

XINJE

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## Programmable Controller XD / XL / XG / XS

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XINJE Wechat

XINJE

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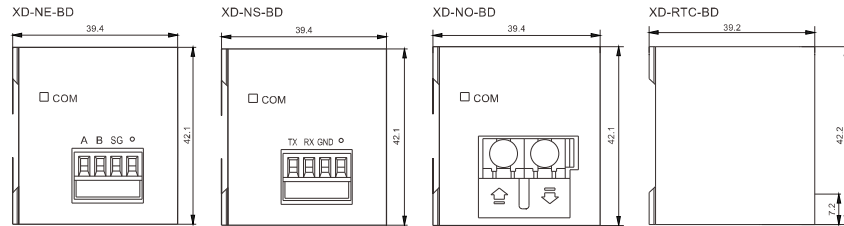
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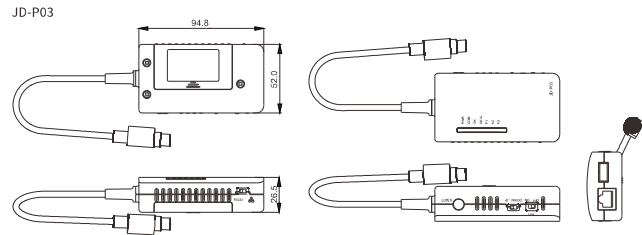
## Dimension Drawing

(Unit: mm)

### XD series expansion BD board



### Host accessories

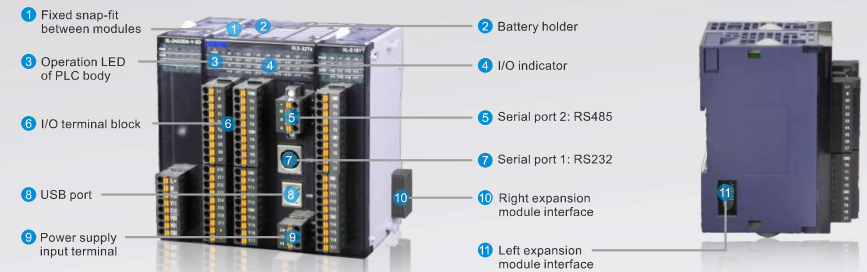


## Slim Type PLC

### 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



## Economic Type

### XL1 Series

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



- ① Program capacity 256KB
- ② I/O sequential control
- ③ Max I/O 16 points
- ④ Basic instruction 0.02~0.05us
- ⑤ RS232, RS485
- ⑥ X-NET fieldbus
- ⑦ USB port high speed download (max 12Mbps)

### Performance specification

| Product series XL1-                          |                           | 16T  | 16T-U                                  |
|--|---------------------------|--|--|
| Main body I/O                                | Total points              | 16   | 16                                     |
|  | Input points              | 8  | 8                                      |
|  | Output points             | 8  | 8                                      |
| Max I/O points                               |                           | 16   | 16                                     |
| 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        | 6  | 6                                      |
|  | Timing interrupt          | 20   | 20                                     |
|  | Other interrupts          | -  | -                                      |
| Communication function                       | Communication port        | 2 RS232 ports, 1 RS485 port  | 1 RS232 port, 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                   |                           | -  |  |
| Frequency measurement                        |                           | -  |  |
| Precise timing                               |                           | -  |  |
| 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  |  |

### 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           | -                             |
| PNP type | -               | -                 | -                             | -               | XL1-16T-U         | -                             |

| Product series XL1-     |                                   | 16T   | 16T-U  |  |
|-------------------------|-----------------------------------|---|--|--|
| Security function       |                                   | 6-bit ASCII password protection, secret download                |  |  |
| Self-diagnosis function |                                   | Power on self-test, monitoring timer, syntax check              |  |  |
| Real-time clock         |                                   | Built-in clock, Lithium battery, power off memory               |  |  |
| SD 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   |  |
|                         | Flow                              | Special SM  | 2048 points SM0~SM2047   |  |
|                         |                                   | General S   | 1024 points S0~S1023   |  |
|                         | Timer                             | Power off holding HS  | 128 points HS0~HS127   |  |
|                         |                                   | 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   |  |
|                         | Counter                           | Power off holding HT  | 96 points HT0~HT95   |  |
|                         |                                   | Specification   | 16-bit counter: 0~32767<br>32-bit counter: -2147483648~+2147483647           |  |
|                         |                                   | General C   | 576 points C0~C575   |  |
|                         | Special coil for WAIT instruction | Power off holding HC  | 96 points HC0~HC95   |  |
|                         |                                   | General D   | 32 points SEM0~SEM31   |  |
| 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 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.

