

XINJE

EtherCAT | CANopen | Ethernet | CODESYS



## Programmable Controller XD / XL / XG / XS

Super product lineup • Provide all-round control solutions



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XINJE

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Industrial automation trusted partner

# Small-sized PLC

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

## 10 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

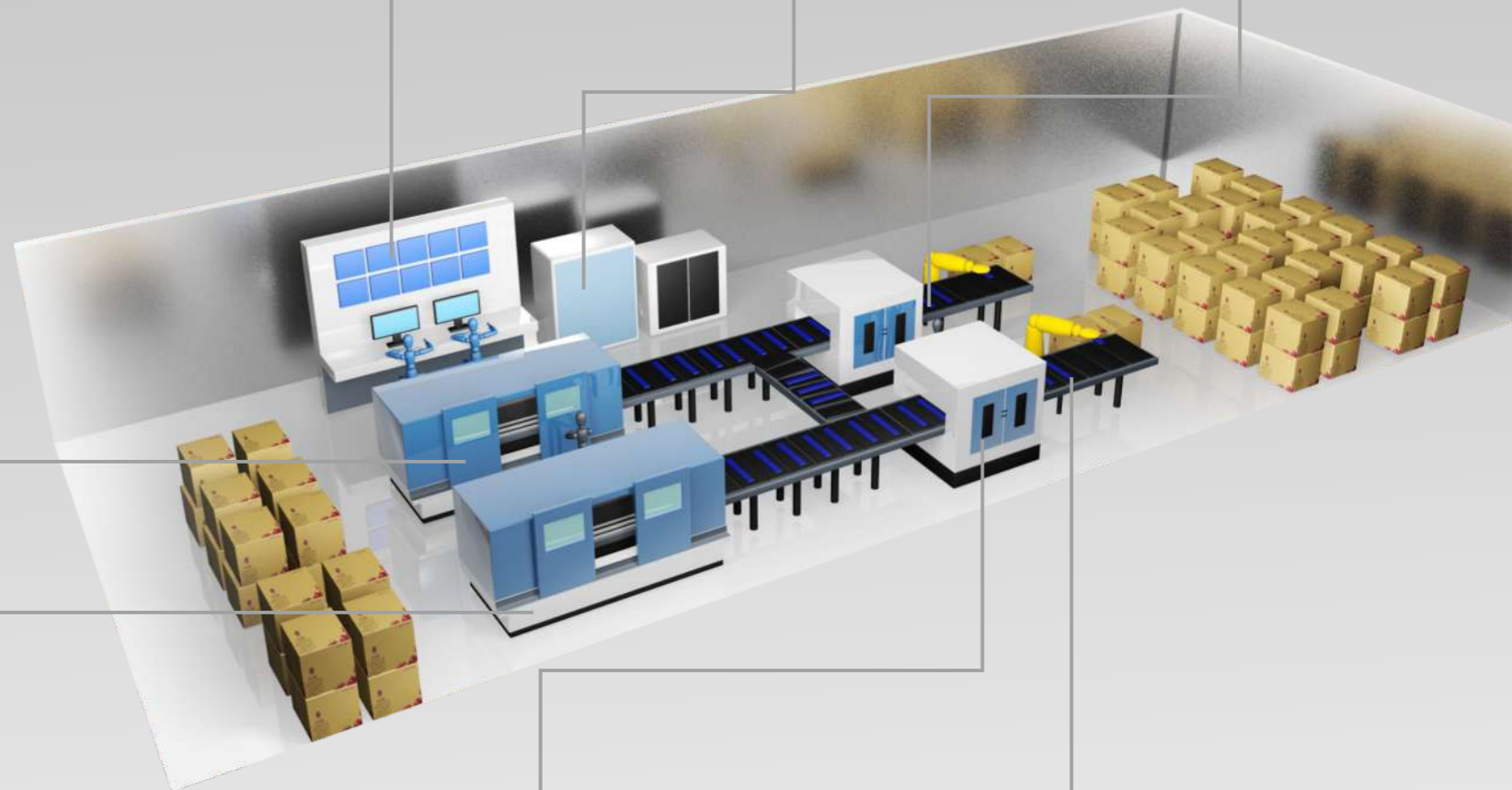
Up to 100KHz pulse output.

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.

XL5N series PLC has CAN bus communication function.

**High speed signal acquisition**

With 3~10 channels high speed counter

By selecting different counters, it can count in single-phase 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).

# Economic Type

## XD1 Series

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

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



## XD1 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	XD1-10R-E	XD1-10T-E	-	XD1-10R-C	XD1-10T-C	-	
	XD1-16R-E	XD1-16T-E	-	XD1-16R-C	-	-	
	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 XD1-		10R/T	16R/T	24R/T	32R/T
Main body I/O	Total points	10	16	24	32
	Input points	5	8	12	16
	Output points	5	8	12	16
Max I/O points		10	16	24	32
High speed positioning	General pulse output	-	-	-	-
	Differential pulse output	-	-	-	-
High speed input	Single/AB phase mode	-	-	-	-
	Input mode	-	-	-	-
Expansion ability	Right expansion module	-	-	-	-
	Left expansion module	-	-	-	-
	BD board	-	-	-	-
Interruption	External interrupt	3	6	10	10
	Timing interrupt	20	20	20	20
	Other interrupts	-	-	-	-
Communication function	Communication port	2 RS232 ports	2 RS232 ports	2 RS232 ports, 1 RS485 port	2 RS232 ports, 1 RS485 port
	Communication protocol	Standard Modbus ASCII/RTU communication, free format communication			
Bus function		X-NET fieldbus			
PWM pulse width modulation		-			
Frequency measurement		-			
Precise timing		26 points ET0~ET26 (Only even numbers can be used)			
Multi-station control		-			
Program execution mode		Cyclic scanning mode			
Programming method		Instruction, ladder diagram, C language			
Power off holding		Use FlashROM and lithium battery (3V button battery)			
Basic instruction processing speed		0.02~0.05us			
User program capacity (secret download mode)		256KB			

Product series XD1-		10R/T	16R/T	24R/T	32R/T
Security function		6-bit ASCII password encryption, secret downloading			
Self-diagnosis function		Power on self-test, monitoring timer, syntax check			
Real-time clock		Built-in clock, Lithium battery power supply, with power down memory			
SD expansion card		-			
Bit soft component	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			
	Auxiliary relay	General M	8000 points M0~M7999		
		Power off holding HM	960 points HM0~HM959		
		Special SM	2048 points SM0~SM2047		
	Flow	General S	1024 points S0~S1023		
		Power off holding HS	128 points HS0~HS127		
	Timer	Specification	100ms timer: 0.1~3276.7s, 10ms timer: 0.01~327.67s, 1ms timer: 0.001~32.767s		
		General T	576 points T0~T575		
		Power off holding HT	96 points HT0~HT95		
Counter	Specification	16-bit counter: 0~32767 32-bit counter: -2147483648~+2147483647			
	General C	576 points C0~C575			
	Power off holding HC	96 points HC0~HC95			
Special coil for WAIT instruction		32 points SEM0~SEM31			
Word soft component	Data register	General D	8000 points D0~D7999		
		Power off holding HD	1000 points HD0~HD999		
		Special SD	2048 points SD0~SD2047		
	FlashROM register	Power off holding FD	5120 points FD0~FD5119		
		Special SFD	2000 points SFD0~SFD1999		
Security register FS		48 points FS0~FS47			

