, and 19 kinds of logic function al frequency converter control functions meters of the frequency converter continuously	
function	Timing control Multi-motor switching Flexible and diversified terminal functions Communication customization parameters Software Keyboard display	Timing control function: time range 0.1min~6500m Two groups of motor parameters can realize the sw There are 51 kinds of multifunctional terminals X, 4 options AO, which meet the requirements of gener It is convenient for users to read and write the para Rich background monitoring functions to facilitate It can display the set frequency, output frequency, and other parameters	vitching control of two motors  11 kinds of terminals Y, and 19 kinds of logic function al frequency converter control functions meters of the frequency converter continuously on-site data acquisition and debugging output voltage, output current, input and output status	
function  Display and	Timing control Multi-motor switching Flexible and diversified terminal functions Communication customization parameters Software	Timing control function: time range 0.1min~6500m Two groups of motor parameters can realize the sw There are 51 kinds of multifunctional terminals X, 4 options AO, which meet the requirements of gener It is convenient for users to read and write the para Rich background monitoring functions to facilitate It can display the set frequency, output frequency, and other parameters Realize partial or full locking of keys to prevent fals Standard LED display digital potentiometer keybox	vitching control of two motors  11 kinds of terminals Y, and 19 kinds of logic function al frequency converter control functions meters of the frequency converter continuously on-site data acquisition and debugging output voltage, output current, input and output status e triggering	
function  Display and	Timing control Multi-motor switching Flexible and diversified terminal functions Communication customization parameters Software Keyboard display Key lock Parameter copy	Timing control function: time range 0.1min~6500m Two groups of motor parameters can realize the sw There are 51 kinds of multifunctional terminals X, 4 options AO, which meet the requirements of gener It is convenient for users to read and write the para Rich background monitoring functions to facilitate It can display the set frequency, output frequency, and other parameters Realize partial or full locking of keys to prevent fals Standard LED display digital potentiometer keybos (parameter upload/download)	vitching control of two motors  11 kinds of terminals Y, and 19 kinds of logic function al frequency converter control functions meters of the frequency converter continuously on-site data acquisition and debugging output voltage, output current, input and output status e triggering	
function  Display and	Timing control Multi-motor switching Flexible and diversified terminal functions Communication customization parameters Software Keyboard display Key lock Parameter copy Optional accessories	Timing control function: time range 0.1min-6500m Two groups of motor parameters can realize the sw There are 51 kinds of multifunctional terminals X, options AO, which meet the requirements of gener It is convenient for users to read and write the para Rich background monitoring functions to facilitate It can display the set frequency, output frequency, and other parameters Realize partial or full locking of keys to prevent fals Standard LED display digital potentiometer keybox (parameter upload/download) LCD keyboard	in vitching control of two motors  At kinds of terminals Y, and 19 kinds of logic function al frequency converter control functions meters of the frequency converter continuously on-site data acquisition and debugging output voltage, output current, input and output status e triggering ord, optional LCD English display keyboard	
function  Display and	Timing control Multi-motor switching Flexible and diversified terminal functions Communication customization parameters Software Keyboard display Key lock Parameter copy	Timing control function: time range 0.1min~6500m Two groups of motor parameters can realize the sw There are 51 kinds of multifunctional terminals X, 4 options AO, which meet the requirements of gener It is convenient for users to read and write the para Rich background monitoring functions to facilitate It can display the set frequency, output frequency, and other parameters Realize partial or full locking of keys to prevent fals Standard LED display digital potentiometer keybos (parameter upload/download) LCD keyboard Indoor, free from direct sunlight, no dust, corrosive Less than 1000m (When it is higher than 1000m, the	in vitching control of two motors  11 kinds of terminals Y, and 19 kinds of logic function al frequency converter control functions meters of the frequency converter continuously on-site data acquisition and debugging output voltage, output current, input and output status e triggering and, optional LCD English display keyboard  agas, combustible gas, oil mist, water vapor, drip or salt e output current needs to be reduced by about	
function  Display and	Timing control Multi-motor switching Flexible and diversified terminal functions Communication customization parameters Software Keyboard display Key lock Parameter copy Optional accessories Place of use Altitude	Timing control function: time range 0.1min~6500m Two groups of motor parameters can realize the sw There are 51 kinds of multifunctional terminals X, 4 options AO, which meet the requirements of gener It is convenient for users to read and write the para Rich background monitoring functions to facilitate It can display the set frequency, output frequency, and other parameters Realize partial or full locking of keys to prevent fals Standard LED display digital potentiometer keybod (parameter upload/download) LCD keyboard Indoor, free from direct sunlight, no dust, corrosive Less than 1000m (When it is higher than 1000m, th 10% of the rated current for each increase of 1000m	in vitching control of two motors  11 kinds of terminals Y, and 19 kinds of logic function al frequency converter control functions meters of the frequency converter continuously on-site data acquisition and debugging output voltage, output current, input and output status e triggering ard, optional LCD English display keyboard  12 gas, combustible gas, oil mist, water vapor, drip or salt e output current needs to be reduced by about n)	
function  Display and keyboard	Timing control Multi-motor switching Flexible and diversified terminal functions Communication customization parameters Software Keyboard display Key lock Parameter copy Optional accessories Place of use Altitude Ambient temperature	Timing control function: time range 0.1min~6500m Two groups of motor parameters can realize the sw There are 51 kinds of multifunctional terminals X, 4 options AO, which meet the requirements of gener It is convenient for users to read and write the para Rich background monitoring functions to facilitate It can display the set frequency, output frequency, and other parameters Realize partial or full locking of keys to prevent fals Standard LED display digital potentiometer keybod (parameter upload/download) LCD keyboard Indoor, free from direct sunlight, no dust, corrosive Less than 1000m (When it is higher than 1000m, th 10% of the rated current for each increase of 1000r -10°C~+40°C (please derate to use or enhance the formation of the rate of the rate to the read of the rate to the read of the rate to the read of the rate to use or enhance the formation of the rate of the rate to use or enhance the read of the rate of the rate to use or enhance the formation of the rate of the rate to use or enhance the formation of the rate of the	in vitching control of two motors  11 kinds of terminals Y, and 19 kinds of logic function al frequency converter control functions meters of the frequency converter continuously on-site data acquisition and debugging output voltage, output current, input and output status e triggering and, optional LCD English display keyboard  12 gas, combustible gas, oil mist, water vapor, drip or salt e output current needs to be reduced by about 1) eact dissipation when ambient temperature is 40°C~50°C)	
function  Display and keyboard	Timing control Multi-motor switching Flexible and diversified terminal functions Communication customization parameters Software Keyboard display Key lock Parameter copy Optional accessories Place of use Altitude Ambient temperature Ambient humidity	Timing control function: time range 0.1min-6500m Two groups of motor parameters can realize the sw There are 51 kinds of multifunctional terminals X, options AO, which meet the requirements of gener It is convenient for users to read and write the para Rich background monitoring functions to facilitate It can display the set frequency, output frequency, and other parameters Realize partial or full locking of keys to prevent fals Standard LED display digital potentiometer keyboo (parameter upload/download) LCD keyboard Indoor, free from direct sunlight, no dust, corrosive Less than 1000m (When it is higher than 1000m, the 10% of the rated current for each increase of 1000r -10°C-+40°C (please derate to use or enhance the b Less than 95%RH, no condensation of water drople	in vitching control of two motors  11 kinds of terminals Y, and 19 kinds of logic function al frequency converter control functions meters of the frequency converter continuously on-site data acquisition and debugging output voltage, output current, input and output status e triggering and, optional LCD English display keyboard  12 gas, combustible gas, oil mist, water vapor, drip or salt e output current needs to be reduced by about 1) eact dissipation when ambient temperature is 40°C~50°C)	
function  Display and keyboard	Timing control Multi-motor switching Flexible and diversified terminal functions Communication customization parameters Software Keyboard display Key lock Parameter copy Optional accessories Place of use Altitude Ambient temperature Ambient humidity Vibration	Timing control function: time range 0.1min-6500m Two groups of motor parameters can realize the sw There are 51 kinds of multifunctional terminals X, 4 options AO, which meet the requirements of gener It is convenient for users to read and write the para Rich background monitoring functions to facilitate It can display the set frequency, output frequency, and other parameters Realize partial or full locking of keys to prevent fals Standard LED display digital potentiometer keybox (parameter upload/download) LCD keyboard Indoor, free from direct sunlight, no dust, corrosive Less than 1000m (When it is higher than 1000m, th 10% of the rated current for each increase of 1000r -10°C-+40°C (please derate to use or enhance the I- Less than 95%RH, no condensation of water drople Less than 5.9m/s2 (0.6g)	in vitching control of two motors  11 kinds of terminals Y, and 19 kinds of logic function al frequency converter control functions meters of the frequency converter continuously on-site data acquisition and debugging output voltage, output current, input and output status e triggering and, optional LCD English display keyboard  12 gas, combustible gas, oil mist, water vapor, drip or salt e output current needs to be reduced by about 1) eact dissipation when ambient temperature is 40°C~50°C)	
function  Display and keyboard	Timing control Multi-motor switching Flexible and diversified terminal functions Communication customization parameters Software Keyboard display Key lock Parameter copy Optional accessories Place of use Altitude Ambient temperature Ambient humidity Vibration Storage temperature	Timing control function: time range 0.1min~6500m Two groups of motor parameters can realize the sw There are 51 kinds of multifunctional terminals X, 4 options AO, which meet the requirements of gener It is convenient for users to read and write the para Rich background monitoring functions to facilitate It can display the set frequency, output frequency, and other parameters Realize partial or full locking of keys to prevent fals Standard LED display digital potentiometer keybox (parameter upload/download) LCD keyboard Indoor, free from direct sunlight, no dust, corrosive Less than 1000m (When it is higher than 1000m, th 10% of the rated current for each increase of 1000r -10°C-+40°C (please derate to use or enhance the F Less than 95%RH, no condensation of water drople Less than 5.9m/s2 (0.6g) -40°C-+70°C	in vitching control of two motors  11 kinds of terminals Y, and 19 kinds of logic function al frequency converter control functions meters of the frequency converter continuously on-site data acquisition and debugging output voltage, output current, input and output status e triggering and, optional LCD English display keyboard  12 gas, combustible gas, oil mist, water vapor, drip or salt e output current needs to be reduced by about 1) eact dissipation when ambient temperature is 40°C~50°C)	
Features function  Display and keyboard  Environment	Timing control Multi-motor switching Flexible and diversified terminal functions Communication customization parameters Software Keyboard display Key lock Parameter copy Optional accessories Place of use Altitude Ambient temperature Ambient humidity Vibration	Timing control function: time range 0.1min-6500m Two groups of motor parameters can realize the sw There are 51 kinds of multifunctional terminals X, 4 options AO, which meet the requirements of gener It is convenient for users to read and write the para Rich background monitoring functions to facilitate It can display the set frequency, output frequency, and other parameters Realize partial or full locking of keys to prevent fals Standard LED display digital potentiometer keybox (parameter upload/download) LCD keyboard Indoor, free from direct sunlight, no dust, corrosive Less than 1000m (When it is higher than 1000m, th 10% of the rated current for each increase of 1000r -10°C-+40°C (please derate to use or enhance the I- Less than 95%RH, no condensation of water drople Less than 5.9m/s2 (0.6g)	in vitching control of two motors  11 kinds of terminals Y, and 19 kinds of logic function al frequency converter control functions meters of the frequency converter continuously on-site data acquisition and debugging output voltage, output current, input and output status e triggering and, optional LCD English display keyboard  12 gas, combustible gas, oil mist, water vapor, drip or salt e output current needs to be reduced by about 1) eact dissipation when ambient temperature is 40°C~50°C)	

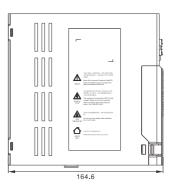
## Terminal Wiring Diagram

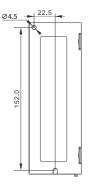


## Installation Dimension Drawing (unit: mm)

VHL-20P4/20P7/40P4/40P7-B







## VH5 general type open loop vector frequency inverter

VH5 series is a general-purpose open-loop vector frequency converter developed by Xinje company. It has the remarkable characteristics of small volume, better cost performance and high reliability. At the same time, VH5 series can be combined with communication expansion card to realize EtherCAT, CANopen and other high-speed bus networking.