## Standard Type

### XL3 Series

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



- ① Program capacity 256KB
- ② I/O sequential control
- ③ Max I/O 352 points
- ④ Basic instruction 0.02~0.05us
- ⑤ RS232, RS485
- ⑥ X-NET fieldbus
- ⑦ USB port high speed download (max 12Mbps)
- ⑧ 3 channels high speed counter (single phase up to 80KHz, AB phase up to 50KHz)
- ⑨ 2 channels 100KHz pulse output

### Performance specification

| Product series XL3-                          |                           | 16R/T  | 32R/T      |
|--|---------------------------|--|------------|
| PLC body I/O                                 | Total points              | 16   | 32         |
|  | Input points              | 8  | 16         |
|  | Output points             | 8  | 16         |
| Max I/O points                               |                           | 336  | 352        |
| High speed positioning                       | General pulse output      | 2 axes   | 2 axes     |
|  | Differential pulse output | -  | -          |
| High speed input                             | Single/AB phase mode      | 3 channels   | 3 channels |
|  | Input mode                | OC   | OC         |
| Expansion ability                            | Right expansion module    | 10   | 10         |
|  | Left expansion module     | 1  | 1          |
|  | BD board                  | -  | -          |
| Interruption                                 | External interrupt        | 6  | 10         |
|  | Timing interrupt          | 20   |            |
| Other interrupts                             |                           | High speed counter interrupt, pulse interrupt                      |            |
| Communication function                       | Communication port        | 1 RS232 port, 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                           |                           | Command, ladder chart, C language                                  |            |
| Power off holding                            |                           | FlashROM and lithium battery (3V button battery)                   |            |
| Basic instruction processing speed           |                           | 0.02~0.05us  |            |
| User program capacity (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 |
| NPN type | -               | -                 | -                             | XL3-16R         | XL3-16T           | -                             |
|          | -               | -                 | -                             | XL3-32R         | XL3-32T           | -                             |
| PNP type | -               | -                 | -                             | XL3-16PR        | -                 | -                             |
|          | -               | -                 | -                             | XL3-32PR        | -                 | -                             |

| Product series XL3-     |                                   | 16R/T   | 32R/T  |  |
|-------------------------|-----------------------------------|---|--|--|
| Security function       |                                   | 6-bit ASCII password protection, secret download                |  |  |
| Self-diagnosis function |                                   | Power on self-test, monitoring timer, syntax check              |  |  |
| Real-time clock         |                                   | Built-in clock, Lithium battery, power off memory               |  |  |
| SD 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   |  |
|                         | Flow                              | Special SM  | 2048 points SM0~SM2047   |  |
|                         |                                   | General S   | 1024 points S0~S1023   |  |
|                         | Timer                             | Power off holding HS  | 128 points HS0~HS127   |  |
|                         |                                   | Specification   | 100ms timer: 0.1~3276.7s, 10ms timer: 0.01~327.67s, 1ms timer: 0.001~32.767s |  |
|                         | Counter                           | General T   | 576 points T0~T575   |  |
|                         |                                   | Power off holding HT  | 96 points HT0~HT95   |  |
|                         | Special coil for WAIT instruction | Specification   | 16-bit counter: 0~32767<br>32-bit counter: -2147483648~+2147483647           |  |
|                         |                                   | General C   | 576 points C0~C575   |  |
| Data register           | Power off holding HC              | 96 points HC0~HC95  |  |  |
|                         | Special SD                        | 32 points SEM0~SEM31  |  |  |
| FlashROM register       | General D                         | 8000 points D0~D7999  |  |  |
|                         | Power off holding HD              | 1000 points HD0~HD999   |  |  |
| Security register FS    | Special SD                        | 2048 points SD0~SD2047  |  |  |
|                         | Power off holding FD              | 5120 points FD0~FD5119  |  |  |
| Security register FS    | Special SFD                       | 2000 points SFD0~SFD1999  |  |  |
|                         | Security register FS              | 48 points FS0~FS47  |  |  |

- \*Note: ① The PLC with transistor output has high speed positioning function.  
 ② The '-' in the table indicates that the model does not have this function.  
 ③ Special means it is occupied by the system and cannot be used for other purposes.