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

# Basic Type

## XD2 Series

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

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



## XD2 series model list

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

## Performance specification

Product series XD2-		16R/T	24R/T/RT	32R/T/RT	42R/T	48R/T/RT	60R/T/RT
Main body I/O	Total points	16	24	32	42	48	60
	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 positioning	General pulse output	2 axes	2 axes	2 axes	2 axes	2 axes	2 axes
	Differential pulse output	-	-	-	-	-	-
High speed input	Single/AB phase mode	3 channels	3 channels	3 channels	3 channels	3 channels	3 channels
	Input mode	OC	OC	OC	OC	OC	OC
Expansion ability	Right expansion module	-	-	-	-	-	-
	Left expansion module	1	1	1	1	1	1
	BD board	-	1	1	1	2	2
Interruption	External interrupt	6	10	10	10	10	10
	Timing interrupt	20					
	Other interrupts	High speed counting interrupt, pulse interrupt					
Communication function	Communication port	2 RS232 ports, 1 RS485 port					
	Communication protocol	Standard Modbus ASCII/RTU communication, free format communication					
Bus function		X-NET fieldbus					
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					
Programming method		Instruction, ladder diagram, C language					
Power off holding		Use FlashROM and lithium battery (3V button battery)					
Basic instruction processing speed		0.02~0.05us					
User program capacity (secret download mode)		256KB					

Product series XD2-		16R/T	24R/T/RT	32R/T/RT	42R/T	48R/T/RT	60R/T/RT
Security function		6-bit ASCII password encryption, secret downloading					
Self-diagnosis function		Power on self-test, monitoring timer, syntax check					
Real-time clock		Built-in clock, Lithium battery power supply, with power down memory					
SD expansion card		-					
Bit soft component	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					
	Auxiliary relay	General M	8000 points M0~M7999				
		Power off holding HM	960 points HM0~HM959				
		Special SM	2048 points SM0~SM2047				
	Flow	General S	1024 points S0~S1023				
		Power off holding HS	128 points HS0~HS127				
	Timer	Specification	100ms timer: 0.1~3276.7s, 10ms timer: 0.01~327.67s, 1ms timer: 0.001~32.767s				
		General T	576 points T0~T575				
		Power off holding HT	96 points HT0~HT95				
	Counter	Specification	16-bit counter: 0~32767 32-bit counter: -2147483648~+2147483647				
		General C	576 points C0~C575				
		Power off holding HC	96 points HC0~HC95				
	Special coil for WAIT instruction		32 points SEM0~SEM31				
Word soft component	Data register	General D	8000 points D0~D7999				
		Power off holding HD	1000 points HD0~HD999				
		Special SD	2048 points SD0~SD2047				
	FlashROM register	Power off holding FD	5120 points FD0~FD5119				
		Special SFD	2000 points SFD0~SFD1999				
Security register FS		48 points FS0~FS47					

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

# Standard Type

## XD3 Series

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



- ① Program capacity 256KB
- ② I/O sequential control
- ③ Max I/O 380 points
- ④ Basic instruction 0.02~0.05us
- ⑤ RS232, RS485
- ⑥ X-NET fieldbus
- ⑦ 2~4 channels 100KHz pulse output (Y2, Y3 max pulse output frequency of XD3-24T4/32T4 are 20KHz)
- ⑧ 3 channels high speed counting (single phase max 80KHz, AB phase max 50KHz)
- ⑨ USB port high speed download (max 12Mbps)

## Performance specification

Product series XD3-		16R/T/RT	24R/T/RT	24T4	32R/T/RT	32T4	48R/T/RT	60R/T/RT
Main body I/O	Total points	16	24	24	32	32	48	60
	Input points	8	14	14	18	18	28	36
	Output points	8	10	10	14	14	20	24
Max I/O points		336	334	344	352	352	368	380
High speed positioning	General pulse output	2 axes	2 axes	4 axes	2 axes	4 axes	2 axes	2 axes
	Differential pulse output	-	-	-	-	-	-	-
High speed input	Single/AB phase mode	3 channels	3 channels	3 channels	3 channels	3 channels	3 channels	3 channels
	Input mode	OC	OC	OC	OC	OC	OC	OC
Expansion ability	Right expansion module	10	10	10	10	10	10	10
	Left expansion module	1	1	1	1	1	1	1
	BD board	-	1	1	1	1	2	2
Interruption	External interrupt	6	10	10	10	10	10	10
	Timing interrupt	20						
	Other interrupts	High speed counting interrupt, pulse interrupt						
Communication function	Communication port	1 RS232 ports, 1 RS485 port, 1 USB port						
	Communication protocol	Standard Modbus ASCII/RTU communication, free format communication						
Bus function		X-NET fieldbus						
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						
Programming method		Instruction, ladder diagram, C language						
Power off holding		Use FlashROM and lithium battery (3V button battery)						
Basic instruction processing speed		0.02~0.05us						
User program capacity (secret download mode)		256KB						

## XD3 series model list

	Model					
	AC power supply			DC power supply		
	Relay output	Transistor output	Transistor relay mixed output	Relay output	Transistor output	Transistor relay mixed output
NPN type	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	-
	XD3-32R-E	XD3-32T-E	XD3-32RT-E	XD3-32R-C	XD3-32T-C	XD3-32RT-C
	-	XD3-32T4-E	-	-	-	-
	XD3-48R-E	XD3-48T-E	XD3-48RT-E	XD3-48R-C	XD3-48T-C	XD3-48RT-C
PNP type	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
	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 series XD3-		16R/T/RT	24R/T/RT	24T4	32R/T/RT	32T4	48R/T/RT	60R/T/RT	
Security function		6-bit ASCII password encryption, secret downloading							
Self-diagnosis function		Power on self-test, monitoring timer, syntax check							
Real-time clock		Built-in clock, Lithium battery power supply, with power down memory							
SD expansion card		-							
Bit soft component	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							
	Auxiliary relay	General M	8000 points M0~M7999						
		Power off holding HM	960 points HM0~HM959						
		Special SM	2048 points SM0~SM2047						
	Flow	General S	1024 points S0~S1023						
		Power off holding HS	128 points HS0~HS127						
	Timer	Specification	100ms timer: 0.1~3276.7s, 10ms timer: 0.01~327.67s, 1ms timer: 0.001~32.767s						
		General T	576 points T0~T575						
		Power off holding HT	96 points HT0~HT95						
Counter	Specification	16-bit counter: 0~32767 32-bit counter: -2147483648~-2147483647							
	General C	576 points C0~C575							
	Power off holding HC	96 points HC0~HC95							
Special coil for WAIT instruction		32 points SEM0~SEM31							
Word soft component	Data register	General D	8000 points D0~D7999						
		Power off holding HD	1000 points HD0~HD999						
		Special SD	2048 points SD0~SD2047						
	FlashROM register	Power off holding FD	5120 points FD0~FD5119						
		Special SFD	2000 points SFD0~SFD1999						
Security register FS		48 points FS0~FS47							