VH5 can be widely used in automatic production lines, textile, woodworking, engraving machines, logistics equipment, food filling, food packaging and other miniaturized mechanical equipment.



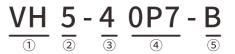
VH5 frequency converter is equipped with one RS485 communication port as standard. In addition, it can be added to EtherCAT and CANopen networks through the special communication expansion card and exist as a slave station.

## Excellent Product Performance



## Naming Rule

#### VH5 frequency inverter naming rule



#### ① Product code

(5) Brake unit

Vacant

Sign	Name
VH	Frequency inverter

Brake unit
Built-in brake unit

## 2 Product series

Name	Sign	Dr
Name	Jigii	1 0
General type open loop	4	
vector frequency inverter	2	

③ Input voltage level

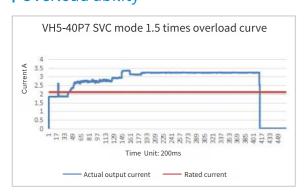
380V

220V

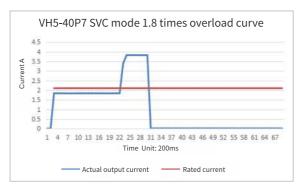
#### 4 Power level

S	Sign	Power level (kW)
(	0P7	0.75
	1P5	1.5
	5P5	5.5

### Overload ability





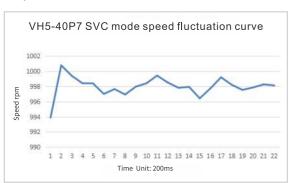


VH5 frequency converter 1.8 times overload time 1 second

## Technical Parameter

Model	Power supply capacity (KVA)	Input current (A)	Output current (A)	Adaptive motor (kW)			
	Single phase 220V 50/60Hz						
VH5-20P7-B	1.5	5.6	4.7	0.75			
VH5-21P5-B	3.0	9.3	7.5	1.5			
VH5-22P2-B	4.5	12.7	10.0	2.2			
	Three-phase 380V 50/60Hz						
VH5-40P7-B	1.5	3.4	2.1	0.75			
VH5-41P5-B	3.0	5.0	3.8	1.5			
VH5-42P2-B	4.0	5.8	5.1	2.2			
VH5-43P7-B	5.9	10.5	9.0	3.7			
VH5-45P5-B	8.9	14.6	13.0	5.5			

#### | Speed fluctuation



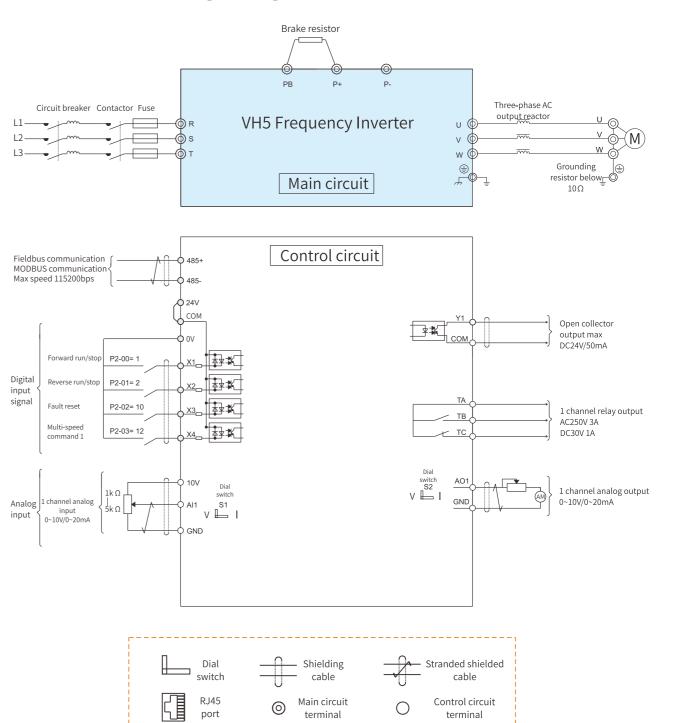
VH5 frequency inverter speed fluctuation  $\pm 0.3\%$ 

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## Technical Specifications

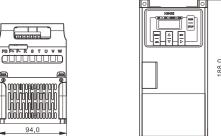
Ite	em name	VH5 general type ope	n loop vector frequency inverter			
Powerrange		0.75kW~5.5kW				
	Rated voltage, frequency	3AC 380V;50/60Hz 3AC 220V;50/60	Hz 1AC 220V;50/60Hz			
Input	Allowable voltage fluctuation range	±15%				
Output	Voltage	0~input voltage				
	Frequency	0~600Hz				
	Control motor type	Asynchronous motor				
	Control mode	Vector control without speed sensor (SVC)  V/F control (VVF)				
	Speed precision	±0.5% ±1%				
	Speed fluctuation	±0.3%	±0.5%			
Control	Speed regulation range	1:100	1:50			
performance	Startup torque	0.5Hz:150%	1.0Hz:150%			
periorinance	Torque accuracy	$\pm 10\%$ rated torque /				
	Torque response	≤20ms /				
	Overload ability	150% rated current 60s, 180% rated current 10s, 200	150% rated current 60s, 180% rated current 10s, 200% rated current 2s			
	Frequency precision	0.01Hz				
	Frequency resolution	Digital setting 0.01Hz, analog setting max frequ	ency ×0.1%			
Control	Digital input channel	Standard: 4 digital X bipolar input terminals				
terminal input	Analog input channel	Standard: 1 analog input terminal AI1, support 0~10				
Control	Digital output channel	Standard: 1 multi-functional Y1 output terminal, 1 g				
terminal output	Analog output channel	Standard: 1 analog output terminal AO1, support 0~	10V or 0~20mA			
	Start command given mode	Communication given (Modbus, CANopen, EtherCAT	r), operate panel given, terminal given			
	Frequency given mode	Communication given (Modbus, CANopen, EtherCAT analog AI given, multi-speed given, simple PLC given				
Product	Typical function	Frequency main and auxiliary operation, no reverse rotation, torque increase, nine VF curve settings, five section AI curve settings, acceleration and deceleration curve settings, terminal delay and filtering, terminal multi-functional input and output, DC braking, dynamic braking, jog operation, 16-section speed, built-in two-channel PID, speed tracking restart, carrier modulation, fault recording, fault self reset, pre-excitation start, 30 groups of user-defined parameters				
function	Important function	Carrier modulation, torque control, motor self-tuning, current limiting control, overvoltage control, undervoltage control, speed tracking, droop control, oscillation suppression, overvoltage overcurrent stall control, automatic voltage regulation (AVR), automatic energy-saving operation, etc				
	Protection function	Power on motor short circuit detection, input and output phase loss protection, overcurrent protection, overvoltage protection, undervoltage protection, overheat protection, overload protection, underload protection, overcurrent overvoltage stall protection, relay pull in protection, terminal protection, instantaneous power failure nonstop, etc				
	Dynamic braking	Built-in brake unit, please select suitable brake resistor				
	Multiple bus support	Standard Modbus, can expand EtherCAT, CANopen				
	Multiple encoder	LCD display, parameter setting, status monitoring, parameter copy, fault analysis and				
	support	location, program download, mass storage of parameters				
	Instant stop nonstop	In case of instantaneous power failure, the load feedback energy compensates for the reduction of voltage to maintain the continuous operation of the frequency converter in a short time  Timing control function: time range 0.1min~6500min				
	Timing control  Multi-motor switching					
Features		Two groups of motor parameters can realize the switching control of two motors				
function	Flexible and diversified terminal functions	There are 51 kinds of multifunctional terminals X, 41 kinds of terminals Y, and 19 kinds of logic function options AO, which meet the requirements of general frequency converter control functions				
	Communication customization parameters	It is convenient for users to read and write the parameters of the frequency converter continuously				
	Software	Rich background monitoring functions to facilitate of	n-site data acquisition and debugging			
	Keyboard display	It can display the set frequency, output frequency, o output status and other parameters	utput voltage, output current, input and			
Display and	Key lock	Realize partial or full locking of keys to prevent false	triggering			
keyboard	Parameter copy	Standard LED display digital potentiometer keyboar (parameter upload/download)				
	Optional accessories	LCD keyboard, communication card (EtherCAT, CAN	open)			
	Place of use	Indoor, free from direct sunlight, no dust, corrosive drip or salt	gas, combustible gas, oil mist, water vapor,			
	Altitude	Less than 1000m (When it is higher than 1000m, the output current needs to be reduced by about 10% of the rated current for each increase of 1000m)				
Environment	Ambient temperature	-10°C+40°C (please derate to use or enhance the hear is 40°C~50°C)	· · · · · · · · · · · · · · · · · · ·			
	Ambient humidity	Less than 95%RH, no condensation of water droplet	S			
	Vibration	Less than 5.9m/s2 (0.6g)				
	Storage temperature	-40°C~+70°C				
	Protection level	IP20				
	Cooling mode	Forced air cooling				
		Wall mounted and embedded				

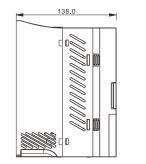
## Terminal Wiring Diagram



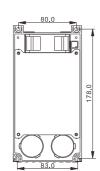
## Installation Dimension (Unit: mm)

#### VH5-20P7/21P5/22P2/40P7/41P5/42P2/43P7-B

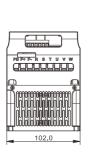


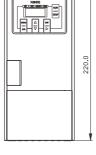


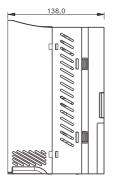


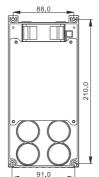


#### VH5-45P5-B

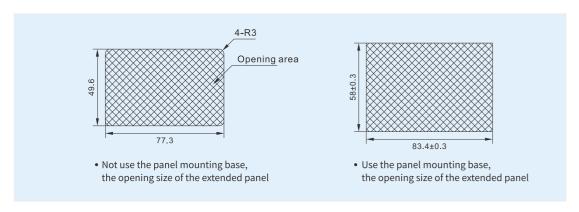








#### Panel extension



VH5 series VFD operate panel can be extended, users can install the VFD panel in the hole slot according to the two opening sizes provided above.

## **Accessory Description**

### CANopen communication card VH5-CN100

The expansion interface card specially designed for CANopen protocol is suitable for Xinje frequency converter. Xinje frequency converter can be connected to CANopen network and exist as a slave station through this card.



#### EtherCAT communication card VH5-CC100

The expansion interface card specially designed for EtherCAT protocol is suitable for Xinje frequency converter. Xinje frequency converter can be connected to EtherCAT network and exist as a slave station through this card.



### LED operate panel

VH5-PE100

The panel is a single-row LED display, which can set parameters, monitor the operation status and operate the converter.



#### Mounting base VH5-DPANEL

VH5 series VFD extension panel installation base. Model: VH5-DPANEL



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## VH rectifier braking module

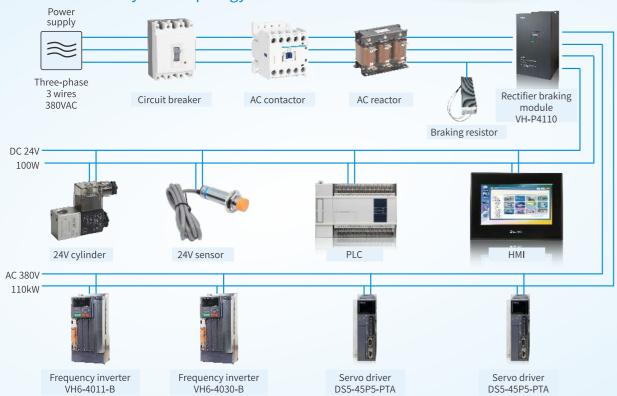
VH series rectifier braking module is mainly used in occasions where DC common bus is required for drive products such as frequency converter or servo.

Two functions of rectifier braking unit composing the common bus:

- Energy conservation and environmental protection, power recovery
- Stable and reliable operation to avoid losses caused by accidental power failure and shutdown



### I DC common bus system topology



\*Note: The VH rectifier module inputs AC380V voltage, which can provide electric energy for the following products after rectification: 1.380V frequency converter, servo driver, and the total load power shall not exceed the rated power of the module.

2.DC 24V PLC, HMI, cylinder, sensor, stepping driver, the maximum power shall not exceed 100W.

#### | Application device type:

Double twister, slitter, drawing machine, non-woven production line and other types of equipment.