## Enhanced Type

### XL5 Series

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



- ① Program capacity 512KB
- ② I/O sequential control
- ③ Max I/O 576 points
- ④ Basic instruction 0.02~0.05us
- ⑤ RS232, RS485
- ⑥ X-NET fieldbus
- ⑦ USB port high speed download (max 12Mbps)
- ⑧ 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 XL5-                          | 16T  | 32T  | 32T4       | 64T10      |             |
|--|--|--|------------|------------|-------------|
| PLC body I/O                                 | Total points                                       | 16   | 32         | 32         | 64          |
|  | Input points                                       | 8  | 16         | 16         | 32          |
|  | Output points                                      | 8  | 16         | 16         | 32          |
| Max I/O points                               | 528  | 544  | 544        | 576        |             |
| High speed positioning                       | General pulse output                               | 2 axes   | 2 axes     | 4 axes     | 10 axes     |
|  | Differential pulse output                          | -  | -          | -          | -           |
| High speed input                             | Single/AB phase mode                               | 3 channels   | 3 channels | 4 channels | 10 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   | -  | -          | -          | -           |
| Interruption                                 | External interrupt                                 | 6  | 10         | 10         | 10          |
|  | Timing interrupt                                   | 20   |            |            |             |
|  | Other interrupts                                   | High speed counter interrupt, pulse interrupt                      |            |            |             |
| Communication function                       | Communication port                                 | 1 RS232 port, 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                           | Command, ladder chart, C language                  |  |            |            |             |
| Power off holding                            | FlashROM and lithium battery (3V button battery)   |  |            |            |             |
| Basic instruction processing speed           | 0.02~0.05us  |  |            |            |             |
| User program capacity (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         | -                             |
| PNP type | -               | -                 | -                             | -               | XL5-32PT4         | -                             |

| Product series XL3-     | 16T  | 32T  | 32T4   | 64T10 |  |
|-------------------------|--|--|--|-------|--|
| Security function       | 6-bit ASCII password protection, secret download   |  |  |       |  |
| Self-diagnosis function | Power on self-test, monitoring timer, syntax check |  |  |       |  |
| Real-time clock         | Built-in clock, Lithium battery, power off memory  |  |  |       |  |
| SD 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 C0~C4999   |       |  |
|                         |  | Power off holding HT   | 2000 points HC0~HC1999   |       |  |
|                         | Counter  | Specification  | 16-bit counter: 0~32767<br>32-bit counter: -2147483648~+2147483647           |       |  |
|                         |  | General C  | 5000 points C0~C4999   |       |  |
|                         |  | Power off holding HC   | 2000 points HT0~HT1999   |       |  |
|                         | Special coil for WAIT instruction                  | General D  | 70000 points D0~D69999   |       |  |
| Power off holding HD    |  | 25000 points HD0~HD24999   |  |       |  |
| Word soft component     | Special SD   | 5000 points SD0~SD4999   |  |       |  |
|                         | Power off holding FD                               | 8192 points FD0~FD8191   |  |       |  |
|                         | Special SFD  | 6000 points SFD0~SFD5999   |  |       |  |
| FlashROM register       | Security register FS                               | 48 points FS0~FS47   |  |       |  |

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

# Ethernet Communication Type

## XL5E Series

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



- ① Program capacity 1MB
- ② I/O sequential control
- ③ Max I/O 576 points
- ④ Basic instruction 0.01~0.03us
- ⑤ RS232, RS485, RJ45
- ⑥ X-NET fieldbus
- ⑦ 2~10 channels 100KHz pulse output
- ⑧ 3~10 channels high speed counter (single phase up to 80KHz, AB phase up to 50KHz)

## Performance specification

| Product series XL5E-                         |                           | 16T  | 32T        | 32T4       | 64T6       | 64T10       |
|--|---------------------------|--|------------|------------|------------|-------------|
| PLC body I/O                                 | Total points              | 16   | 32         | 32         | 64         | 64          |
|  | Input points              | 8  | 16         | 16         | 32         | 32          |
|  | Output points             | 8  | 16         | 16         | 32         | 32          |
| Max I/O points                               |                           | 528  | 544        | 544        | 576        | 576         |
| High speed positioning                       | General pulse output      | 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 | 6 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                  | -  | -          | -          | -          | -           |
| Interruption                                 | External interrupt        | 6  | 10         | 10         | 10         | 10          |
|  | Timing interrupt          | 20   |            |            |            |             |
|  | Other interrupts          | High speed counter interrupt, pulse interrupt                      |            |            |            |             |
| Communication function                       | Communication port        | 1 RS232 port, 1 RS485 port, 2 RJ45 ports                           |            |            |            |             |
|  | 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                           |                           | 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 capacity (secret download mode) |                           | 1MB  |            |            |            |             |