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

# Enhanced Type

## XD5 Series

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



- ① Program capacity 512KB
- ② I/O sequential control
- ③ Max I/O 592 points
- ④ Basic instruction 0.02~0.05us
- ⑤ RS232, RS485
- ⑥ X-NET fieldbus
- ⑦ 2~10 axes 100KHz pulse output
- ⑧ 3~10 channels high speed counting (single phase max 80KHz, AB phase max 50KHz)
- ⑨ USB port high speed download (max 12Mbps)

## Performance specification

Product series XD5-		16	24	24T4	32	32T4	42	48	48T4	48T6	60	60T4	60T6	60T10	80
Main body I/O	Total points	16	24	24	32	32	42	48	48	48	60	60	60	60	80
	Input points	8	14	14	18	18	24	28	28	28	36	36	36	36	40
	Output points	8	10	10	14	14	18	20	20	20	24	24	24	24	40
Max I/O points		528	536	536	544	544	554	560	560	560	572	572	572	572	592
High speed positioning	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
	Differential pulse output	-	-	-	-	-	-	-	-	-	-	-	-	-	-
High speed input	Single/AB phase mode	3 channels	3 channels	4 channels	3 channels	4 channels	3 channels	3 channels	4 channels	6 channels	3 channels	4 channels	6 channels	10 channels	3 channels
	Input mode	OC	OC	OC	OC	OC	OC	OC	OC	OC	OC	OC	OC	OC	OC
Expansion ability	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
Interruption	External interrupt	6	10	10	10	10	10	10	10	10	10	10	10	10	10
	Timing interrupt	20													
	Other interrupts	High speed counting interrupt, pulse interrupt													
Communication function	Communication port	1 RS232 ports, 1 RS485 port, 1 USB port													
	Communication protocol	Standard Modbus ASCII/RTU communication, free format communication													
Bus function		X-NET fieldbus													
PWM pulse width modulation		Support													
Frequency measurement		Support													
Precise timing		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)													
Basic instruction processing speed		0.02~0.05us													
User program capacity (secret download mode)		512KB													

## XD5 series model list

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

Product series XD5-		16	24	24T4	32	32T4	42	48	48T4	48T6	60	60T4	60T6	60T10	80	
Security function		6-bit ASCII password encryption, secret downloading														
Self-diagnosis function		Power on self-test, monitoring timer, syntax check														
Real-time clock		Built-in clock, Lithium battery power supply, with power down memory														
SD expansion card		Support (16 points not supported)														
Bit soft component	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														
	Auxiliary relay	General M	70000 points: M0~M69999													
		Power off holding HM	12000 points: HM0~HM11999													
		Special SM	5000 points: SM0~SM4999													
	Flow	General S	8000 points S0~S7999													
		Power off holding HS	1000 points HS0~HS999													
	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													
	Counter	Specification	16-bit counter: 0~32767 32-bit counter: -2147483648~+2147483647													
		General C	5000 points C0~C4999													
Power off holding HC		2000 points HC0~HC1999														
Special coil for WAIT instruction		32 points SEM0~SEM31														
Word soft component	Data register	General D	70000 points D0~D69999													
		Power off holding HD	25000 points HD0~HD24999													
		Special SD	5000 points SD0~SD4999													
	FlashROM register	Power off holding FD	8192 points FD0~FD8191													
		Special SFD	6000 points SFD0~SFD5999													
Security register FS		48 points FS0~FS47														

\*Note: ① Only the PLC with transistor output has high speed positioning function.  
 ② The '-' in the table indicates that this model doesn't have this function.  
 ③ Special refers to system occupancy, cannot be used for other purposes.  
 ④ 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.



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

## Performance specification

Product series XD5-		24D2T2	48D4T4
Main body I/O	Total points	24	48
	Input points	14	28
	Output points	10	20
Max I/O points		536	560
High speed positioning	General pulse output	2 axes	4 axes
	Differential pulse output	2 axes	4 axes
High speed input	Single/AB phase mode	2 channels	4 channels
	Differential high speed input	2 channels	4 channels
Expansion ability	Right expansion module	16	16
	Left expansion module	1	1
	BD board	1	2
Interruption	External interrupt	10	
	Timing interrupt	20	
	Other interrupts	High speed counting interrupt, pulse interrupt	
Communication function	Communication port	1 RS232 ports, 1 RS485 port, 1 USB port	
	Communication protocol	Standard Modbus ASCII/RTU communication, free format communication	
Bus function		X-NET fieldbus	
PWM pulse width modulation		Support	
Frequency measurement		Support	
Precise timing		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)	
Basic instruction processing speed		0.02~0.05us	
User program capacity (secret download mode)		512KB	

## XD5 differential series model list

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

Product series XD5-		24D2T2	48D4T4	
Security function		6-bit ASCII password encryption, secret downloading		
Self-diagnosis function		Power on self-test, monitoring timer, syntax check		
Real-time clock		Built-in clock, Lithium battery power supply, with power down memory		
SD expansion card		Support		
Bit soft component	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		
	Auxiliary relay	General M	70000 points: M0~M69999	
		Power off holding HM	12000 points: HM0~HM11999	
		Special SM	5000 points: SM0~SM4999	
	Flow	General S	8000 points S0~S7999	
		Power off holding HS	1000 points HS0~HS999	
	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	
	Counter	Specification	16-bit counter: 0~32767 32-bit counter: -2147483648~+2147483647	
		General C	5000 points C0~C4999	
		Power off holding HC	2000 points HC0~HC1999	
Special coil for WAIT instruction		32 points SEM0~SEM31		
Word soft component	Data register	General D	70000 points D0~D69999	
		Power off holding HD	25000 points HD0~HD24999	
		Special SD	5000 points SD0~SD4999	
	FlashROM register	Power off holding FD	8192 points FD0~FD8191	
		Special SFD	6000 points SFD0~SFD5999	
Security register FS		48 points FS0~FS47		