## Naming Rule

| Naming rules of rectifier braking module

 $\frac{VH}{1} - \frac{P}{2} \frac{4}{3} \frac{110}{4}$ 

① Product code

Sign Name
VH VH series

② Rectifier braking module

Sign Name
P Rectifier braking module

3 Input voltage level

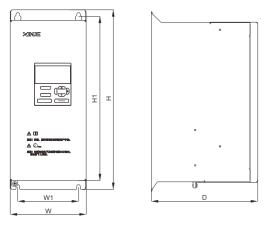
4 Power level of rectifier module
Sign Power level (kW)
030 30
055 55
110 110

## Model and Technical Parameters of Rectifier Braking Module

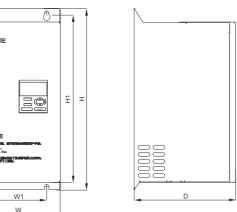
Model of rectifier braking module		VH-P4110	VH-P4055	VH-P4030		
	Rated power (kW)	110	55	30		
Input	Input current (A)	220	112	68		
прис	Input voltage (ACV)	380V;50Hz/60Hz				
	Power supply capacity (KVA)	180	85	55		
Output	Output current (DCA)	240	100	44		
Output	Output voltage (DCV)	537	530	531		
	Rated continuous braking current (A)	50	40	40		
Braking	Max peak braking current (A)	110	100	50		
DIAKING	Recommended rated braking resistor $(\Omega)$	11kW / 10Ω	9kW / 13Ω	5kW / 20Ω		
	Min braking resistor	7Ω	10Ω	16Ω		

## Installation Dimension Drawing (Unit: mm)

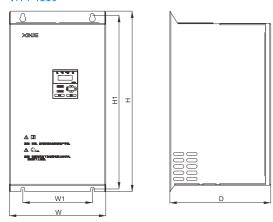
#### VH-P4030



#### VH-P4055



#### VH-P4110



Model of rectifier braking module	Overall installation dimension (width×height×depth)					
Model of rectifier braking filodute	W	W1	D	Н	H1	
VH-P4030	150	120	210	355	340	
VH-P4055	220	150	260	465	445	
VH-P4110	277.6	200	290	520	500	

- Bus type stepping driver
   DP3CL DP3C series stepping driver
- Pulse type stepping driver
   DP3F DP3L1 series stepping driver
- Stepping motorMP3 series stepping motor



## Stepping system

Bus type stepping driver  $\cdot$  Pulse type stepping driver Stepping motor

#### Bus type stepping driver

## Bus type stepping driver

## DP3C closed-loop bus stepping driver

- Integrating EtherCAT bus technology
- Fast response
- Strong anti-interference ability
- Significantly improved performance



## DP3CL open loop bus stepping driver

- Excellent value
- Low cost while retaining the high performance and stability of DP3C



#### ■ Integrating EtherCAT bus technology, the communication is faster

Support COE (CANopen over EtherCAT) protocol, conform to the CiA402 standard and support 32 axes. Support the master stationwith standard EtherCAT protocol. The communication cycle between the master station and the slave station can reach 32

#### ■ Simple wiring and convenient equipment maintenance

A network cable replaces the traditional pulse direction signal cable, and is equipped with power cable and encoder cable, making the wiring simpler. It can greatly reduce the cable cost, labor cost and



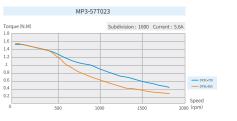
### ■ Higher reliability and anti-interference

Relying on the low bus load and point-to-point physical layer of EtherCAT bus, it can greatly suppress the generation of interference and clutter, and significantly improve the reliability and anti-interference ability of

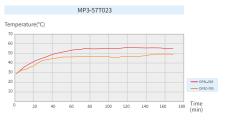
#### ■ A new generation of control algorithm with better performance

EtherCAT bus technology combined with the latest control algorithm, greatly improves the performance

The torque is increased, which significantly improves the high-speed performance of the motor, up to 2000rpm.



The motor runs more smoothly and the temperature ising is significantly reduced



## Application scenario

### DP3C,DP3CL series bus stepping driver

It is suitable for electronics, laser and occasions requiring multi-axis control.





























Capping machine

Mask machine

Graph plotter

Filling machine

## Hardware interface



#### ① LED display status



#### ② EtherCAT terminal

Signal	Explanation
E_TX+	EtherCAT data send +
E_TX-	EtherCAT data send -
E_RX+	EtherCAT data receive +
E_RX-	EtherCAT data receive –

mended to be no more than 50m. It is mended to use CAT5e 100M Ethernet cable

DP3C series displays operation speed, state machine/operation mode, node address, alarm fault and other information through two digits LED.

Stage	Display information
Power on initial stage	After the driver is powered on, the two LEDs are on for 0.5s, and display the actual node address of the current driver in hexadecimal. During this period, the LED node address flashes at an interval of 1s (0.5s on and 0.5s off). The time is 5s in total. After that, it enters the normal operation stage
Normal operation	Speed (r/s)
stage (parameter modification	Operation mode, state machine: hexadecimal display (default)
display content)	Node address: always on display

Note: during initialization and normal operation, if the node address is changed, the LED flashes at an interval of 1s (0.5s on, 0.5s off), and then continues to return to the original state after 5s.

#### 3 Control signal interface

SI1+	Differential input signal SI1, 24V is effective, max		PE	Shielding ground
SI1-	input frequency 200KHz, default probe input signal 1	robe input	NC	Reserved signal
SI2+	Differential input signal SI2, 24V is effective, max input frequency 200KHz, default probe input signal 2		NC	Reserved signal
SI2-			NC	Reserved signal
			VCC	5V power supply output,
SI3	Single ended input signal SI3~SI7, 12~24V is effective, max input frequency 10KHz, signal		GND	provided by the driver, only for encoder power supply
SI4	definition can be set. 13 default is origin point, 14, 15 default are positive/negative limit, 16, 17 default is general purpose. COMI is common terminal of singleended signal input, common anode or		EZ+	Encoder phase Z signal +
SI7			EZ-	Encoder phase Z signal -
SI5			EB+	Encoder phase B signal +
сомі			EB-	Encoder phase B signal -

current 100mA, withstand voltage 30VDC, default

SO6 Single ended output, common cathode, max current 100mA, withstand voltage 30VDC

24V Used together with braking output

connecting the relay

⑤ Motor winding terminal

Single ended output, common cathode, max current 100mA, withstand voltage 30VDC

Single ended output, common cathode, max current 100mA, withstand voltage 30VDC

BRK+ Braking output +, max 500mA, withstand voltage 24V,can connect the brake directly without

COMO Common terminal of the output common cathode Braking output -, max 500mA, withstand voltage 24V, can connect the brake directly without connecting the relay

Motor winding phase A+

Motor winding phase B+

Motor winding phase A -

EA+ Encoder phase B signal -

4 Encoder signal input terminal

#### 6 Power supply terminal

Signal	Explanation
GND	Power supply ground
VDC	Power supply positive input

Xinje's standard power cable diameter is

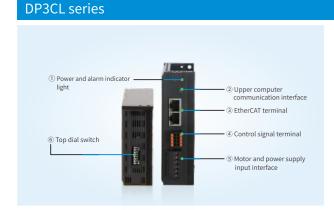
#### ① Upper computer communication RS232 port

Signal	Explanation
TXD	RS232 send
RXD	RS232 receive
GND	RS232 ground

ate 115200bps, data bit 8, stop bit 1,

#### ® Node address selection knob

combination of two hexadecimal rotary dialing codes MSD (high bit) and LSD (low bit).



#### Dower and alarm indicator light

The Power and atarm indicator light			
Color	Function		
Green light	Power supply display PWR		
Red light	Fault alarm indicator		

#### ② Upper computer communication RS232 port

Note: Xinie's standard power cable diameter is 0.75mm

ignal	Explanation
TXD	RS232 send
RXD	RS232 receive
GND	RS232 ground

Note: please use the special cable provided by Xinje company for communication. RS232 default

#### ③ EtherCAT terminal

_	
Signa	Explanation
E_TX+	EtherCAT data send +
E_TX-	EtherCAT data send -
E_RX+	EtherCAT data receive +
F RY_	EtherCAT data receive -

Note: the cable length between EtherCAT bus nodes is

#### ⑤ Motor and power supply Over voltage

Over current or short circui

Bus related alarm

Note: when a fault occurs, the indicator light flashes continuously, pauses for one second and then flashes continuously.

Interface	Function
A+, A-	Motor phase A
B+, B-	Motor phase B
GND	DC power supply ground
+V	DC power supply +

#### SI1 Single ended input signal SI1~SI4, 24V is

4 Control signal terminal

effective, max pulse frequency 10KHz, the signal definition can be set. SI1, SI2, SI3, SI				
default is alarm clear, left/right limit and				
originpoint. COMI is single ended input signal common terminal, supports NPN				
and PNP				
Output common terminal COM				
Alarm output, max 50mA, withstand voltage 24V				
Braking output, max 500mA, withstand voltage 24V, can connect the brake directly without connecting the relay				

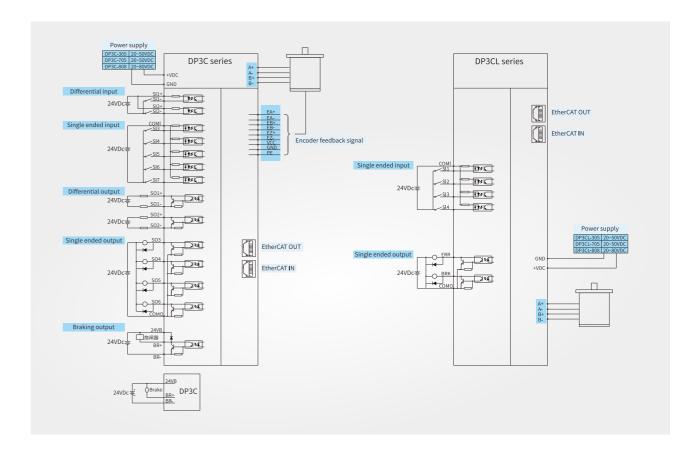
#### 6 Top dial switch

Dial number	Explanation
SW1、SW2、SW3	Dynamic current setting
SW4	Half current/full current mode
SW5\SW6	Filter time
SW7	Direction
SW8	Station switching

## Driver peripheral circuit



## Driver wiring diagram



## Product model

#### | Driver model naming



1 Name

Sign Product name

DP3 Stepping driver

② Series

Sign Product series Bus type

③ Control type

None

4 Driver output peak current

Sign	Current		Sign	Current
L	Open loop control		30	3.0A
None	Closed-loop		70	7.0A
None	control			0.44

⑤ Driver max power supply voltage

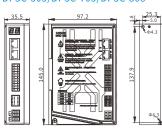
Sign	Current
5	50V
8	80V

## Driver specification

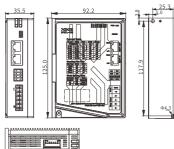
Driver model		DP3C-305	DP3C-705	DP3C-808	DP3CL-305	DP3CL-705	DP3CL-808	DP3CL-808A
	nput power supply oltage (VDC) DC20~50 DC20~50 DC20~50 DC20~50		DC20~50	DC20~80	AC20~80 DC20~110			
Recommended power supply voltage(VDC)		24~36	57motor recommended 24~36;86 or high-speed motor recommend48V	48Above	24~36	57motor recommended 24~36;86 or high-speed motor recommend48V	48A	bove
Us	ing environment(A)	1~3	1~7	1~8.4	1~3	1~7	1~	8.4
Ad	aptive motor (base)	42	57/60	86	42	57/60	8	36
External dimension (mm)		97.2*145.0*35.5			92.2*125.0*35.5			
Input signal		Alarm output, in place output, brake signal output, user-defined output		Origin input, positive/negative limit, alarm clear, user-defined input				
Output signal		Alarm output, brake signal output, user-defined output  Alarm output, brake signal output, user-defined output			utput			
Alarm function		Over current, over voltage, out of tolerance, communication error, etc						
Debugging software		Xinje stepping driver software						
Us	Use occasion	Try to avoid dust, oil mist and corrosive gas. Combustible gas and conductive dust are prohibited in places with high humidity and strong vibration			with			
ing	Ambient temperature	0°C~50°C						
Using environment	Max working temperature	60°C						
nme	Humidity	lity 40%~90% RH(no condensation or water droplets)						
tnt	Vibration 5.9m/s² Max							
Storage temperature −20°C∼65°C								