## XL5E series model list

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

| Product series XL5E-    |                                   | 16T  | 32T  | 32T4 | 64T6 | 64T10 |
|-------------------------|-----------------------------------|--|--|------|------|-------|
| Security function       |                                   | 6-bit ASCII password protection, secret download                 |  |      |      |       |
| Self-diagnosis function |                                   | Power on self-test, monitoring timer, syntax check               |  |      |      |       |
| Real-time clock         |                                   | Built-in clock, Lithium battery, power off memory                |  |      |      |       |
| SD 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   |      |      |       |
|                         | Flow                              | Special SM   | 5000 points SM0~SM4999   |      |      |       |
|                         |                                   | General S  | 8000 points S0~S7999   |      |      |       |
|                         | Timer                             | Power off holding HS   | 1000 points HS0~HS999  |      |      |       |
|                         |                                   | Specification  | 100ms timer: 0.1~3276.7s, 10ms timer: 0.01~327.67s, 1ms timer: 0.001~32.767s |      |      |       |
|                         | Counter                           | General T  | 5000 points C0~C4999   |      |      |       |
|                         |                                   | Power off holding HT   | 2000 points HC0~HC1999   |      |      |       |
|                         | Special coil for WAIT instruction | Specification  | 16-bit counter: 0~32767<br>32-bit counter: -2147483648~+2147483647           |      |      |       |
|                         |                                   | General C  | 5000 points C0~C4999   |      |      |       |
| Data register           | Power off holding HC              | 2000 points HT0~HT1999   |  |      |      |       |
|                         | Special SD                        | 32 points SEM0~SEM31   |  |      |      |       |
| FlashROM register       | General D                         | 70000 points D0~D69999   |  |      |      |       |
|                         | Power off holding HD              | 25000 points HD0~HD24999   |  |      |      |       |
| Security register FS    | Special SD                        | 5000 points SD0~SD4999   |  |      |      |       |
|                         | Power off holding FD              | 8192 points FD0~FD8191   |  |      |      |       |
| Special SFD             | 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.

## CAN Communication Type

### XL5N Series

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



- ① Program capacity 1MB
- ② I/O sequential control
- ③ Max I/O 544 points
- ④ Basic instruction 0.01~0.03us
- ⑤ RS232, RS485, RJ45
- ⑥ 2 channels CAN communication, support CANopen and CAN free format communication
- ⑦ Support Ethernet communication
- ⑧ 2 channels 100KHz pulse output
- ⑨ 3 channels high speed counter (single phase up to 80KHz, AB phase up to 50KHz)

### Performance specification

|  |                                   |   |
|--|-----------------------------------|---|
| Product series XL5N-                         | 32T                               |   |
| PLC body I/O                                 | Total points                      | 32  |
|  | Input points                      | 16  |
|  | Output points                     | 16  |
| Max I/O points                               | 544                               |   |
| High speed positioning                       | General pulse output              | 2 axes  |
|  | Differential pulse output         | -   |
| High speed input                             | Single/AB phase mode              | 3 channels  |
|  | Input mode                        | OC  |
| Expansion ability                            | Right expansion module            | 16  |
|  | Left expansion module             | 1   |
|  | BD board                          | -   |
| Interruption                                 | External interrupt                | 10  |
|  | Timing interrupt                  | 20  |
|  | Other interrupts                  | High speed counter interrupt, pulse interrupt   |
| Communication function                       | Communication port                | 1 RS232 port, 1 RS485 port, 2 RJ45 ports  |
|  | Communication protocol            | Standard Modbus ASCII/RTU communication, free format communication, Ethernet communication, CAN communication |
| Bus function                                 | CANbus control, X-NET fieldbus    |   |
| PWM pulse width modulation                   | Support                           |   |
| Frequency measurement                        | Support                           |   |
| Precise timing                               | Support                           |   |
| Multi-station control                        | Support                           |   |
| Program execution mode                       | Cyclic scanning mode              |   |
| Programming method                           | Command, ladder chart, C language |   |
| Power off holding                            | FlashROM                          |   |
| Basic instruction processing speed           | 0.01~0.03us                       |   |
| User program capacity (secret download mode) | 1MB                               |   |

### XL5N series model list

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

|                         |  |  |  |
|-------------------------|--|--|--|
| Product series XL5N-    | 32T  |  |  |
| Security function       | 6-bit ASCII password protection, secret download   |  |  |
| Self-diagnosis function | Power on self-test, monitoring timer, syntax check |  |  |
| Real-time clock         | Built-in clock, Lithium battery, power off memory  |  |  |
| SD 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~SM4999  |
|                         | 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<br>32-bit counter: -2147483648~+2147483647           |
|                         |  | General C  | 20000 points C0~C19999   |
|                         |  | Power off holding HC   | 2000 points HC0~HC1999   |
|                         | Special coil for WAIT instruction                  | 32 points SEM0~SEM31   |  |
|                         | Word soft component                                | Data register  | General D  |
| Power off holding HD    |  |  | 50000 points HD0~HD49999   |
| FlashROM register       |  | Special SD   | 50000 points SD0~SD49999   |
|                         |  | 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.