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

# Motion Control Type

## XDM Series

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



- ① Program capacity 512KB~1.5MB
- ② I/O sequential control
- ③ Max I/O 572 points
- ④ Basic instruction 0.02~0.05us
- ⑤ RS232, RS485
- ⑥ X-NET fieldbus
- ⑦ 4~10 axes 100KHz pulse output
- ⑧ 4~10 channels high speed counter (single phase up to 80KHz, AB phase up to 50KHz)
- ⑨ Follow-up function
- ⑩ USB port high speed download (max 12Mbps)
- ⑪ Linear/arc interpolation

## Performance specification

Product series XDM-		24T4	32T4	60T4	60T4L	60T10
Main body I/O	Total points	24	32	60	60	60
	Input points	14	18	36	36	36
	Output points	10	14	24	24	24
Max I/O points		536	544	572	572	572
High speed positioning	General pulse output	4 axes	4 axes	4 axes	4 axes	10 axes
	Differential pulse output	-	-	-	-	-
High speed input	Single/AB phase mode	4 channels	4 channels	4 channels	4 channels	10 channels
	Input mode	OC	OC	OC	OC	OC
Expansion ability	Right expansion module	16	16	16	16	16
	Left expansion module	1	1	1	1	1
	BD board	1	1	2	2	2
Interruption	External interrupt	10				
	Timing interrupt	20				
	Other interrupts	High speed counting interrupt, pulse interrupt				
Communication function	Communication port	1 RS232 ports, 1 RS485 port, 1 USB port				
	Communication protocol	Standard Modbus ASCII/RTU communication, free format communication				
Bus function		X-NET fieldbus				
PWM pulse width modulation		Support				
Frequency measurement		Support				
Precise timing		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)				
Basic instruction processing speed		0.02~0.05us				
User program capacity (secret download mode)		512KB (XDM-60T4L: 1.5MB)				

## XDM series model list

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

Product series XDM-		24T4	32T4	60T4	60T4L	60T10
Security function		6-bit ASCII password encryption, secret downloading				
Self-diagnosis function		Power on self-test, monitoring timer, syntax check				
Real-time clock		Built-in clock, Lithium battery power supply, with power down memory				
SD expansion card		Support				
Bit soft component	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				
	Auxiliary relay	General M	70000 points: M0~M69999			
		Power off holding HM	12000 points: HM0~HM11999			
		Special SM	5000 points: SM0~SM4999			
	Flow	General S	8000 points S0~S7999			
		Power off holding HS	1000 points HS0~HS999			
	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			
	Counter	Specification	16-bit counter: 0~32767 32-bit counter: -2147483648~+2147483647			
		General C	5000 points C0~C4999			
Power off holding HC		2000 points HC0~HC1999				
Special coil for WAIT instruction		32 points SEM0~SEM31				
Word soft component	Data register	General D	70000 points D0~D69999			
		Power off holding HD	25000 points HD0~HD24999			
		Special SD	5000 points SD0~SD4999			
	FlashROM register	Power off holding FD	8192 points FD0~FD8191			
		Special SFD	6000 points SFD0~SFD5999			
Security register FS		48 points FS0~FS47				

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



# X-NET Motion Bus Type

## XDC Series

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



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

## Performance specification

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

## XDC 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	-	XDC-24T-E	-	-	XDC-24T-C	-
	-	XDC-32T-E	-	-	XDC-32T-C	-
	-	XDC-48T-E	-	-	XDC-48T-C	-
	-	XDC-60T-E	-	-	XDC-60T-C	-
PNP type	-	-	-	-	XDC-60PT-C	-

Product series XDC-		24T	32T	48T	60T
Security function		6-bit ASCII password encryption, secret downloading			
Self-diagnosis function		Power on self-test, monitoring timer, syntax check			
Real-time clock		Built-in clock, Lithium battery power supply, with power down memory			
SD expansion card		-			
Bit soft component	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			
	Auxiliary relay	General M	70000 points: M0~M69999		
		Power off holding HM	12000 points: HM0~HM11999		
		Special SM	5000 points: SM0~SM4999		
	Flow	General S	8000 points S0~S7999		
		Power off holding HS	1000 points HS0~HS999		
	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		
	Counter	Specification	16-bit counter: 0~32767 32-bit counter: -2147483648~+2147483647		
		General C	5000 points C0~C4999		
Power off holding HC		2000 points HC0~HC1999			
Special coil for WAIT instruction		32 points SEM0~SEM31			
Word soft component	Data register	General D	70000 points D0~D69999		
		Power off holding HD	25000 points HD0~HD24999		
		Special SD	5000 points SD0~SD4999		
	FlashROM register	Power off holding FD	8192 points FD0~FD8191		
		Special SFD	6000 points SFD0~SFD5999		
Security register FS		48 points FS0~FS47			

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

# Ethernet Communication Type

## XD5E Series

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



- ① Program capacity 1MB
- ② I/O sequential control
- ③ Max I/O 572 points
- ④ Basic instruction 0.01~0.03us
- ⑤ RRS232, RS485, RJ45
- ⑥ X-NET fieldbus
- ⑦ 2~10 axes 100KHz pulse output
- ⑧ 3~10 channels high speed counter (single phase up to 80KHz, AB phase up to 50KHz)

## Performance specification

Product series XD5E-		24R/T	30R/T	30T4	48R/T	60R/T	60T4	60T6	60T10
Main body I/O	Total points	24	30	30	48	60	60	60	60
	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 positioning	General pulse output	2 axes	2 axes	4 axes	2 axes	2 axes	4 axes	6 axes	10 axes
	Differential pulse output	-	-	-	-	-	-	-	-
High speed input	Single/AB phase mode	3 channels	3 channels	4 channels	3 channels	3 channels	4 channels	6 channels	10 channels
	Input mode	OC	OC	OC	OC	OC	OC	OC	OC
Expansion ability	Right expansion module	16	16	16	16	16	16	16	16
	Left expansion module	1	1	1	1	1	1	1	1
	BD board	1	1	1	2	2	2	2	2
Interruption	External interrupt	10							
	Timing interrupt	20							
	Other interrupts	High speed counting interrupt, pulse interrupt							
Communication function	Communication port	1 RS232 ports, 1 RS485 port, 2 RJ45 ports							
	Communication protocol	Standard Modbus ASCII/RTU communication, free format communication, Ethernet communication							
Bus function		X-NET fieldbus							
PWM pulse width modulation		Support							
Frequency measurement		Support							
Precise timing		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)							
Basic instruction processing speed		0.01~0.03us							
User program capacity (secret download mode)		1MB							