## Driver dimension (Unit: mm)

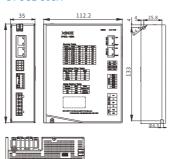
#### DP3C-305/DP3C-705/DP3C-808





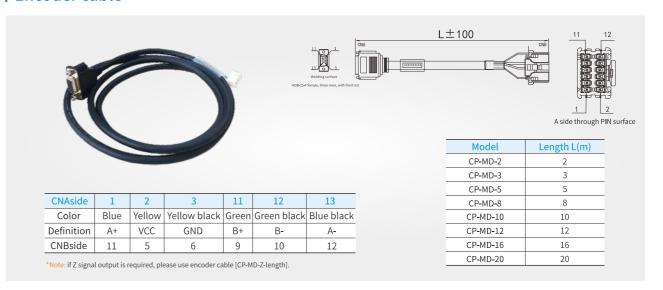


#### DP3CL-808A

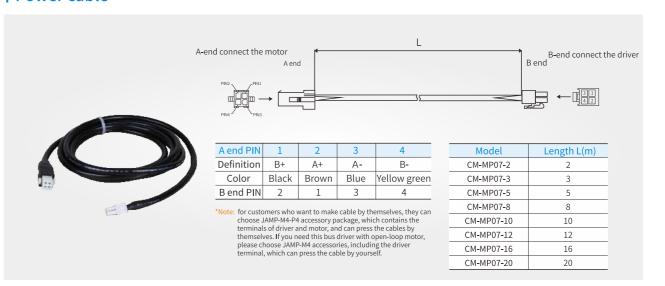


### Accessories

#### | Encoder cable



#### Power cable



#### EtherCAT bus cable



Model	Length (m)
JC-CB-0P1	0.1
JC-CB-0P2	0.2
JC-CB-0P3	0.3
JC-CB-0P5	0.5
JC-CB-1	1
JC-CB-3	3
JC-CB-5	5
JC-CB-10	10
JC-CB-20	20

#### | Power supply cable



Each driver will be delivered with a power cable for free. For additional needs, the purchase models are as follows:

Model	Length (m)
JC-PM-20	2

## Hardware interface

## Pulse type stepping driver

## <u>DP3F1</u> closed-loop pulse stepping driver

- Closed loop control and torque lifting to prevent step loss
- Higher running speed and acceleration
- More stable operation at low speed
- The plug-in wiring is simple and fast
- Pulse and direction input voltage support 5V and 24V
- Comprehensive overvoltage, overcurrent, undervoltage and short circuit protection functions

Applicable occasions: various small and medium-sized automation equipment and instruments, such as engraving machine, stripping machine, cutting machine, etc.

## <u>DP3L1</u> open loop pulse stepping driver

- Smaller size and space saving
- Reliable quality and excellent performance
- Large output, fast speed, stable operation and low temperature rising
- Pulse direction supports 5~24V
- New open loop IO stepping driver:
   Dial code speed regulation, IO trigger, stable start and stop, uniform speed, widely used in conveying equipment, docking station, PCB feeder

Applicable occasions:all kinds of small and medium-sized automation equipment and instruments, such as labeling machine,3C, photovoltaic, lithium battery, bearing, labeling canned, winding machine

## DP3L high voltage open loop pulse stepping driver

- Supply voltage 220~240VAC
- Pulse and direction input voltage support 5V and 24V
- New control algorithm, significantly improved performance
  The medium and high speed torque is
  10 ~ 30% higher than the original product

Applicable occasions: slicer, clothing packaging machine, non-woven bag making machine, glove machine, etc.









#### ① Power and alarm indicator light

DP3F1 series

Color	Function		
Green light	Power display PWR		
Red light	Fault alarm indicator		
Flashing message Fault explanation			
Flashing message		Tautt explanation	
Flash once		Over current or short circuit	

Flash once

Flash once

Flash continuously twice

Flash continuously twice

Flash continuously
3 times

Flash continuously
4 times

Flash continuously
5 times

Flash continuously
9 Position overlimit

Flash continuously
Flash continuously
9 Power on

## ② Upper computer communication RS232 port

DIP switch

③ Control signal port

Encoder signal input port

Motor and power input port

Power and alarm indicator lights

Interface	Function	
VCC	Power supply +	
WT	Data write	
WR	Data read	
ID	Empty	
GND Power supply ground		
*Note: please use the special cable provided		

By Rinje company for communication. RS232 default communication parameters: baud rate 115200bps, data bit 8, stop bit 1, even parity, station no.1.

\*Note: when a fault occurs, the indicator ligh flashes continuously, pauses for one second and then flashes continuously

#### ③ Control signal interface

Signal	Function	
PUL+	Pulse control signal	
PUL-	T disc control signal	
DIR+	Direction control signal	
DIR-	Direction control signa	
ENA-	- Enable/release signal	
ENA+		
ALM	Alarm output signal	
PEND/Z	In place/Z signal output	
BRK+	Brake output signal	
СОМ	Common terminal of output signal	

### ⑤ Motor and power input

Interface	Function
A+, A-	Motor phase A
B+, B-	Motor phase B
GND	DC power supply ground
+V	DC power supply +
AC1,AC2	AC power supply

#### ④ Output signal common terminal

Sign	Name
NC	Reserved signal
VCC	5V power supply output, provided by the driver, only
GND	for encoder power supply
EZ+	Encoder Z phase signal +
EZ-	Encoder Z phase signal -
EB+	Encoder B phase signal +
EB-	Encoder B phase signal -
EA+	Encoder A phase signal +
EA-	Encoder A phase signal –
	·

#### 6 Dial switch

Dial switch	Function	
SW1-SW4	Subdivision setting	
SW5	Motor operation initial direction selection	
SW6	Z/in place signal	
SW7	Control signal pulse mode selection	
SW8	Open/closed loop selection	
SW9	Command smooth filter	
SW10	Command Smooth filler	

Fault explanation

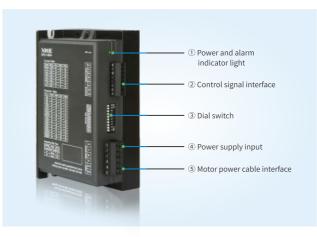
Over current or short circuit

Over voltage

Under voltage

Open circuit or poor contact of motor

#### DP3L1 series



#### 3 Dial switch

Dial switch	Function
SW1~SW3	Dynamic current setting
SW4	Half/full current setting
SW5~SW8	Subdivision accuracy setting
SW9	Command filtering
SW10	IO/PUL mode switching

#### ① Power and alarm indicator light

Color	Function		Flashing message	
Green light	Power display PWR		Flash once	ſ
Red light	Fault alarm indicator		Flash	ŀ
Note: when a f	e: when a fault occurs, the indicator continuously twice		continuously twice	
for one s continu	shes continuously, pauses second and then flashes ously.		Flash continuously 3 times	
			Flash continuously 4 times	

#### ② Control signal interface

© control signal interface		
Interface	Function	
PUL+	Pulse signal input +	
PUL-	Pulse signal input –	
DIR+	Pulse direction input +	
DIR-	Pulse direction input –	
ENA+	Enable/release signal input +	
ENA-	Enable/release signal input –	
ERR	Driver error signal output	
COM	Error signal ground	

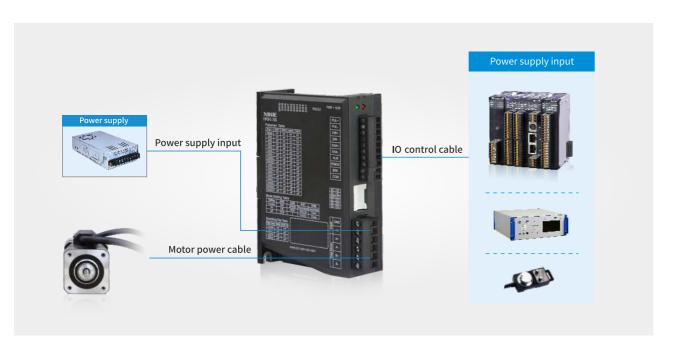
#### ④ Power supply interface

terface	Function	Interface
GND	DC power supply ground	A+, A-
+V	DC power supply +	B+, B-

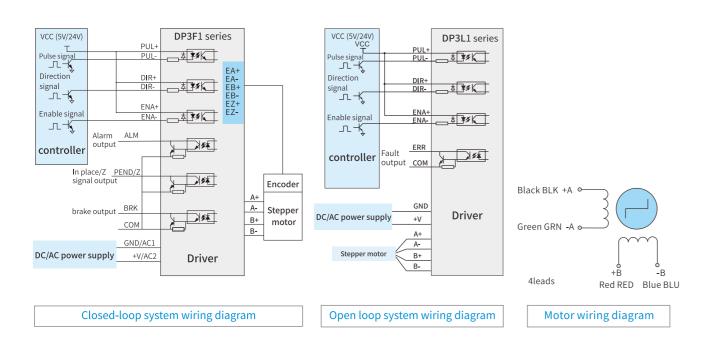
#### ⑤ Motor power cable interface

Interface	Function
A+, A-	Motor phase A
B+, B-	Motor phase B

## Driver peripheral circuit



## Driver wiring diagram



## Product model

### | Driver naming rule

DP3 L - 110 22 A 3 6

22

30

42

56

70

80

110

#### 1 Name

DP3 Stepping driver	Sign	Product name
	DP3	Stepping driver

#### Series

Closed-loop type	7
Open loop type	
Driver type	

## ③ Driver output peak current Sign Current

2.2A

3.0A

4.2A

7.0A

8.0A

11.0A

Sign	Voltage
4	40V
5	50V
8	80V
22	220V

4 Driver max power supply voltage

#### ⑤ Voltage type

Sign	Power supply type
Α	AC/DC power supply
None	DC power supply

Driver specification

#### 6 Driver type

Sign	Driver type
3	Three-phase driver
None	Two-phase driver

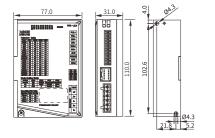
		DP3F closed-loop pulse type			
Driver model		DP3F1-305	DP3F1-705	DP3F1-805A	DP3F1-808A
	Input power supply voltage (V)	DC 20~50	DC 20~50	DC 20~80/AC20~50	AC 20~100/AC20~80
Basic	Output current peak value (A)	1~4	1~7	1~8.4	1~8.4
ds 3	Adaptive motor (base)	42	57/86	86	86
specification	Dimension (mm)	110*77*31	110*77*31	141.5*97.5*56.0	141.5*97.5*56.0
cati	Stepping pulse frequency (kHz)	24V signal 150K, 5V differential signal 150K			
on I	Control signal input voltage (VDC)	Support 5V and 24V (DC)			
	Use occasion	Avoid dust, oil mist and corrosive gas			
Use	Ambient temperature	-10°C~50°C			
env	Max working temperature	60°C			
environment	Humidity	40%~90% RH (no condensation or water droplets)			
	Vibration	5.9m/s² Max			
	Storage temperature	-20°C~65°C			

		DP3L1 economic open-loop pulse type					DP3L1 open loop IO type	DP3L high voltage open loop pulse type
Driver model		DP3L1-224	DP3L1-565	DP3L1-565A	DP3L1-805A	DP3L1-808A	DP3L1-565-IO	DP3L-11022A3
Basic specification	Input power supply voltage (V)	DC20~40	DC20~50	DC20~80/AC20~50	DC20-80/AC20-50	DC20~110/AC20~80	DC20~50	AC200~240
	Output current peak value (A)	0.5~2.2	1.4~5.6	1.4~5.6	2.7~8.4	2.7~8.4	1.4~5.6	3.1~11.3
	Adaptive motor (base)	42	57/86	42/57	86	86	57/86	86/110/130
	Dimension (mm)	80*55*21.3	105*75.8*27.8	105*75.8*27.8	150*97.5*52.6	150*97.5*56	105*75.8*27.8	199.5*137*79
	Stepping pulse frequency (kHz)	200 Khz						
	Control signal input voltage (VDC)	5-24V 5/24V(dial swi						5/24V(dial switch)
Use environment	Use occasion	Avoid dust, oil mist and corrosive gas						
	Ambient temperature	0°C~50°C						
	Max working temperature	60°C						
	Humidity	40%~90% RH(no condensation or water droplets)						
	Vibration	5.9m/s² Max						
7	Storage temperature	-20°C~65°C						