## Ethernet Communication Type

### XLME Series

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



- ① Program capacity 1MB
- ② I/O sequential control
- ③ Max I/O 576 points
- ④ Basic instruction 0.01~0.03us
- ⑤ RS232, RS485, RJ45
- ⑥ X-NET fieldbus
- ⑦ 4~10 channels 100KHz pulse output
- 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 XLME-                         |                           | 32T4   | 64T10       |
|--|---------------------------|--|-------------|
| PLC body I/O                                 | Total points              | 32   | 64          |
|  | Input points              | 16   | 32          |
|  | Output points             | 16   | 32          |
| Max I/O points                               |                           | 544  | 576         |
| High speed positioning                       | General pulse output      | 4 axes   | 10 axes     |
|  | Differential pulse output | -  | -           |
| High speed input                             | Single/AB phase mode      | 4 channels   | 10 channels |
|  | Input mode                | OC   | OC          |
| Expansion ability                            | Right expansion module    | 16   | 16          |
|  | Left expansion module     | 1  | 1           |
|  | BD board                  | -  | -           |
| Interruption                                 | External interrupt        | 10   | 10          |
|  | Timing interrupt          | 20   |             |
| Communication function                       | Other interrupts          | High speed counter interrupt, pulse interrupt  |             |
|  | Communication port        | 1 RS232 port, 1 RS485 port, 2 RJ45 ports   |             |
| Bus function                                 | Communication protocol    | Standard Modbus ASCII/RTU communication, free format communication, Ethernet communication |             |
|  | Communication protocol    | 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                           |                           | 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 capacity (secret download mode) |                           | 1MB  |             |

### XLME series model list

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

| Product series XLME-    |                                   | 32T4   | 64T10  |  |
|-------------------------|-----------------------------------|--|--|--|
| Security function       |                                   | 6-bit ASCII password protection, secret download                 |  |  |
| Self-diagnosis function |                                   | Power on self-test, monitoring timer, syntax check               |  |  |
| Real-time clock         |                                   | Built-in clock, Lithium battery, power off memory                |  |  |
| SD 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   |  |
|                         | Flow                              | Special SM   | 5000 points SM0~SM4999   |  |
|                         |                                   | General S  | 8000 points S0~S7999   |  |
|                         | Timer                             | Power off holding HS   | 1000 points HS0~HS999  |  |
|                         |                                   | Specification  | 100ms timer: 0.1~3276.7s, 10ms timer: 0.01~327.67s, 1ms timer: 0.001~32.767s |  |
|                         | Counter                           | General T  | 5000 points T0~T4999   |  |
|                         |                                   | Power off holding HT   | 2000 points HT0~HT1999   |  |
|                         | Special coil for WAIT instruction | Specification  | 16-bit counter: 0~32767<br>32-bit counter: -2147483648~+2147483647           |  |
|                         |                                   | General C  | 5000 points C0~C4999   |  |
|                         | Data register                     | Power off holding HC   | 2000 points HC0~HC1999   |  |
|                         |                                   | Special SD   | 32 points SEM0~SEM31   |  |
| FlashROM register       | General D                         | 70000 points D0~D69999   |  |  |
|                         | Power off holding HD              | 25000 points HD0~HD24999   |  |  |
| Security register FS    | Special SD                        | 5000 points SD0~SD4999   |  |  |
|                         | Power off holding FD              | 8192 points FD0~FD8191   |  |  |
| Security register FS    | 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

## XLH Series

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



- ① Program capacity 2~4MB
- ② Max I/O 542 points
- ③ Basic instruction 0.01~0.05us
- ④ RS232, RS485, RJ45
- ⑤ Ethernet communication
- ⑥ X-NET fieldbus
- ⑦ EtherCAT bus control
- ⑧ 4 channels 100KHz pulse output
- ⑨ 4 channels high speed counter (up to 200KHz)
- ⑩ Follow-up function
- ⑪ 3 axes linear/arc interpolation
- ⑫ 16 channels electronic CAM (XLH-24A16L cannot support)

## Performance specification

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

## XLH series model list

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

| Product series XLH-               | 24A16  | 24A16L   | 30A32  |                          |                           |
|-----------------------------------|--|--|--|--------------------------|---------------------------|
| Security function                 | 6-bit ASCII password protection, secret download   |  |  |                          |                           |
| Self-diagnosis function           | Power on self-test, monitoring timer, syntax check |  |  |                          |                           |
| Real-time clock                   | Built-in clock, Lithium battery, power off memory  |  |  |                          |                           |
| SD 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 |  |                          |                           |
|                                   |  | 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   |                          |                           |
|                                   |  | 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  | Precise timing   | 40 points ET0~ET39   |                          |                           |
|                                   |  | Specification  | 16-bit counter: 0~32767<br>32-bit counter: -2147483648~+2147483647           |                          |                           |
|                                   |  | General C  | 20000 points C0~C19999   |                          |                           |
|                                   | Special coil for WAIT instruction                  | 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 | 1000000 points D0~D999999 |
|                                   | FlashROM register                                  | Power off holding HD   | 50000 points HD0~HD49999   | 50000 points HD0~HD49999 | 100000 points HD0~HD99999 |
|                                   |  | Special SD   | 50000 points SD0~SD49999   |                          |                           |
| Security register FS              | 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