## XD5E series model list

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

Product series XD5E-		24R/T	30R/T	30T4	48R/T	60R/T	60T4	60T6	60T10
Security function		6-bit ASCII password encryption, secret downloading							
Self-diagnosis function		Power on self-test, monitoring timer, syntax check							
Real-time clock		Built-in clock, Lithium battery power supply, with power down memory							
SD expansion card		-							
Bit soft component	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							
	Auxiliary relay	General M	70000 points: M0~M69999						
		Power off holding HM	12000 points: HM0~HM11999						
		Special SM	5000 points: SM0~SM4999						
	Flow	General S	8000 points S0~S7999						
		Power off holding HS	1000 points HS0~HS999						
	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						
Counter	Specification	16-bit counter: 0~32767 32-bit counter: -2147483648~+2147483647							
	General C	5000 points C0~C4999							
	Power off holding HC	2000 points HC0~HC1999							
Special coil for WAIT instruction		32 points SEM0~SEM31							
Word soft component	Data register	General D	70000 points D0~D69999						
		Power off holding HD	25000 points HD0~HD24999						
		Special SD	5000 points SD0~SD4999						
	FlashROM register	Power off holding FD	8192 points FD0~FD8191						
		Special SFD	6000 points SFD0~SFD5999						
Security register FS		48 points FS0~FS47							

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

# Ethernet Communication Type

## 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
- ④ Basic instruction 0.01~0.03us
- ⑤ RS232, RS485, RJ45
- ⑥ X-NET fieldbus
- ⑦ 4~10 axes 100KHz pulse output
- ⑧ 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 XDME-		30T4	60T4	60T10
Main body I/O	Total points	30	60	60
	Input points	16	36	36
	Output points	14	24	24
Max I/O points		542	572	572
High speed positioning	General pulse output	4 axes	4 axes	10 axes
	Differential pulse output	-	-	-
High speed input	Single/AB phase mode	4 channels	4 channels	10 channels
	Input mode	OC	OC	OC
Expansion ability	Right expansion module	16	16	16
	Left expansion module	1	1	1
	BD board	1	2	2
Interruption	External interrupt	10		
	Timing interrupt	20		
	Other interrupts	High speed counting interrupt, pulse interrupt		
Communication function	Communication port	1 RS232 ports, 1 RS485 port, 2 RJ45 ports		
	Communication protocol	Standard Modbus ASCII/RTU communication, free format communication, Ethernet communication		
Bus function		X-NET fieldbus		
PWM pulse width modulation		Support		
Frequency measurement		Support		
Precise timing		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)		
Basic instruction processing speed		0.01~0.03us		
User program capacity (secret download mode)		1MB		

## XDME series model list

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

Product series XDME-		30T4	60T4	60T10
Security function		6-bit ASCII password encryption, secret downloading		
Self-diagnosis function		Power on self-test, monitoring timer, syntax check		
Real-time clock		Built-in clock, Lithium battery power supply, with power down memory		
SD expansion card		-		
Bit soft component	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		
	Auxiliary relay	General M	70000 points: M0~M69999	
		Power off holding HM	12000 points: HM0~HM11999	
		Special SM	5000 points: SM0~SM4999	
	Flow	General S	8000 points S0~S7999	
		Power off holding HS	1000 points HS0~HS999	
	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	
	Counter	Specification	16-bit counter: 0~32767 32-bit counter: -2147483648~+2147483647	
		General C	5000 points C0~C4999	
Power off holding HC		2000 points HC0~HC1999		
Special coil for WAIT instruction		32 points SEM0~SEM31		
Word soft component	Data register	General D	70000 points D0~D69999	
		Power off holding HD	25000 points HD0~HD24999	
		Special SD	5000 points SD0~SD4999	
	FlashROM register	Power off holding FD	8192 points FD0~FD8191	
		Special SFD	6000 points SFD0~SFD5999	
Security register FS		48 points FS0~FS47		

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

# EtherCAT Bus Type

## XDH Series

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



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

## Performance specification

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

## 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
NPN type	-	XDH-30A16-E	-	-	-	-
	-	XDH-30A16L-E	-	-	XDH-30A16L-C	-
	-	XDH-60T4-E	-	-	XDH-60T4-C	-
PNP type	-	XDH-30PA16L-E	-	-	-	-

Product series XDH-		30A16	30A16L	60T4	60A32	
Security function		6-bit ASCII password encryption, secret downloading				
Self-diagnosis function		Power on self-test, monitoring timer, syntax check				
Real-time clock		Built-in clock, Lithium battery power supply, with power down memory				
SD expansion card		-				
Bit soft component	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				
	Auxiliary relay	General M	200000 points M0~M199999			
		Power off holding HM	20000 points HM0~HM19999			
		Special SM	50000 points SM0~SM49999			
	Flow	General S	20000 points S0~S19999			
		Power off holding HS	2000 points HS0~HS1999			
	Timer	Specification	100ms timer: 0.1~3276.7s, 10ms timer: 0.01~327.67s, 1ms timer: 0.001~32.767s			
		General T	20000 points T0~T19999			
		Power off holding HT	2000 points HT0~HT1999			
	Counter	Specification	16-bit counter: 0~32767 32-bit counter: -2147483648~+2147483647			
		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				
Word soft component	Data register	General D	500000 points D0~D499999	500000 points D0~D499999	500000 points D0~D499999	1000000 points D0~D999999
		Power off holding HD	50000 points HD0~HD49999	50000 points HD0~HD49999	50000 points HD0~HD49999	100000 points HD0~HD99999
		Special SD	65488 points SFD0~SFD65487			
	FlashROM register	Power off holding FD	65536 points FD0~FD65535			
		Special SFD	50000 points SFD0~SFD49999			
Security register FS		48 points FS0~FS47				

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

# CODESYS High Performance Type

## XSDH Series

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

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



### Performance specification

Product series XSDH-		60A32
Main body I/O	Total points	60
	Input points	36
	Output points	24
Max I/O points		572
High speed positioning	General pulse output	4 axes (not supported right now)
	Differential pulse output	-
High speed input	Single/AB phase mode	4 channels
	Input mode	OC
Expansion ability	Right expansion module	16
	Left expansion module	1
	BD board	1
External interrupt		10
Communication function	Communication port	1 RS232 ports, 1 RS485 port, 2 RJ45 ports
	Communication protocol	Standard Modbus ASCII/RTU communication, Ethernet IP, TCP / IP, UDP, OPC UA, free format protocol
Bus function		EtherCAT bus control (up to 32 nodes)
Programming method		ST, SFC, FBD, CFC, LD and IL
Main processor		Cortex-A8, main frequency 1GHz
User program capacity		32MB
Data capacity		32MB (including power off holding 6MB)