 $<sup>{\</sup>color{red}^*Note:} DP3L1-565/565-IO\ hardware\ version\ 1.0.00\ only\ supports\ 24V, version\ 1.1.01\ and\ up\ support\ 5\sim 24V.$ 

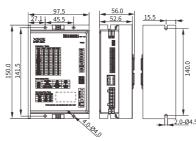
### Driver dimension (Unit: mm)

#### DP3F1-305/DP3F1-705

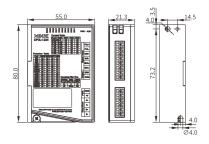


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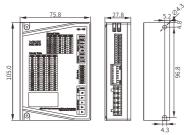




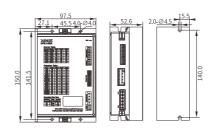
#### DP3L1-224



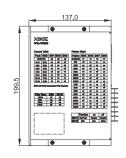


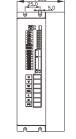


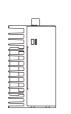
#### DP3L1-805A/DP3L1-808A



#### DP3L-11022A3



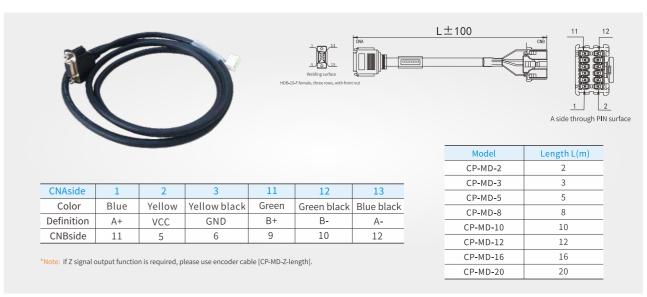




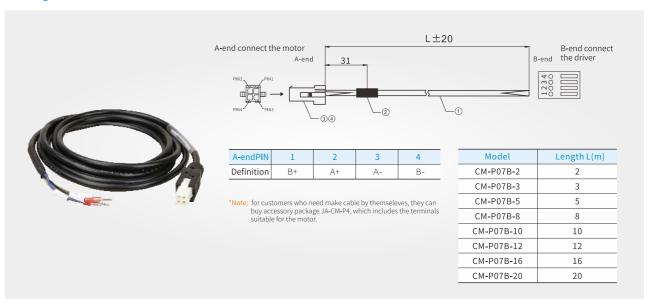
### Accessories

### \*Note: suitable for DP3F1 series

#### | Encoder cable



### Length



Stepping motor

# **Stepping** motor



### | Motor naming rule

<u>MP3- 57 H □ □ 080 -□</u> 1 2 3 4 5 6

① Name	e
Sign	Product name
MP3	Stepping motor
⑦ Gene	ral customized code
⑦ Gene	ral customized code

Sign	Product name	Sign	Base
MP3	Stepping motor	20	201
_		28	28
Gene	ral customized code	35	351
Sign	Туре	42	421
acant	Standard	57	571
В	Right angle flat	60	601
Ь	(without keyway)shaft	86	861
D	Shaft diameter change	110	110
L	Shaft length change	130	130
_	Z phase output		

se number	3
Base number	Si
20 base	ŀ
28 base	
35 base	
42 base	
57 base	
60 base	

③ Open close loop type						
Sign	Туре					
Н	Standard open loop motor					
Т	Optical encoder closed-loop motor					

30	pen close loop type	
Sign	Туре	
Н	Standard open loop motor	
Т	Optical encoder closed-loop motor	

4 Spe	(5)	E	
Sign	Туре	- 5	Si
- 1	Waterproof motor	V	ac
S	Double output shaft motor		-

brake type			® Holding torque		
Sign	Power-off brake		Sign	Static moment	
/acant	Brake type		0028	0.028N.m	
Z	Power-off brake		0115	0.115N.m	
			005	0.5 N.m	
			008	0.8 N.m	
			013	1.3 N.m	
			023	2.3 N.m	
			020	2.0 N	

O moraning conque						
Sign	Sign Static moment					
0028	0.028N.m	080				
0115	0.115N.m	085				
005	0.5 N.m	100				
008	0.8 N.m	120				
013	1.3 N.m	160				
023	2.3 N.m	200				
030	3.0 N.m	280				
042	4.2 N.m	350				
045	4.5 N.m	500				

### I Adaptation table of closed-loop motor and driver

Closed loop r	motor model	Step angle	Static moment	Phase current	Makamalaafi	Shaft diameter	Marketine di districe
Standard series	Brake series	(°)	(N.m)	(A)	Motor shaft	(mm)	Matched driver
MP3-42T005	MP3-42TZ005	1.8	0.5	1.68	Flat	5	
MP3-42T008	MP3-42TZ008	1.8	0.8	1.7	Flat	5	DP3F1/C-305
MP3-57T013	MP3-57TZ013	1.8	1.3	4	Flat	8	
MP3-57T013-D6.35	MP3-57TZ013-D6.35	1.8	1.3	4	Flat	6.35	
MP3-57T023	MP3-57TZ023	1.8	2.3	5	Flat	8	
MP3-57T030	MP3-57TZ030	1.8	3	5	Flat	8	DP3F1/C-705
MP3-57T030-4A	MP3-57TZ030-4A	1.8	3	4	Flat	8	
MP3-60T030	MP3-60TZ030	1.8	3	5	Flat	8	
MP3-86T045	MP3-86TZ045	1.8	4.5	6	Flat Key 5*25	14	
MP3-86T080	MP3-86TZ080	1.8	8	6	Flat Key 5*25	14	
MP3-86T085	MP3-86TZ085	1.8	8.5	6	Flat Key 5*25	14	DP3C-808 DP3F1-805A
MP3-86T085-D12.7	MP3-86TZ085-D12.7	1.8	8.5	6A	Flat Key5*25	12.7	DP3F1-805A DP3F1-808A
MP3-86T100	MP3-86TZ100	1.8	10	6	Flat Key 5*25	14	J 371-000A
MP3-86T120	MP3-86TZ120	1.8	12	6	Flat Key 5*25	14	

### | Adaptation table of three-phase open loop motor and driver

Three phase o	pen loop motor model	Step angle	Static moment	Phase current	Motor shaft	Shaft diameter	Matched driver
Standard series	Brake series	(°)	(N.m)	(A)	MOLOI SHAIL	(mm)	Matched driver
MP3-110H120	MP3-110HZ120	1.2	12	6	Flat Key 6*30	19	
MP3-110H160	MP3-110HZ160	1.2	16	6.4	Flat Key 6*30	19	
MP3-110H200	MP3-110HZ200	1.2	20	6.9	Flat Key 6*30	19	
MP3-110H250	MP3-110HZ250	1.2	25	6	Flat Key6*25	19	DP3L-11022A3
MP3-130H280	MP3-130HZ280	1.2	28	6.9	Flat Key 8*36	24	
MP3-130H350	MP3-130HZ350	1.2	35	6.9	Flat Key 8*36	24	
MP3-130H500	MP3-130HZ500	1.2	50	6.9	Flat Kev 8*36	24	

### | Adaptation table of two-phase open loop motor and driver

Open loop	motor model	Step angle	Static moment	Phase current		Shaft diameter	
Standard series	Brake series	(°)	(N.m)	(A)	Motor shaft	(mm)	Matched driver
MP3-20H0028	/	1.8	0.028	0.2	Flat	4	
MP3-20H0048	/	1.8	0.048	0.65	Flat	4	
MP3-28H0085	/	1.8	0.085	0.7	Flat	5	
MP3-28H0115	/	1.8	0.115	1	Flat	5	
MP3-28H017	/	1.8	0.17	1	Flat	5	
MP3-35H017	/	1.8	0.17	1	Flat	5	DP3CL-305
MP3-35H026	/	1.8	0.26	1	Flat	5	DP3L1-224
MP3-42H002	/	1.8	0.22	1.33	Flat	5	
MP3-42H004	MP3-42HZ004	1.8	0.46	1.7	Flat	5	
MP3-42H005	MP3-42HZ005	1.8	0.5	1.68	Flat	5	
MP3-42H008	MP3-42HZ008	1.8	0.8	1.7	Flat	5	
MP3-57H006	MP3-57HZ006	1.8	0.6	3	Flat	8	
MP3-57H013	MP3-57HZ013	1.8	1.3	4	Flat	8	
MP3-57H013-D6.35	MP3-57HZ013-D6.35	1.8	1.2	4	Flat	6.35	
MP3-57H023	MP3-57HZ023	1.8	2.3	5	Flat	8	
MP3-57H030	MP3-57HZ030	1.8	3	5	Flat	8	DP3L1-565
MP3-57H030-4A	MP3-57HZ030-4A	1.8	3	4	Flat	8	DP3CL-705
MP3-60H030	MP3-60HZ030	1.8	3	5	Flat	8	DF3CL-103
MP3-86H035	MP3-86HZ035	1.8	3.5	4	Flat Key 5*25	14	
MP3-86H035-D12.7	MP3-86HZ035-D12.7	1.8	3.5	4	Flat Key 5*25	12.7	
MP3-86H045	MP3-86HZ045	1.8	4.5	6	Flat Key 5*25	14	
MP3-86H045-D12.7	MP3-86HZ045-D12.7	1.8	4.5	6	Flat Key 5*25	12.7	
MP3-86H080	MP3-86HZ080	1.8	8	5	Flat Key 5*25	14	
MP3-86H080-D12.7	MP3-86HZ080-D12.7	1.8	8	5	Flat Key 5*25	12.7	DP3L1-808A
MP3-86H085	MP3-86HZ085	1.8	8.5	6	Flat Key 5*25	14	DP3CL-808
MP3-86H085-D12.7	MP3-86HZ085-D12.7	1.8	8.5	6	Flat Key 5*25	12.7	DP3CL-808A
MP3-86H100	MP3-86HZ100	1.8	10	6	Flat Key 5*25	14	
MP3-86H120	MP3-86HZ120	1.8	12	6	Flat Key 5*25	14	

## Motor mounting dimension (Unit: mm)

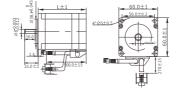
### | Closed-loop motor

#### 42 series

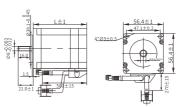
Model	L(mm)						
Model	General	With brake					
MP3-42T005	66	97					
MP3-42T008	78	109					

#### 60 series

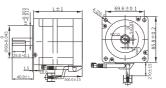
Model	L(mm)		
	General	With brake	
MP3-6	0T030	107	147



Model	L(mm)		
Model	General	With brake	
MP3-57T013	75	115	
MP3-57T023	95	135	
MP3-57T030-4A	130	170	

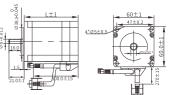


	Model	L(mm)		
		General	With brake	
	MP3-86T045	106	143	
	MP3-86T080	124	161	
	MP3-86T085	144	181	
	MP3-86T120	176	213	



#### Large 57 series

Model	L(mm)	
модет	General	With brake
MP3-57T030	107	147



Stepping motor

110 series

Model

MP3-110H120

## Motor mounting dimension (Unit: mm)

### | Two-phase open loop motor

#### 20 series

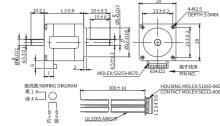
	Model	L(mm)	
		Normal	With brake
	MP3-20H0028	27.2	/
	MP3-20H0048	37.8	/

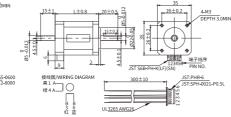
#### 28 series

Model	L(mm)		
Model	Normal	With brake	
MP3-28H0085	30.1	/	
MP3-28H0115	39.2	/	
MP3-28H017	50.4	/	

#### 35 series

Model	L(mm)	
	Normal	With brake
MP3-35H017	31.4	/
MP3-35H026	42.3	/
MP3-35H042	51.7	/





#### 42 series

Model	L(mm)		
	Normal	With brake	
MP3-42H002	33	-	
MP3-42H004	40	71	
MP3-42H005	48	79	
MP3-42H008	60	91	

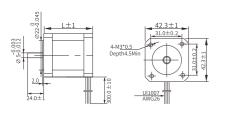


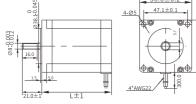
Madal	L(mm)	
Model	Normal	With brake
MP3-57H013	56	96
MP3-57H023	76	115
MP3-57H030-4A	110	150

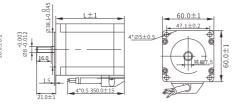
Large 57 series

Model	L(mm)	
Model	Normal	With brake
MP3-57H030	88	127

\*Note: This motor has a body width of 60 motors, a front cover of 57 motors, installation method is same to 57 motors. The holding torque of 3N can be achieved by using a relatively short body length, improving the motor stability.