## XSLH Series

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



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

## Performance specification

|                        |  |  |
|------------------------|--|--|
| Product series XSLH-   | 30A32                                  |  |
| PLC body I/O           | Total points                           | 30   |
|                        | Input points                           | 14   |
|                        | Output points                          | 16   |
| Max I/O points         | 542                                    |  |
| 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                             | 2 channels differential signal + 2 channels OC   |
| Expansion ability      | Right expansion module                 | 16   |
|                        | Left expansion module                  | 1  |
|                        | BD board                               | -  |
| External interrupt     | 10                                     |  |
| Communication function | Communication port                     | 1 RS232 port, 1 RS485 port, 2 RJ45 ports   |
|                        | Communication protocol                 | Standard Modbus ASCII/RTU communication, Ethernet IP, TCP / IP, UDP, OPC UA, free format protocol, CAN communication |
| Bus function           | EtherCAT bus control (max 32 nodes)    |  |
| Programming method     | ST, SFC, FBD, CFC, LD and IL           |  |
| Main processor         | Cortex-A8, dominant frequency 1GHz     |  |
| User program capacity  | 32MB                                   |  |
| Data capacity          | 32MB (including power off holding 6MB) |  |

# 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

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

## Input specification

### NPN mode

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

### PNP mode

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

### Differential mode

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

\*Note: XL5/XL5E/XLME series 64 points models don't have input ON/OFF current. Their input ON voltage is below 9V, and input OFF voltage is above 19V.

## 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 time         | OFF→ON                | 10ms |
|                       | ON→OFF                | 10ms |

### Transistor output

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

### High speed pulse output

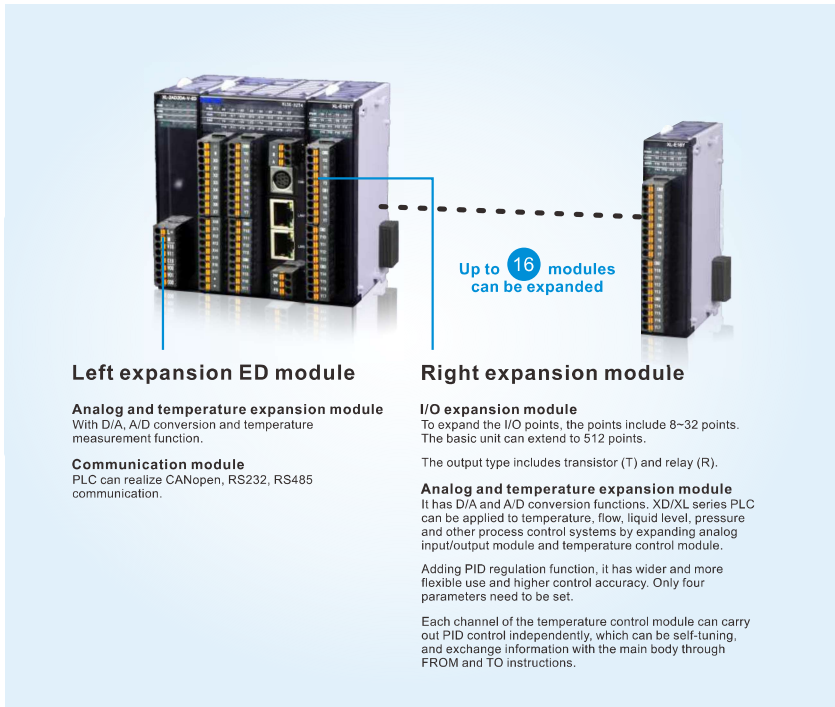
|                                  |               |       |       |        |
|----------------------------------|---------------|-------|-------|--------|
| Model                            | T             | T4    | T6    | T10    |
| High speed pulse output terminal | Y0~Y1         | Y0~Y3 | Y0~Y5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

## 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.



### Left expansion ED module

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

**Communication module**  
PLC can realize CANopen, RS232, RS485 communication.

### Right expansion module

#### I/O expansion module

To expand the I/O points, the points include 8~32 points. The basic unit can extend to 512 points.

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

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

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

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

## General specification

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

## Right expansion module

### I/O expansion module

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



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

External terminal strip is required

### Digital input module

| Type      |           | Function description      | Specification  |
|-----------|-----------|---------------------------|--|
| NPN input | PNP input |                           |  |
| XL-E16X   | XL-E16PX  | 16 channels digital input | DC24V power supply<br>Input filter time 1~50ms optional<br>External wiring method: 16X, 32X: built-in terminal strip<br>32X-A: external terminal block is required |
| XL-E32X   | XL-E32PX  | 32 channels digital input |  |
| XL-E32X-A | -         | 32 channels digital input | 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<br>R: output relay<br>T: output transistor<br>R response time is below 10ms<br>T response time is below 0.2ms<br>R max load: resistive 3A inductive 80VA<br>T max load: each point max output current is 0.3A<br>External wiring method: 16YR, 16YT, 32YT: built-in terminal strip<br>16YT-A, 32YT-A: external terminal block is required |
| XL-E16YT   | 16 channels transistor output, no power supply required |  |
| XL-E16YT-A | 16 channels transistor output, no power supply required |  |
| XL-E32YT   | 32 channels transistor output, no power supply required |  |
| XL-E32YT-A | 32 channels transistor output, no power supply required |  |
|            |   | The wiring method is same to PLC main body   |