### XSDH series model list

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

# Special for Ship Navigation

## CCSD Series

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



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

### Performance specification

Product series CCSD-		C32T	C60T
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
	Differential pulse output	-	-
High speed input	Single/AB phase mode	4 channels	4 channels
	Input mode	OC	OC
Expansion ability	Right expansion module	16	16
	Left expansion module	1	1
	BD board	1	2
Interruption	External interrupt	10	
	Timing interrupt	20	
	Other interrupts	High speed counting interrupt, pulse interrupt	
Communication function	Communication port	2 RS232 ports (COM1 is X-NET communication by default), 1 RS485 port	
	Communication protocol	Standard Modbus ASCII/RTU communication, free format communication	
Bus function		X-NET fieldbus, X-NET motion bus	
PWM pulse width modulation		Support	
Frequency measurement		Support	
Precise timing		26 points ET0~ET25 (only even numbers can be used)	
Multi-station control		-	
Program execution mode		Cyclic scanning mode	
Programming method		Instruction, ladder diagram, C language	
Power off holding		Use FlashROM and lithium battery (3V button battery)	
Basic instruction processing speed		0.02~0.05us	
User program capacity (secret download mode)		384KB	

# Special for Ship Navigation

## CCSD series model list

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

(Table before continuation)

Product series CCSD-		C32T	C60T	
Security function		6-bit ASCII password encryption, secret downloading		
Self-diagnosis function		Power on self-test, monitoring timer, syntax check		
Real-time clock		Built-in clock, Lithium battery power supply, with power down memory		
SD expansion card		-		
Bit soft component	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		
	Auxiliary relay	General M	70000 points: M0~M69999	
		Power off holding HM	12000 points: HM0~HM11999	
		Special SM	5000 points: SM0~SM4999	
	Flow	General S	8000 points S0~S7999	
		Power off holding HS	1000 points HS0~HS999	
	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	
	Counter	Specification	16-bit counter: 0~32767 32-bit counter: -2147483648~+2147483647	
		General C	5000 points C0~C4999	
Power off holding HC		2000 points HC0~HC1999		
Special coil for WAIT instruction		32 points SEM0~SEM31		
Word soft component	Data register	General D	70000 points D0~D69999	
		Power off holding HD	25000 points HD0~HD24999	
		Special SD	5000 points SD0~SD4999	
	FlashROM register	Power off holding FD	8192 points FD0~FD8191	
		Special SFD	6000 points SFD0~SFD5999	
		Security register FS	48 points FS0~FS47	

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

# Basic Unit General Specification

## General specification

Item	Specification
Insulation voltage	DC500V above 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 grounding (It shall not be grounded in common with strong current system)

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

## Power supply specification

### AC power supply

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

### DC power supply

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

\*Note: ① Please use more than 2mm<sup>2</sup> 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	Contact input or NPN open collector transistor
Circuit insulation	Photoelectric coupling insulation
Input action display	LED lights when the input is ON

### PNP 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	Contact input or PNP open collector transistor
Circuit insulation	Photoelectric coupling insulation
Input action display	LED lights when the input is ON

### Differential type

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

# Basic Unit General Specification

## Output specification

### Relay output

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

### Transistor output

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

### High speed pulse output

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

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

### Differential high speed output

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

## Serial port (RS232/RS485) communication parameter specification

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

# Expansion Unit

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

**Left expansion module**

**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.

**Expansion BD**

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

**Right expansion module**

**I/O expansion module**  
It is used to expand the number of input and output points. The number of points is 8 ~ 32, and the basic unit can be expanded by 512 points at most.  
The output expansion module is divided into transistor (T) and relay (R) output types.

**Analog and temperature expansion module**  
It has D/A and A/D conversion functions. By expanding analog input/output module, temperature control module, XD series PLC can be used in temperature, flow, liquid level, pressure and other process control systems.  
By adding PID regulation function, it can be used more widely, flexibly and controlled with higher precision. Only four parameters need to be set.  
Each channel of the temperature control module can carry out PID control independently, which can do self-tuning, and exchange information with the PLC through FROM and TO instructions.

## General specification

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

# Expansion Unit

## Right expansion module

### I/O expansion module

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



### Digital input module

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

### Digital output module

Model	Function description	Specification
XD-E8YR	8 channels relay output, no need power supply	R: relay output T: transistor output 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-E8YT	8 channels transistor output, no need power supply	
XD-E16YR	16 channels relay output, no need power supply	
XD-E16YT	16 channels transistor output, no need power supply	
XD-E32YR-E	32 channels relay output, AC220V power supply	
XD-E32YR-C	32 channels relay output, DC24V power supply	
XD-E32YT-E	32 channels transistor output, AC220V power supply	
XD-E32YT-C	32 channels transistor output, DC24V power supply	

### Digital I/O module

Model		Function description	Specification
NPN input type	PNP input type		
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	

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

### Analog output module (DA type)

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

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

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



# Expansion Unit

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

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

## Weighing extension module

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

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

### Module features

- ① New algorithm, optimized hardware system, faster and accurate weighing control
- ② Analog voltage signals of 4 load cells can be collected at the same time
- ③ High performance A/D conversion, sampling speed up to 450 times/s
- ④ The display accuracy up to 1/300000
- ⑤ Automatic zero tracking function
- 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-C, XD-E2WT-C, XD-E4WT-C	XD-E1WT-D, XD-E2WT-D, XD-E4WT-D
Analog input range	DC0~10mV (sensor 2mV/V)	DC-20~20mV
A/D actual resolution	1/1048575 (20Bit)	1/8388607 (23Bit)
Max display resolution	1/300000	1/500000
Nonlinear	0.01%F.S.0.01%F.S	
Conversion speed	150 times/s, 300 times/s, 450 times/s optional	
Power supply	AC220V±10%, 50/60HZ	DC24V±10%
Sensor excitation power supply	5VDC/120mA, four 350Ω load cells can be connected in parallel	
Software version	V3.5.1 and up	V3.5.3 and up

## SSI encoder measurement module XD-E4SSI

### Module features

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



### Specification

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

### XD-E4SSI communication speed and cable length

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

## Macro measurement module XD-E2GRP

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

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

### Performance features

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



### Specification

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

# Expansion Unit

## Left expansion ED module

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

### Analog and temperature expansion ED module

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

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

## Communication expansion ED module

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

### XD-4GBOXL-ED Left expansion 4GBOX module



- ① Realize wireless downloading and real-time monitoring of PLC program
- ② SMS communication with user's mobile phone
- ③ Support remote monitoring
- ④ Support multiple Telecom operators including China Mobile, China Telecom, China Unicom
- ⑤ Support GPS positioning function
- ⑥ As the left expansion ED module of XD series PLC, the transmission rate can reach 1M
- ⑦ Support fieldbus (X-NET) and deep optimization of data monitoring
- ⑧ Long lasting online, with disconnection redial and watchdog functions

### XD-WBOXL-ED Left expansion WIFI module



- ① Support 2.4GHz wireless WLAN technology
- ② Support AP (wireless hotspot) and STA mode
- ③ XD-WBOX-ED is left expansion TTL interface
- ④ Support wireless hotspot (same SSID) roaming technology
- ⑤ XD series PLC provides data support for XD-WBOX-ED
- ⑥ Support Modbus-TCP communication protocol (up to 4 connections)
- ⑦ Support X-NET communication protocol, support Xinje Cloud access

### XD-NES-ED Left expansion RS232/RS485 module



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

### XD-COBOX-ED CANopen communication module



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

## Expansion BD board

### Communication expansion BD board

#### XD-NE-BD

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



The names of each part are as follows:

Name	Function
Communication indicator	The indicator flashes when the BD board communicating successfully
Terminal block	A 485+
	B 485-
	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.