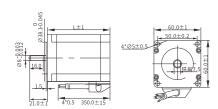


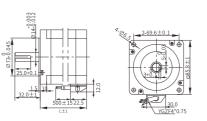
#### 60 series

Model	L(mm)	
	Normal	With brake
MP3-60H030	88	127

#### 86 series

Model	L(mm)	
Model	Normal	With brake
MP3-86H035	65	108
MP3-86H045	80	123
MP3-86H080	98	141
MP3-86H085	118	161
MP3-86H120	150	193





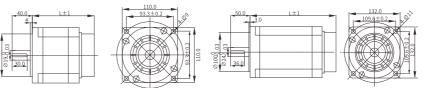
#### MP3-110H160 185 253 287 MP3-110H200

| Three-phase open loop motor

Normal

151

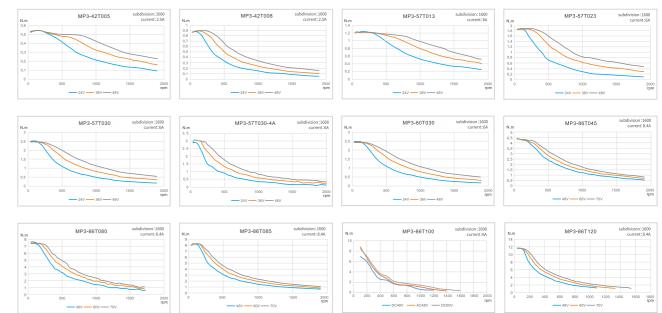
nm)	Model	L(mm)		
With brake	Model	Normal	With brake	
219	MP3-130H280	222	275	
253	MP3-130H350	254	307	
287	MP3-130H500	319	352	
	MP3-110H250	194	/	



130 series

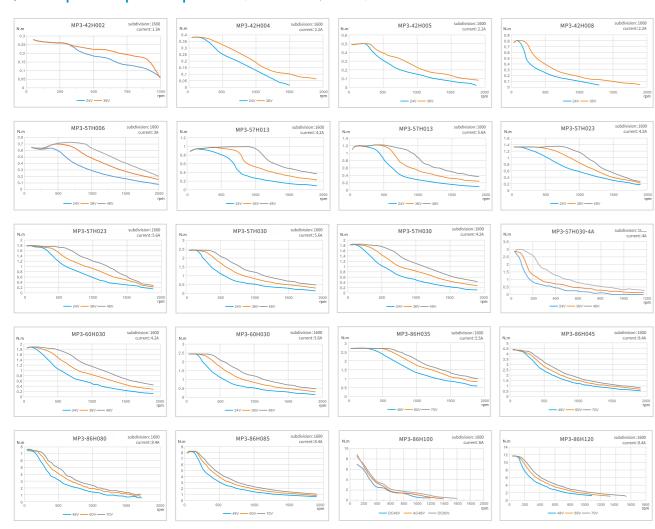
## Motor torque frequency characteristic diagram

### Closed-loop series (the follow current is peak current)

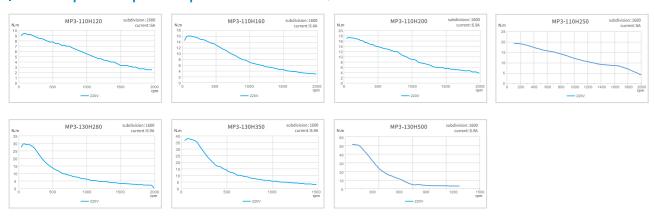


# Motor torque frequency characteristic diagram

### Two-phase open loop series (the follow current is peak current)



#### Three-phase open loop series (the follow current is peak current)





# Vision system

IoTindustrial controller · Industrial panel PC

## **IoT** industrial controller SP series

#### Introduction

SP series scalable IOT industrial controller adopts processors with different performance, including Intel Apollo Lake, Intel Sky Lake/Kaby Lake, Whiskey lake-U series. It can provide powerful computing performance, excellent image processing capability, rich external interfaces, meet the maximum number of device connections and very low power consumption. Support extensive application development and convenient service deployment, and perform well in industrial automation and machine vision applications.



#### Features

- Multi-performance processor can be selected to meet different industrial testing requirements
- 300 thousand to 20 million pixel CMOS image sensor is optional
- Provide rich external interfaces to support one machine to perform multiple camera tasks
- Compatible with various standard industry software, and the upper computer software can becustomized according to the needs of the industry
- Support screen customization and provide simple, flexible and high-performance hardware combination
- Super anti-interference, stable and efficient operation in complex scenes
- Equipped with full-featured vision software X-SIGHT VISION STUDIO, real time image transmission, high speed image matching

#### Application area





Character reading

Multi-camera operation









Contour location High precision measurement Robot visual guidance

Defect detection

### IoT industrial controller SP series

#### Naming rule

SP-XP720T-V310

1 Industrial controller

2 Product labeling information

3 CPUtype

4 SSD capacity

5 RAM capacity

6 Mechanical hard disk capacity

7 Product series

#### Model list

Series	Model	CPU	MEM(G)	SSD(G)	HDD(T)
V200 Carias	SP-XN620T-V210	Intel®Pentium® N4200/Intel®Celeron® J4205	4	64	0
V200 Series	SP-XN720T-V210	Intel®Pentium® N4200/Intel®Celeron® J4205	4	128	0
	SP-XP720T-V310	Intel® Pentium® G4560	4	128	0
V310 Series	SP-XS720T-V310	Intel® Core™ i3 8100	4	128	0
	SP-XC720T-V310	Intel® Core™ i5 9400	4	128	0
	SP-XP720T-V325	Intel® Pentium® G4560	4	128	0
	SP-XS720T-V325	Intel® Core™ i3 8100	4	128	0
1/222 6 .	SP-XC720T-V325	Intel® Core™ i5 9400	4	128	0
V320 Series	SP-XP720T-V326	Intel® Pentium® G4560	4	128	0
	SP-XS720T-V326	Intel® Core™ i3 8100	4	128	0
	SP-XC720T-V326	Intel® Core™ i5 9400	4	128	0
	SP-XP720T-V335	Intel® Pentium® G4560	4	128	0
	SP-XS720T-V335	Intel® Core™ i3 8100	4	128	0
V220 C:	SP-XC720T-V335	Intel® Core™ i5 9400	4	128	0
V330 Series	SP-XS720T-V336	Intel® Core™ i3 8100	4	128	0
	SP-XC730T-V336	Intel® Core™ i5 9400	8	128	0
	SP-XM830T-V336-M	Intel® Core™ i7 9700	8	256	0

\*Note: some common models are listed above. Please consult the project engineer for detailed selection of industrial controller

SP Series IoT industrial controller

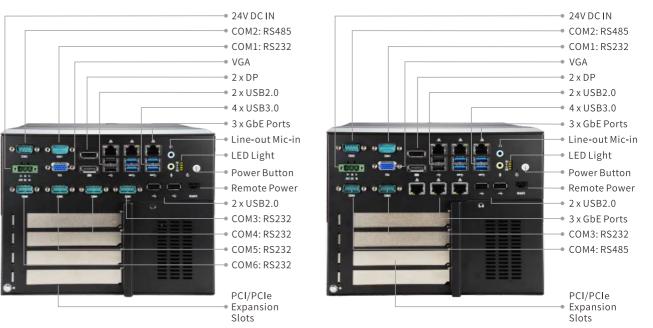


#### | Parameter specification

Attribute	SP V210
Processor system	Intel® Pentium® N4200/ Intel® Celeron® J4205
BIOS	AMI8Mb UEFIBIOS
RAM	4G DDR3L 1600MHz (max 8G)
Display	DP,resolution up to4096x2160@60Hz
Display	HDMI, resolution up to3840x2160@30Hz
Audio	Line-out、Mic-in,high-definition audio,, RealtekALC662
Ethernet	1xRTL8111H GbE,support network wake-up
Ethernet	2xIntel i210/i211 GbE
Serial port	2 x RS232,2 x RS485
USBport	2 x USB2.0 , 2 x USB3.0
Europaion alata	Full-size Mini-PCIe, support WLAN/WWAN module
Expansion slots	USIM,for 3G/4GLTE communication
Memory	eMMC (max256GB) ; M.2 SSD (2242) ;
Memory	TF card slot, SATA3.0, support 2.5"hard disk
Power supply and power consumption	12-32V DC IN / 24W
System	Windows 10 IoT Enterprise 64 bit、Linux
Dimension	120×100×51mm (length×width×height)
Installation method	Aluminum alloy, wall hanging kit
Weight	0.65kg
Working temperature	-20°C∼60°C, with 0.7m/s airflow
Storage temperature	-40°C~80°C
Relative humidity	95%@40°C (no condensation)
ESD	Contact discharge ±4KV, air discharge ±8KV
Protection level	IP30
Certification standard (EMC)	CE, FCC Class A, TUV

### **SP V300**

SP V310 industrial controller processing system up to Intel@ CoreTM i5 9400, provide powerful computing performance and image processing capability. It can support wide range of application development and convenient server deployment, and have excellent performance in industrial automation and machine vision applications.



\*Note: the interface difference of V310, V325, V326. V310 is marked in the above figure, V325/V326 add a row of interfaces in the middle, V335/V336 add four PCI expansions.

#### | Parameter specification

Attribute	SPV310	SPV325	SPV326	SPV335	SPV336	
CPUmodel		0	™ i3 8100/ Intel® Core™ i5 9400	Intel® Core™ i3 8100/ Intel® Core		
Chipset				110		
Memory			4G DDR4 SO-E	DIMM,max32GB		
Display	2x DP,resolut	tion up to4096 x 230	04 @ 60Hz 1x VGA,resolution up	to1920 x 1080 @ 60Hz DP+DP / DP-	+VGA independent dual display	
audio		Line-out、Mic-in,Realtek ALC662				
Ethernet	1x Intel i21 support netw 2 x Intel i2	ork wake-up	1x Intel i219LM GbE, support network wake-up 5 x Intel i211AT GbE	1x Intel i219LM GbE,support network wake-up 2 x Intel i211AT GbE	1 x Intel i219LM GbE, support network wake-up 5 x Intel i211AT GbE	
USB interface	4 x USB3.0 2 x USB2.0			.4 x USB2.0、 SB2.0 TYPE A		
Serial port	1 x RS232 1 x RS485	5 x RS232 1 x RS485	2 x RS232 2 x RS485	5 x RS232 1 x RS485	2 x RS232 2 x RS485	
Remote switch	/ 4-pin connector supporting remote power switch and indicator					
Expansion slot	1×full-size Mini-PCIe, support WLAN/WWAN module 1×USIM, for 3G/4G LTE communication			1×full-size Mini-PCIe, support WLAN/WWAN module 1×USIM, for 3G/4G LTE communication 2×PCI, PCIe (16x), PCIe (2x)		
C1		1 x SATA 3.0 suppo	ort 2.5" hard disk	3 x SATA3.0, supp	ort 2.5" hard disk	
Storage			1 x mSATA(compat	ible with mini-PCIe)		
Power supply			24V DC IN 3	PIN Phoenix		
Power			12	ow		
Operation system			Windows 10 IoT En	terprise 64bit、Linux		
Installation method				kit installation		
Dimension	220x 226 x68mm	22	20 x 226 x 75mm (length xwidth x height)	220 x 226  length×widtl	x 176mm	
Weight	3kg		3.3kg	4k	g	
Working temperature			0°C∼ 50°C with	0.7m/s airflow		
Storage temperature			-40°C	~80°C		
Relative humidity			95% @ 40 (no	condensation)		
ESD			Contact discharge±4	KV, air discharge±8 KV		
Protection level			IP	30		
Certification standard			CE,FCCC	lass A , TUV		

## **IoT** industrial panel PC SPT series



#### Introduction

SPT P110 series compact embedded industrial panel PC is equipped with Intel Apollo Lake/Whiskey lake-U series multicore processor. It adopts 10.1"/12.1"/15.6"/21.5 " industrial high brightness TFT LCD, supports 10-wire capacitive multi-touch. The front of the whole machine is waterproof and has strong anti-interference ability. It is suitable for CNC machinery, CNC processing, 3C, packaging, inspection and other visual inspection industries.