### Digital I/O module

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

## Expansion Unit

### Analog and temperature expansion module

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

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

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



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

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

### Analog input module (AD type)

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

### Analog output module (DA type)

| Model   | Channel | Input signal   | Specification  |
|---------|---------|--|--|
| XL-E4DA | 4       | Voltage output: 0~5V/0~10V/-5~5V/-10~10V<br>(external load resistor 2kΩ~1MΩ)<br>Current output: 0~20mA/4~20mA<br>(external load resistor less than 500Ω) | Power supply for analog DC24V ±10%, 150mA<br>Conversion speed 2ms/channel<br>Resolution 1/4095 (12-bit)<br>Comprehensive accuracy ±1%<br>Channel enable bit is added |

### Analog I/O module (nADmDA type)

| Model      | Channel |        | Input/output signal  | Specification   |
|------------|---------|--------|--|---|
|            | Input   | Output |  |   |
| XL-E4AD2DA | 4       | 2      | Current input: 0~20mA/4~20mA/-20~20mA<br>Voltage input: 0~5V/0~10V/-5~5V/-10~10V<br>Voltage output: 0~5V/0~10V/-5~5V/-10~10V<br>(external load resistor 2kΩ~1MΩ)<br>Current output: 0~20mA/4~20mA<br>(external load resistor less than 500Ω) | Power supply for analog DC24V ±10%, 150mA<br>Conversion speed 2ms/channel<br>Input resolution 1/16383 (14-bit)<br>Output resolution 1/4095 (12-bit)<br>Comprehensive accuracy ±1%<br>AD filter coefficient 0~254<br>Channel enable bit is added<br>AD channel has the functions of short circuit, open circuit and over range detection |

### Weighing extension module

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

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

- 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-E1WT-D/XL-E2WT-D XL-E4WT-D

| Item                           | Specification   |
|--------------------------------|---|
| Model                          | XL-E1WT-D, XL-E2WT-D, XL-E4WT-D                               |
| Analog input range             | 0C~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   | Power supply of module: DC24V±10%, 150mA<br>Conversion speed: 10ms (all the channels)  |
| XL-4AD-V-ED    | 4 channels voltage input: 0~5V/0~10V  |  |
| XL-4DA-A-ED    | 4 channels current output: 0~20mA/4~20mA  |  |
| XL-4DA-V-ED    | 4 channels voltage output: 0~5V/0~10V   |  |
| XL-2AD2DA-A-ED | 2 channels current input: 0~20mA/4~20mA<br>2 channels current output: 0~20mA/4~20mA                 | AD/DA:<br>Current/voltage input resolution: 1/4095 (12-bit)<br>Current/voltage output resolution: 1/1023 (10-bit)<br>AD/DA conversion comprehensive accuracy: ±1%<br>AD filter coefficient: 0~254            |
| XL-2AD2DA-V-ED | 2 channels voltage input: 0~5V/0~10V<br>2 channels voltage output: 0~5V/0~10V                       |  |
| XL-2AD2PT-A-ED | 2 channels current input: 0~20mA/4~20mA<br>2 channels temperature input: PT100 platinum thermistor  | PT:<br>Temperature measurement range: -100~500°C<br>Digital output range: -1000~5000<br>PT filter 0~254<br>Temperature input resolution: 0.1°C<br>PT channel comprehensive accuracy: ±0.8% of the full scale |
| XL-2AD2PT-V-ED | 2 channels voltage input: 0~5V/0~10V<br>2 channels temperature input: PT100 platinum thermistor     |  |
| XL-2PT2DA-A-ED | 2 channels current output: 0~20mA/4~20mA<br>2 channels temperature input: PT100 platinum thermistor |  |
| XL-2PT2DA-V-ED | 2 channels voltage output: 0~5V/0~10V<br>2 channels temperature input: PT100 platinum thermistor    |  |

### Communication expansion ED module

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

## Accessories

### Basic unit accessories list

| Name                            | Model        | Description   | Product drawing   |
|---------------------------------|--------------|---|---|
| Communication/programming cable | XVP/DVP      | For communication and program uploading/downloading   |  |
| USB to serial port converter    | USB-COM      | For the conversion of DB9 female port and USB port  |  |
| 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               |  |
| 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

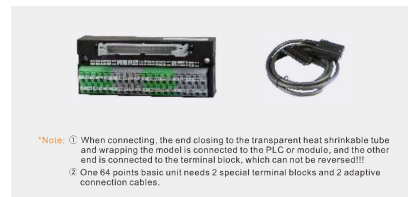
XL series terminal resistance module is required when external right expansion module is connected. Only for expansion module hardware version H3.1 and up.