# Expansion Unit

## Marine special module CCSD series

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



### General specification

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

### Analog I/O module CCSD-nAD

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

### Analog I/O module CCSD-nADmDA

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

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

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

### Communication expansion BD board

#### CCSD-NE-BD

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



The names of each part are as follows:

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

# Expansion Unit

## Data acquisition control module MA series

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

## Digital expansion module MA-nXnY

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

## Analog output module MA-nDA

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

## Analog input module MA-nAD

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

## Analog input output module MA-nADmDA

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

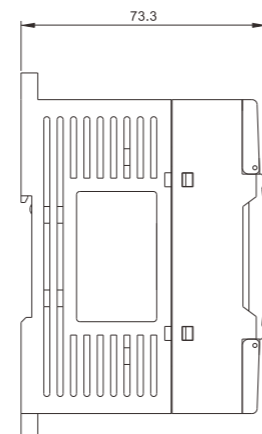
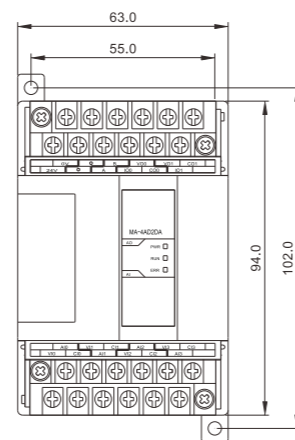
## Temperature control module MA-nPT-P/MA-nTCA-P

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



## Dimension drawing

(Unit: mm)



# Parts

## List of basic unit accessories

### Communication/programming cable XVP/DVP

For communication and program uploading/downloading.



### USB to serial port converter USB-COM

For interface conversion between DB9 female port and USB port.



### USB printer cable JC-UA-15

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



### 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).



### X-NET fieldbus cable JC-EA-Length

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

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



### Relay module JR-EH

Suitable for all the RS485 communication occasions.



### Program downloader JD-P03

JD-P03

- Without computer, it can be used for program and data transfer and download between multiple Xinje PLCs.
- 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.
- JD-P03 has small appearance and takes up small space.



\*Note: Refer to the instruction manual for specific instructions. XDH, XC series PLC is not supported for the time being.

## List of expansion module accessories

### XD expansion module extension cable

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



### XD series terminal resistance XD-ETR

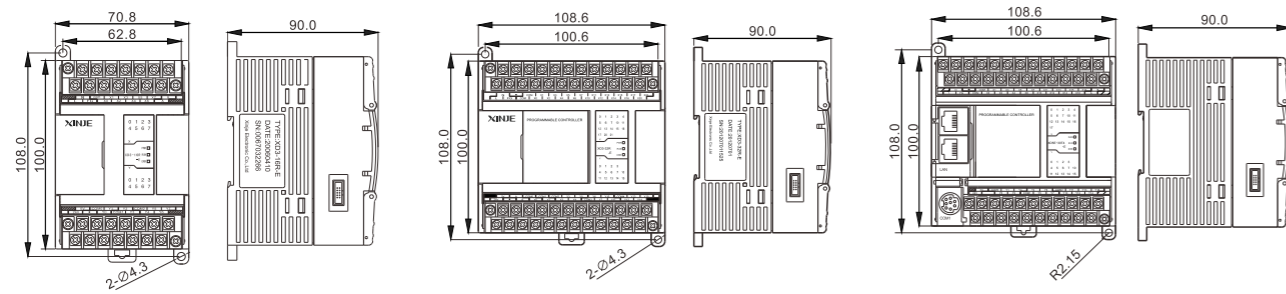
The terminal resistance is a small plug-in board, which is inserted into the expansion port of the last expansion module to improve the signal quality. This accessory is required when more than 5 modules are connected or extension cables are used.



# Dimension Drawing

(Unit: mm)