#### Characteristics

- TFT LCD screen, supporting 10-wire capacitive multi-touch
- Support EtherCAT and other TSN network communication, meet real time control needs
- Provide gigabit Ethernet port, USB3.0 port, RS232 port to realize high-speed data transmission
- It can work completely without PC and output and process images directly on the display
- TPM 2.0 encryption protection, front panel IP65 protection

#### Naming rule

### SPT-XL720T15-P110 **3** 4

- 1 IOT industrial panel PC
- 2 Product labeling information
- 3 CPU type
- 4 SSD capacity

- 5 RAM capacity
- 6 Mechanical hard disk capacity
- 7 Screen size 8 Product series

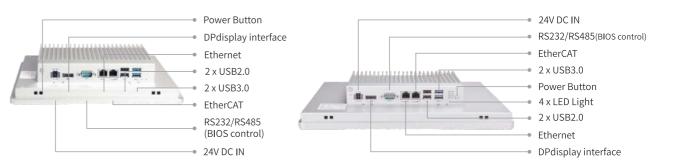
#### | Model list

Model	CPU	MEN(G)	SSD(G)	HDD(T)	Screen size (")
SPT-XN720T10-P110	Intel®Pentium®J4205	4	128	0	10.1
SPT-XS720T12-P110	Intel®Core™ i3-8145U	4	128	0	12.1
SPT-XJ720T12-P110	Intel®Celeron® J3455	4	128	0	12.1
SPT-XL720T15-P110	Intel®Celeron® 4205U	4	128	0	15.6
SPT-XS720T15-P110	Intel®Core™ i3 8145U	4	128	0	15.6
SPT-XC720T15-P110	Intel®Core™ i5 8265U	4	128	0	15.6
SPT-XS720T21-P110	Intel®Core™ i3-8145U	4	128	0	21.5
SPT-XC830T21-P110	Intel®Core™ i5-8265U	8	256	0	21.5

\*Note: some common models are listed above. Please consult the project engineer for detailed selection of industrial controller

## IoT industrial panel PC SPT series

#### | Interface description



#### | Parameter specification

Attribute	10.1"		12.1"			
Processor system	Intel®Celeron® J3455 Intel®Pentium® J4205	Intel®Celeron® J3455 Intel®Pentium® J4205	Intel® Core™ i3 8145U/8145UE			
Chipset	Intel®SOC integr	Intel®SOC integrated Intel®WHL-U				
BIOS		AMI				
Memory	4G LPDDR4 2400MHz	(max 8G)	4G DDR4 2666MHz (max 32G)			
Storage	111. 1×M.2 me	mory (standard 128G optional), 1×	EMMC optional			
External I/O	2xIntel I211-AT 1xRS232/485 (BIOS 2xUSB2.0, 2xUS 1xDP;1xRese	control); B3.0;	2xIntel I211-AT GbE; 1xRS232; 1xRS485; 4xUSB3.0; 1xDVI-I; 1xReset			
Internal I/O	113. 1×M.2, support WLAN 1×USIM, for 4G/5G LTE co	114. 1×M.2, support WLAN/WWAN module, 1×USIM, for 4G/5G LTE communication, 1×USB2.0, built-in for dongle				
Display type	TFT LCD (LED backlight)					
Resolution		1200x800				
Touch type	10	wire capacitive multi-touch screen				
Transmittance		90%±3%				
Interface type		USB				
Indicator light	4xindicator light (PWR/S/	ATA/RUN/ERR)	4xindicator light (LAN/PWR/USER1/USER2)			
Power supply	24V DC IN 4PIN P	noenix	24V DC IN 3PIN Phoenix			
Power		20W~60W				
System		Windows 10 IoT LTSC,Linux				
Dimension	complete machine 265mmx185mmx51.8mm opening 251mmx171mm		e 320mmx219mmx50.8mm ;311mmx210mm			
Weight	1.8kg		2.8kg			
Working temperature		0∼50°C with 0.7m/s airflow				
Storage temperature		-20∼60°C (no condensation)				
Relative humidity	1	0∼95%@40°C (no condensation)				
Front cover protection level		IP65				
Certification standard (EMC)		CE,FCC				

### IoT industrial panel PC SPT series

#### | Interface description



#### | Parameter specification

Attribute	15.6"	21.5"			
Processor system	Intel®Celeron® 4205U Intel®Core™ i3-8145U/8145UE Intel®Core™ i5-8265U				
Chipset	Intel®\	WHL-U			
BIOS	Al	MI			
Memory	4G DDR4 2666	MHz (max 32G)			
Storage	11×M.2 memory (standard 128	3G optional), 1×EMMC optional			
External I/O	4xIntel I211-AT GbE; 1xRS232; 4xUSB3.0; 1xDVI-I; 1xReset				
Internal I/O	1×M.2, support WLAN/WWAN module, 1×USIM, apply to 4G/5G LTE communication, 1×USB2.0, built-in for dongle				
Display type	TFT LCD (LED backlight)				
Resolution	1366x768	1920x1080			
Touch type	10-wire capacitive mu	ılti-point touch screen			
Transmittance	90%:	±3%			
Interface type	US	SB			
Indicator light	4xindicator light (LAN	I/PWR/USER1/USER2)			
Power supply	24V DC IN 31	PIN Phoenix			
Power	20W^	~60W			
System	Windows 10 le	oT LTSC,Linux			
Dimension	complete machine 390mmx245mmx51mm opening 381mmx236mm	complete machine 528mmx322.5mmx52.8mm opening 517mmx311mm			
Weight	3.53kg	6.3kg			
Working temperature	0∼50°C with (	0.7m/s airflow			
Storage temperature	-20∼60°C (no	condensation)			
Relative humidity	10~95%@40°C (	no condensation)			
Front cover protection level	IP	65			
Certification standard (EMC)	CE,	FCC			

## **AGV** industrial special model



#### Introduction

AGV IoT industrial controller is specially designed for AGV guided car, and on-board WiskeyLake-U series processor. The high-speed CAN interface realizes the fast interaction of torque, resolution, steering activity and other information with the control unit to ensure the smooth steering action. Multi-channel input and output interfaces realize high-speed signal transmission and provide customers with integrated and intelligent solutions.

#### Features

- 1 On-board Intel WiskeyLake-U platform, multi-core high performance
- 2 Rich external interfaces, 4-channel Gigabit Ethernet, 16-channel input and output
- 3 2-channel high speed CAN, support CAN2.0A and CAN2.0B protocol
- 4 Built-in super capacitor, stronger anti-vibration performance, ensuring data and system safety

#### Naming rule

### TSC-AGV10 / i5-8265U / 8G / 128G

1

**(2**)

3

4

1 AGV10 series

2 CPU type

3 Memory capacity(MEM)

4 Solid state drive capacity (SSD)

#### | Model list

Series	Model	СРИ	MEM(G)	SSD(G)
AGV Series	TSC-AGV10	Intel® Core™ i5-8265U	8G	128G

302

## AGV industrial special model

#### | Interface explanation



#### | Parameter specification

Attribute	Parameter
Processor system	Intel®Celeron® 4205U Intel®Core™ i3-8145U Intel®Core™ i5-8265U
Chipset	Intel®WHL-U
BIOS	AMI
Memory	DDR4 2400MHz (max 32G)
Storage	1×M.2 2280 (standard 128G), 1×EMMC optional
I/O interface	4xIntel I211-AT(10/100/1000Mbps,Ethernet); 4xUSB3.0; 1 x RS232, 3 x RS485; IO:GPI Ooptocoupler isolation, 16 inputs (NPN/PNP), 16 outputs (NPN);
Internal I/O	4 x LED(DG/standby/SATA/WD);1xReset; 2 x CANBus2.0 A/B
Extension	1×USB2.0, built-in for dongle, 2×SATA, up to 6Gb/s, 1×M.2, 2280 SSD or 3042 4G LTE communication, 1×M.2, 2230 support WLAN/WWAN module
Display	DVI-I, resolution up to 1920 x 1200 @60Hz
Power supply	24V DC 4PIN Phoenix, (2PIN for Remote)ACPI mangement
UPS	Built-in supercapacitor(4x300F)
Power	20W(typical)~60W(max)
System	Windows 10 IoT LTSC, Linux
Dimension	236 x 165 x 65.5 mm( Length×Width×Height)
Weight	2.0kg
Working temperature	0∼60°Cwith 0.7m/s airflow
Storage temperature	-40°C~85°C, 60°C@90% (no condensation)
Relative humidity	10∼95%@40°C (no condensation)
Protection level	IP30
Certification standard (EMC)	CE, FCC

## **4U** shelf-mounted industrial controller

#### Introduction

T4U-A series industrial controller adopts Intel Kaby/Coffee/SkyLake processor, and the chassis is a standard 4U rack-mounted industrial chassis, which is formed by high-quality steel plate mold and has ultrahigh stability and scalability. With its powerful industrial computing performance and image processing capability, T4U-A series can be widely used in industrial automation, machine vision, power and other industrial scenarios.



#### Advantage

- Support Intel generation 6/7/8/9 CoreTM/Pentium/Celeron series CPU, up to generation 10
- Up to 5 PCIE expansion slots are provided with strong spatial scalability
- Industrial-grade memory, large storage capacity, up to 128G memory
- Built-in 600W ATX power supply ensures stable operation of the machine
- Compatible with 4 3.5-inch disk drives

#### Naming rule

## T4U-B10 / H170 / i5-6500 / 4G / 128G / 1T

1

2

3

(4)

3 CPU type

4 MEM capacity

T4U-B10 series
 (SSD)capacity

6 HDD capacity

2 MOBO

#### Model list

Model	МОВО	CPU	MEM(G)	SSD(G)	HDD(T)	
H170	H170 Intel® Core™ i5-6500 Intel® Core™ i7-6700/7700		4G/8G/16G/32G			
T411 P10	H310C	Intel® Core™ i5-6500/9400 Intel® Core™ i7-6700/7700/9700	4G/8G/16G/32G	128G/256G/512G(mSATA)	17/27/47	
T4U-B10 Q170	Q170	Intel® Core™ i5-6500/9400 Intel® Core™ i7-6700/7700/9700	4G/8G/16G/32G/64G		1T/2T/4T	
Q470		Intel® Core™ i5-10500 Intel® Core™ i7-10700	4G/8G/16G/32G/64G	128G/256G/512G(M.2)		

### 4U shelf-mounted industrial controller

#### | Interface explanation



#### | Parameter specification

Attribute	T4U-B10/H170	T4U-B10/H310C	T4U-B10/Q170	T4U-B10/Q470	
Processor system	Intel 6-7th Generation Core/Pentium/ Celeron Desktop CPU	Intel 6/7/8/9th Generation Core/Pentium/ Celeron Desktop CPU	Intel 6/7/8/9th Generation Core/Pentium/ Celeron Desktop CPU Intel 10th Generation Core/ Celeron Desktop		
Chipset	H170	H310C	Q170	Q470	
BIOS	AMI UE	FI BIOS	AMI UEFI BIOS(Suod	prt Watchdog Timer)	
Memory	DDR4 U-DIMM,24	00MHz (max 32G)	DDR4 U-DIMM,2400/266	66/2933MHz (max 128G)	
Display	1 x HDMI, resolution up 1 x VGA, resolution up 1 x DVI, resolution up	to1920 x 1200 @60Hz	1 x VGA, resolution up	p to4096 x 2160 @60Hz to1920 x 1200 @60Hz to1920 x 1200 @60Hz	
Audio	Line-out、Mic-in,HD Audio, Realtek ALC662	Line-out、Mic-in,HD Audio, Realtek ALC897	Line-out、Mic-in,HD Audio, Realtek ALC662	Line-out、Mic-in, Realtek HDA Codec	
Ethernet	1 x Intel i219LM GbE, 1 x Intel i211AT GbE, 100/1000 Mbps	1 x Intel i219LM GbE, 1 x Intel i225-V GbE, 100/1000 Mbps	1 x Intel i219LM GbE, 1 x Intel i211AT GbE, 10/100/1000 Mbps		
Serial port	Rear I/O: 1 x RS232 Internal: 3 x RS232, 2 x RS232/485( jumper)		Rear I/O: 1 x RS232 Internal: 3 x RS232, 1 x RS232/422/485( jumper), 1 x RS232/485( jumper		
USB port	Real I/O: 4 x USB3.0、2 x USB2.0 Header: 2 x USB2.0 Internal: 1 x USB2.0				
Other interfaces		1 x l	PS/2		
Extension slot	1 x PCle 16X 1 x PCle 4X 1 x PCle 4X 1 x PCle 1X 3 x PCle 1X 4 x PCl 2 x Mini PCl-E 1 x SIM 8 x GPIO  1 x PCle 16X 2 x PCl 1 x Mini PCl-E 1 x SIM 8 x GPIO 8 x GPIO				
Storage			SD optional (mSATA) 0 interface		
Power supply		600V	V ATX		
System			oT LTSC,Linux		
Dimension	176 x 430		Depth(with handle 176×430×50	09.4mm)]	
Installation method			nelf mounted		
Working temperature			~60°C		
Storage temperature			C-75°C		
Relative humidity		95%@40°C (no	condensation)		

# X-SIGHT VISION STUDIO 3.0

## Designed for machine vision engineers

X-SIGHT VISION STUDIO 3.0 is a new generation of machine vision development platform based on Dataflow independently developed by Xinje. It can provide powerful image analysis tools, rich tool structure output and detailed feature details to facilitate user-defined operation, speed up the project development process and shorten the project cycle.