### 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     | JC-TE32-NN05 (0.5m)<br>JC-TE32-NN10 (1.0m)<br>JC-TE32-NN15 (1.5m) |
| XL5E-64T6     | JT-E32X+JT-E32YT     |   |
| XL5E-64T10    | JT-E32X+JT-E32YT     |   |
| XL-E32X-A     | JT-E32X              |   |
| XL-E16X16YT-A | JT-E16X16YT          |   |
| XL-E32YT-A    | JT-E32YT             |   |
| XL-E16YT-A    | JT-E16YT-A           |   |



### Program downloader

#### 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.

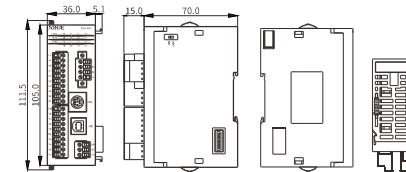


\*Note: Please refer to the manual for details. XDH, XC series PLC are not supported temporarily.

## Dimension Drawing

(Unit: mm)

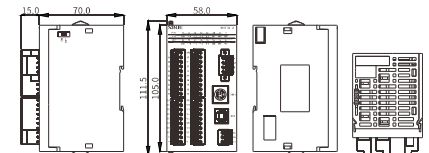
### XL series PLC basic unit



#### Suitable models

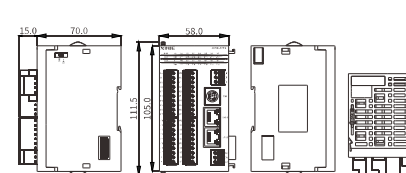
| Series | XL1       | XL3 | XL5 | XL5E |
|--------|-----------|-----|-----|------|
| Points | 16 points |     |     |      |

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



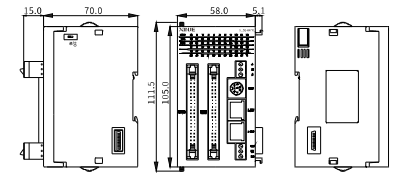
#### Suitable models

| Series | XL3       | XL5 |
|--------|-----------|-----|
| Points | 32 points |     |



#### Suitable models

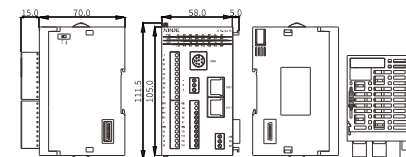
| Series | XL5E      | XLME |
|--------|-----------|------|
| Points | 32 points |      |



#### Suitable models

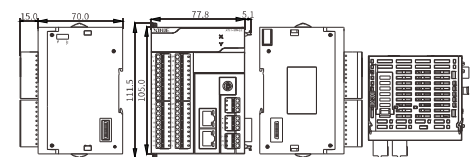
| Series | XL5       | XL5E | XLME |
|--------|-----------|------|------|
| Points | 64 points |      |      |

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



#### Suitable models

| Series | XLH       |
|--------|-----------|
| Points | 24 points |



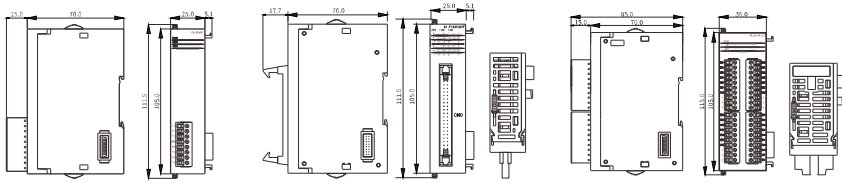
#### Suitable models

| Series | XLH       | XSLH |
|--------|-----------|------|
| Points | 30 points |      |

# Dimension Drawing

(Unit: mm)

## XL series right expansion module



Suitable models

| Module type | Digital value | Analog value |
|-------------|---------------|--------------|
| Models      | 8X/8Y         | ALL          |
|             | 16X           |              |
|             | 16Y           |              |

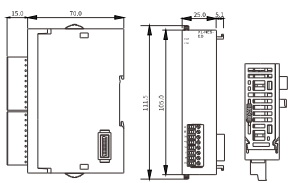
Suitable models

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

Suitable models

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

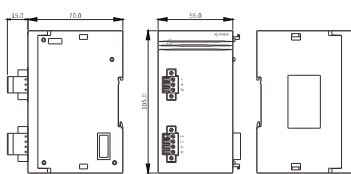
## XL series left expansion ED module



Suitable models

| Module type | Analog value | Communication |
|-------------|--------------|---------------|
| Models      | ALL          | XL-NES-ED     |

## XL series power supply module



## JT series external terminal block