## XD series basic unit



Suitable model

Series	XD1	XD2	XD3	XD5
Points	10/16 points			

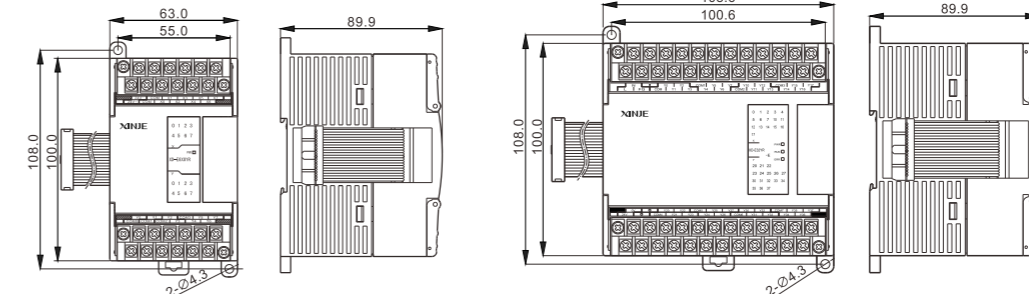
Suitable model

Series	XD1	XD2	XD3	XD5	XDM	XDC	CCSD
Points	24/32 points						

Suitable model

Series	XD5E	XDME	XDH
Points	24/30 points		

## XD series right expansion module

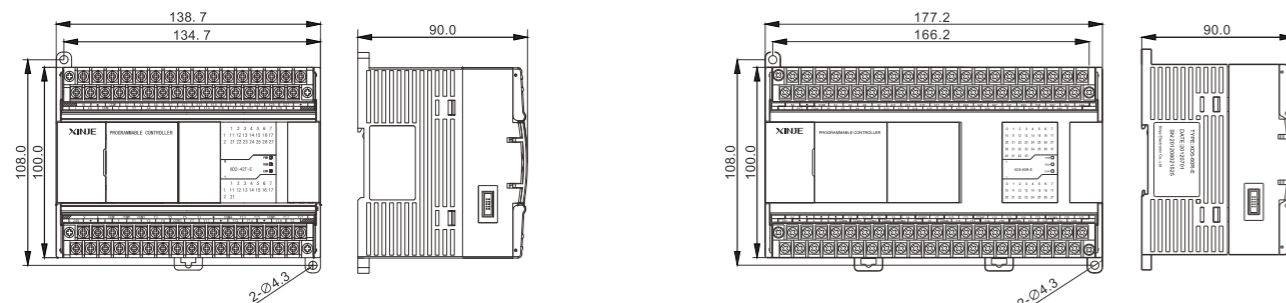


Applicable model

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

Applicable model

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



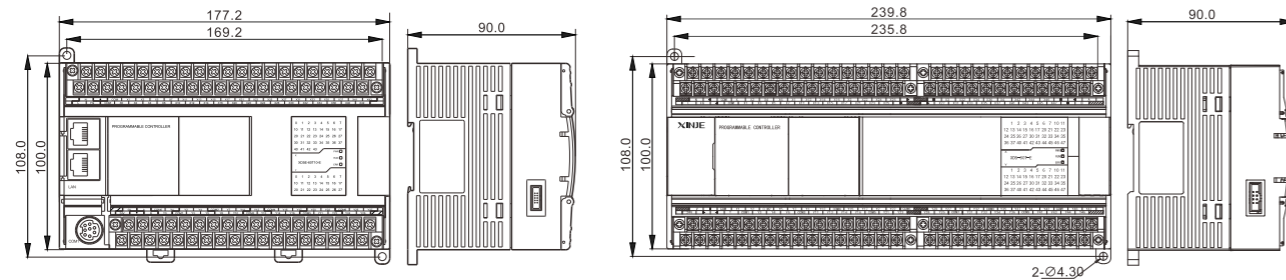
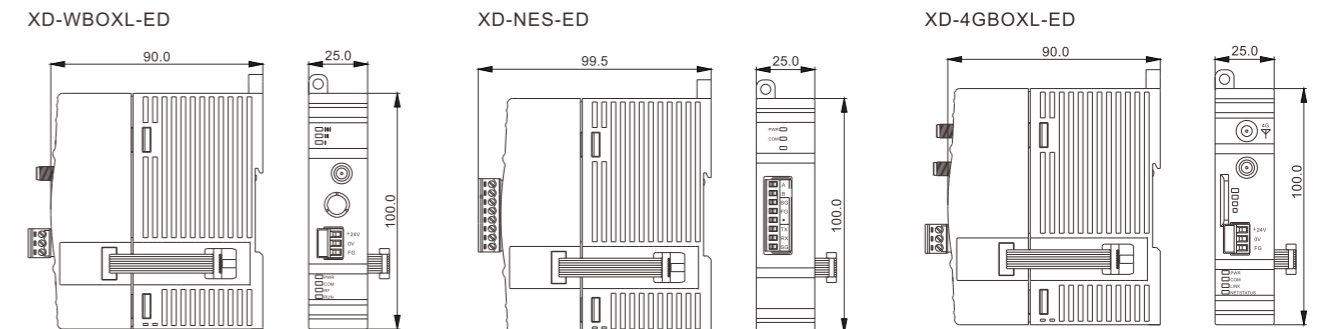
Suitable model

Series	XD2	XD5
Points	42 points	

Suitable model

Series	XD2	XD3	XD5	XDM	XDC	CCSD
Points	48/60 points					

## XD series left expansion ED module

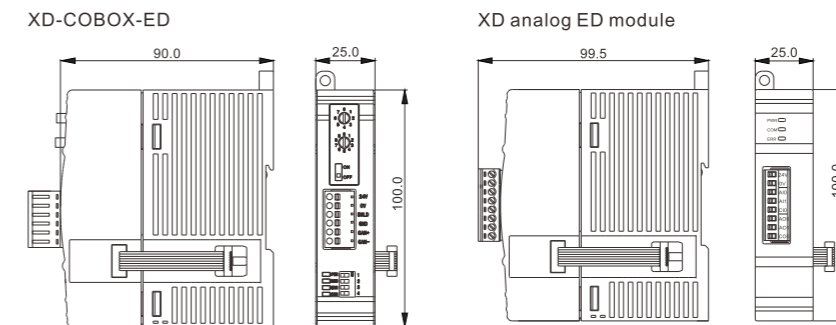


Suitable model

Series	XD5E	XDME	XDH	XSDH
Points	60 points			

Suitable model

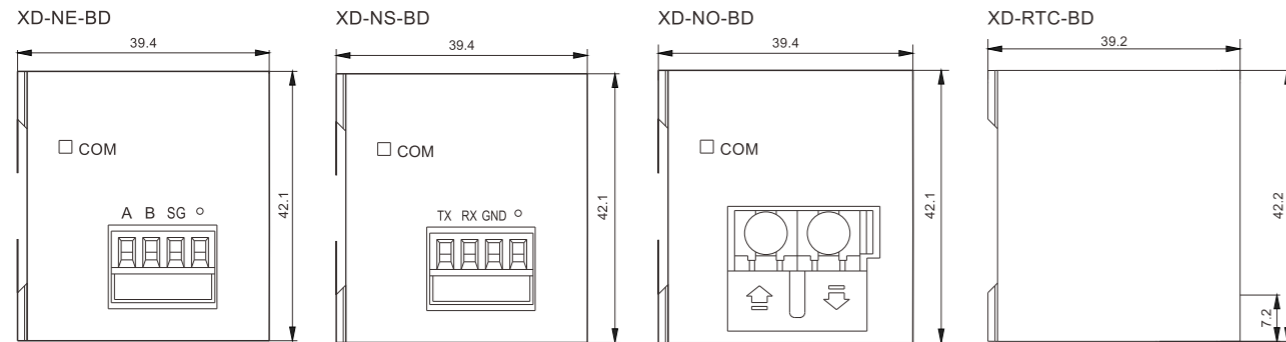
Series	XD5
Points	80 points



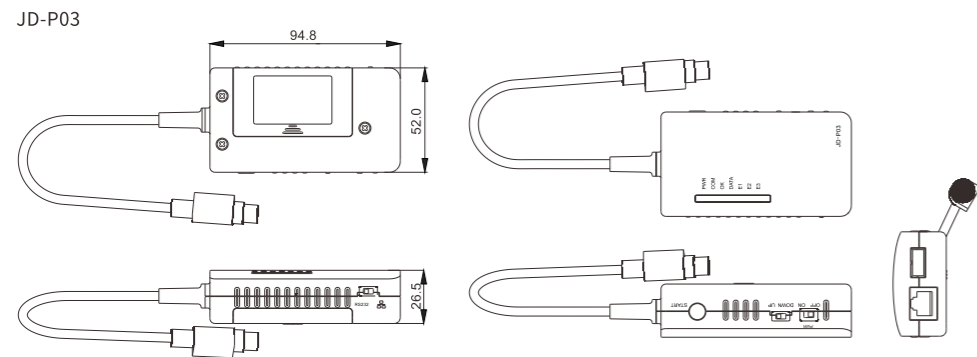
# Dimension Drawing

(Unit: mm)

## XD series expansion BD board



## Host accessories



# Slim Type PLC

## Small size, large function, powerful core

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

- ① Slim appearance, small and practical
- ② Strong compatibility
- ③ Strong expansion ability
- ④ Outstanding cost performance
- ⑤ Save more installation space