The unique advantage of X-SIGHT VISION STUDIO 3.0 is to focus on professional users and provide a rapid application development environment, which can easily establish typical applications and highly customized large-scale projects.



100+ Industry solutions 5 years Concentrate on research and development

Millisecond Execution speed Hundreds of millions of times

Stable operation

#### Advantage

- No need to write code, drag and use, and instructions can be connected to each other to easily create projects
- Support mainstream industrial camera, manipulator, PLC, Modbus, TCP/IP and other communication modes
- Built-in powerful machine vision algorithm library, can customize functions as required, and provide user-defined interface
- The software provides a large number of engineering case references and detailed user manuals
- Comply with GigE Vision standards, support GenTL interface and a large number of vendor-related API
- All tools are optimized for SSE technology and multi-core processors, and the algorithm processing speed can reach millisecond level
- It can process various image areas, paths, geometry, sections and histograms
- It can process various image areas, paths, geometry, sections and histograms



No programming



Drag icon

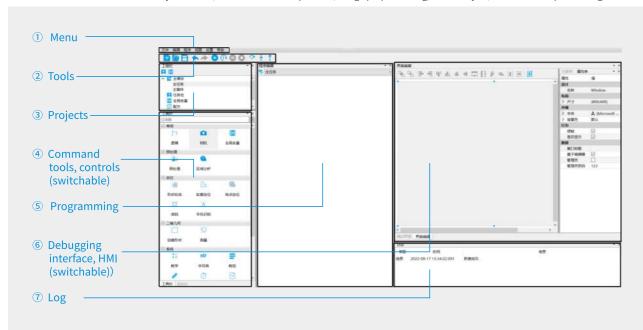


Easy to create

### X-SIGHT VISION STUDIO 3.0

#### Software interface

X-SIGHT VISION STUDIO 3.0 has many functions, such as camera acquisition, image preprocessing, area analysis, detection and positioning.



#### Tool type

#### Image preprocessing



Image











conversion









#### Regional analysis















conversion

characteristics Create area Detection and positioning













operation





detection



Measurement

■ Basic calibration



calibration

Modbus



calibration

















coordinates



Mechanical learning

#### Communication











### Accessories

#### Camera

SV series industrial cameras, as the components of image acquisition in machine vision system, not only directly determine the resolution and image quality of all collected images, but also directly related to the operation mode of the whole system. Camera selection is an important link in the design of machine vision system.

SV series industrial camera resolution includes 0.3MP ~ 20MP, has powerful ISP algorithm, supports FPN, SPC correction. and is compatible with GigE Vision protocol, USB3.0 Vision protocol and GenlCam standard.



#### Parameter specification

Product model	Pixel	Color	Resolution	Cmos dimension(")	Max frame rate (fps)	Exposure mode
SV-H30M300-C	300 thousand	Monochrome	640x480	1/4	300	Global
SV-H50C-C	500 thousand	Color	800x600	1/3.6	120	Global
SV-H120M-C	1.2 million	Monochrome	1280x960	1/3	30	Global
SV-H130C-C	1.3 million	Color	1280x1024	1/2	60	Global
SV-H200M-C	2.3 million	Monochrome	1920x1200	2/3	50	Global
SV-H300M-C	3.1 million	Monochrome	2048x1536	1/1.8	36	Global
SV-H500C-C	5 million	Color	2448x2048	2/3	23	Global
SV-H500M-C1	5.3 million	Monochrome	2592x2048	1	20	Global
SV-H600M-C	6.3 million	Monochrome	3072x2048	1/1.8	23	Roller shutte
SV-HA00C-C	10 million	Color	3840x2748	1/2.3	10	Roller shutte
SV-HA20C-C03	12 million	Color	4000x3000	1/1.7	9	Roller shutte
SV-HB00M-C	20 million	Monochrome	5472x3648	1	5.8	Roller shutte

\*Note: some common models are listed above. Please consult the project engineer for detailed selection.

#### I Camera lens

The main function of SL series industrial lens is to image the target on the photosensitive surface of the image sensor. The important parameters of lens selection are resolution, focal length, aperture size, depth of field, interface form, etc. Reasonable selection and installation of lens is an important link in the design of vision system.

FA fixed focus lens has no focal segment and only with one fixed focal length. It is the most complete and widely used type of industrial lens. It has the advantages of fast focusing speed, accurate photometry and stable imaging quality.



#### ■ Common lens model list

Lens series	Product model	Focal length (mm)	Distortion rate (%)	Resolution	Inductive size	Interface
Fixed focus lens	SL-DF12-C	12	-0.8	5 million	2/3	C Interface
	SL-DF16-C	16	-0.1	5 million	2/3	C Interface
	SL-DF35-C	35	-0.8	5 million	2/3	C Interface
	SL-DF08-C10M	8	-0.1	10 million	2/3	C Interface
	SL-DF35-C20M	35	-0.04	10 million	1.1	C Interface

Note: some common models are listed above. Please consult the project engineer for detailed selection.

### Accessories

#### Light source

SI series light source is an important part of machine vision system. It has the advantages of fast response speed, long service life and strong anti-interference ability. Its main function is to improve the brightness and image contrast of the device to be detected, ensure the stability of the image, reduce the pressure of algorithm processing and improve the accuracy of visual recognition.



#### Ring light source



PCB substrate detection, microscope illumination, liquid crystal correction

#### Backlight



Mechanical part size, electronic components, IC shape, film stain detection

#### Parallel backlight



Circuit board component detection and identification, transparent nension measurement, LED bad point detection

#### Hole type parallel backlight



Circuit board component detection and recognition, electronic component character recognition, mark point positioning

#### Strip light source



Metal surface detection, image scanning, surface crack detection, LCD panel detection

#### Spherical integral light source



Curved surface, surface concave convex, arc surface detection. object surface detection with strong reflection

### Coaxial light source



Surface scratch detection, chip and silicon wafer damage detection, packaging bar code identification

#### Point source



Used with telecentric lens, mark point positioning, lens and liquid crystal glass correction

#### ■ Common light source model list

Light source series	Product model	Dimension (mm)	Angle(°)	LED rows	Color
Ring light source	SI-JD54A00-W	External diameter 54	0°		White
	SI-JD70A45-W	External diameter 70	45°		White
	SI-JD100A60-R	External diameter 100	60°		Red
Backlight	SI-JB100100-W	100x100 (length×width)			White
Parallel backlight	SI-JPB050050-W	50x50 (length×width)			White
Hole type backlight	SI-JHB200200-W	200x200 (length×width)			White
Strip light source	SI-JL050R3-W	Length 50		3	White
	SI-JL300R6-R	Length 300		6	Red
Spherical integral light source	SI-JS70-W	Diameter 70			White
	SI-JS262-W	Diameter 262			White
Coaxial light source	SI-JC50-R	50x50 (length×width)			Red
	SI-JC150120-W	150x120 (length×width)			White
Point source	SI-JP30W03-R	Diameter 30			Red
	SI-YTP400W30-W	Diameter 400			White

<sup>\*</sup>Note: some common models are listed above. Please consult the project engineer for detailed selection.

#### Light source controller

SIC series light source controller is mainly used to supply power to the light source, control the brightness and lighting state (on and off) of the light source, and realize the stroboscopic of the light source by triggering the signal to the controller, so as to prolong the service life of the light source.

X-SIGHT visual controller is divided into analog controller and digital controller. The digital controller can be remotely controlled by PC. Users can select different types of controllers according to different production conditions.



#### Common light source controller model list

Product model	Regulation mode	Input voltage (V)	Channel	Output power (W)
SIC-J241-A	Analog	24	1	Total power not exceeding 24W
SIC-J242-A	Analog	24	2	Single channel 24W, total not exceeding 48W
SIC-J244-A	Analog	24	4	Single channel 15W, total not exceeding 60W
SIC-XY241-D	Digital	24	1	Total power not exceeding 24W
SIC-XY242-A	Analog	24	2	Single channel 24W, total not exceeding 48W
SIC-XY244-D	Digital	24	4	Single channel 15W, total not exceeding 60W

Note: some common models are listed above. Please consult the project engineer for detailed selection.

### Typical applications of vision system

■ Hose positioning deviation correction and cutting system



In view of the problems that the traditional pipe cutting scheme cannot accurately cut the deformed hose, X-SIGHT launched the hose positioning and deviation correction cutting system, which automatically compensates the cutting point offset to ensure the accuracy of knife dropping, with an accuracy of up to 0.05mm.

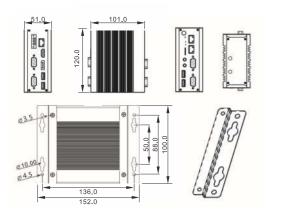
■ Door panel texture classification system based on AI recognition



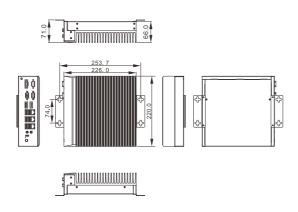
The door panel texture detection project launched by X-SIGHT innovatively introduces the deep learning detection method to finely identify the features such as color, texture and edge line, so as to realize the independent training and recognition of thousands of door panels. It is widely used in door panel, floor, ceramic tile and other large panel classification projects.

## Dimension (Unit: mm)

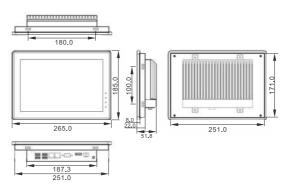
#### SP V210



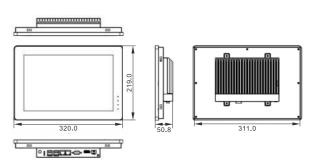
#### SP V310



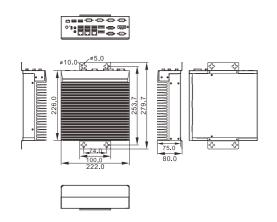
#### SPT P110 10.1"



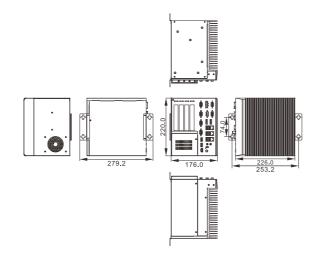
#### SPT P110 12.1"



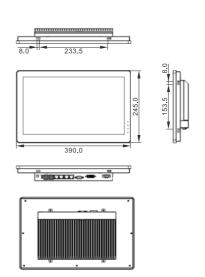
#### SP V325 / SP V326



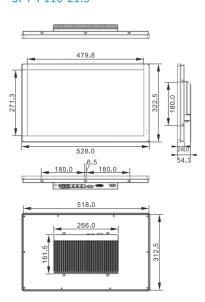
#### SP V335 / SP V336



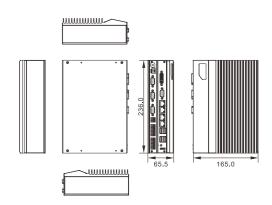
#### SPT P110 15.6"



#### SPT P110 21.5"



#### AGV industrial special model



#### 4U shelf-mounted industrial controller

