

Thanks for purchasing XINJE XD series PLC and extension module. This manual will introduce the electric features and using method of XD series extension ED module. Please read this manual carefully before using the products, make sure the wiring operation is safe.

➡ XD series communication ED module features:

- XD series communication ED module is used to extend RS232 or RS485 port
- XD-NES-ED can be used as the left extension module of XD series PLC, but for RS232 and RS485, only can use one of them.
- XD-NES-ED is chip design, small size.

Safety precautions

Control system design attentions



- ◆ Make sure design the safety circuit, to ensure that the control system can still work safety when the external power supply cut off or PLC broken.
- ◆ Make sure set emergency braking circuit, protection circuit, interlock circuit of forward-reverse running in PLC external circuit and upper-lower limit switch to prevent from machine damage.
- ◆ In order to make the equipment safe operation, please design external protection circuit for important output signal.
- ◆ PLC CPU will close all the output when detecting the system error; the output will lose control when the PLC circuit has problem. Please design suitable external control circuit to ensure the device working normally.
- ◆ If the PLC relay or transistor unit is broken, the output cannot be ON or OFF.
- ◆ The PLC is designed for indoor environment, the lightning protection must be installed in the power supply system to avoid PLC and other device damage.

Installation and wiring attentions



- ◆ Do not use the PLC in the following environment: dust, soot, corrosive gases, flammable gas, high temperature, condensation, vibration, impact, lightning, fire.
- ◆ Do not let the metal scrap and wire head drop into the ventilation hole of PLC, otherwise it will cause fire or error operation.
- ◆ Do not cover the ventilation hole of PLC, otherwise it will cause fire, error operation.
- ◆ The I/O wiring must be fixed enough, otherwise the bad contactor will cause fault.



- ◆ It can use external power supply for extension module DC24V power.
- ◆ Please use shield cable for high frequency I/O wiring to avoid interference.

Run and maintenance



- ◆ Please connect all the cable include PLC, extension module and BD board after shutting down the power supply.
- ◆ Please operate as the manual for online operation, forced output, RUN, STOP.



- ◆ Please discard the product as industrial waste.
- ◆ Make sure cut off the power supply when installing or uninstalling the extension card.

Product information

Naming rule

XD- NES - ED

- ① ② ③

- ① Product series XD: XD series extension ED module
- ② Communication type S: RS232 communication ED module

E: RS485 communication ED module

- ③ Extension type ED: extension ED module

Basic parameters

XD series PLC can connect XD-NES-ED module.

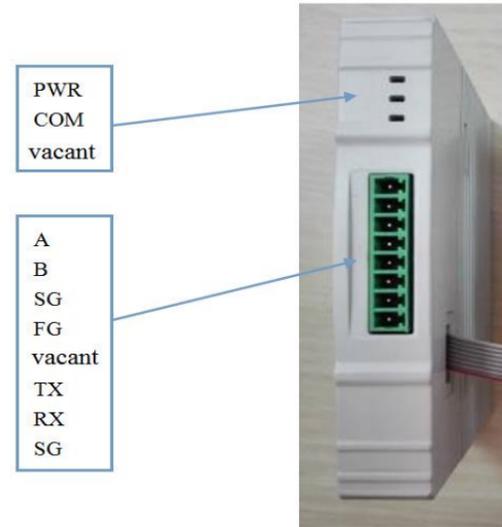
Table 1: XD series extension communication ED module specification

Installation mode	Install inside the XD series PLC directly
Dimension	100mm×18mm×90.0mm
Using environment	No corrosive gas
Environment temperature	0°C~60°C
Environment humidity	5~95%

Product appearance

Product structure

XD-NES-ED



Each part name:

Name	Function	
Indicator light	PWR	The LED lights when the ED module has power supply
	COM	The LED lights when the ED module communication port works well
	vacant	Reserved light
Wiring terminal	A	RS485+
	B	RS485-
	SG	ground
	FG	Connect to ground
	vacant	Vacant terminal
	TX	RS232 data send
	RX	RS232 data receive
SG	ground	

Product dimension and installation

Installation

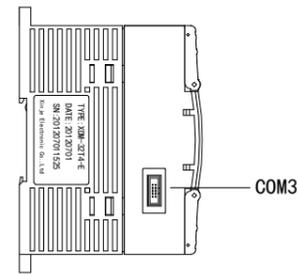
Do not install the module in below environment:

- Direct sunlight
- Environment temperature out of range 0-50°C
- Environment humidity out of range 35%-85% RH
- Condensation as severe changes in temperature
- Corrosive gas and flammable gas
- Dust, iron filing, salt, fume
- Vibration and impact
- Spray oil, water and medicine

- Strong magnetic field and strong electric field

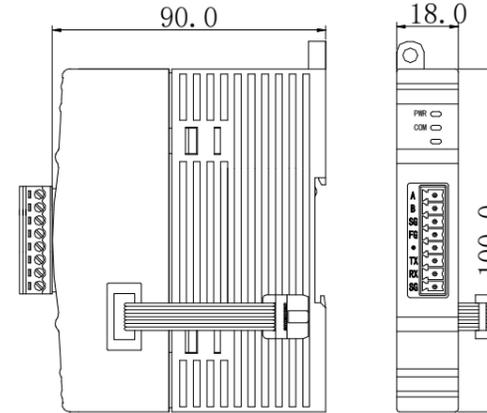
XD series extension ED module can be installed in com3 port of XD series PLC.

Note: please cut off the power before operation!



Product dimension (unit: mm)

XD series extension ED module dimension is shown as below:



Electric design reference

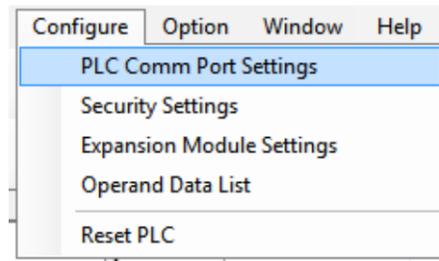
Configuration mode

XD series communication ED module needs to use XD/EPProV3.4 and up version or XINJEConfig tool to configure the parameters.

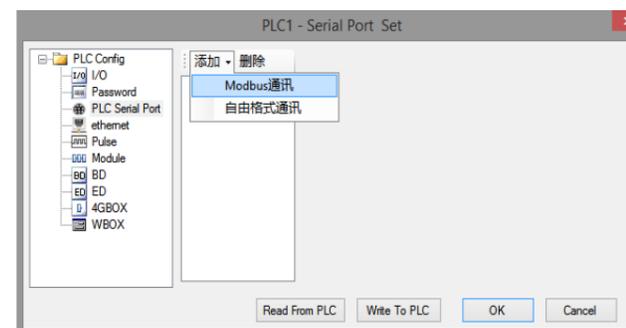
For Modbus communication, please use XD/EPProV3.4 and up version or XINJEConfig tool to configure the parameters. For X-NET communication, please use XINJEConfig tool to configure the parameters.

- use XD/EPProV3.4 and up version to configure the parameters:

Click configure/PLC comm port settings.



Click add/modbus communication:



Choose com3, other parameters please set as you need. Then click write to PLC. Please cut the PLC power and power on again to make the parameters effective.



- XNET Config tool can configure the parameters of ED module, the following is the

configuration method:

XINJEConfig installation

Double click the file XnetSetup.exe, then follow the guide to finish the installation.

XINJEConfig using steps

There are two PLC model XD3-32T-E communicates with each other through

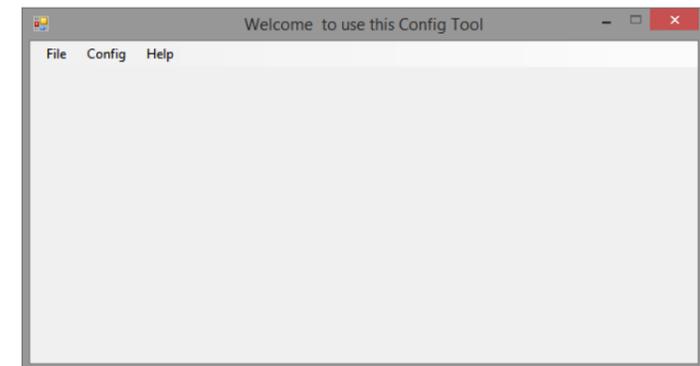
XD-NES-ED (X-NET communication).

Note: before configuration, please connect PLC with PC through USB cable which is the HMI download cable.

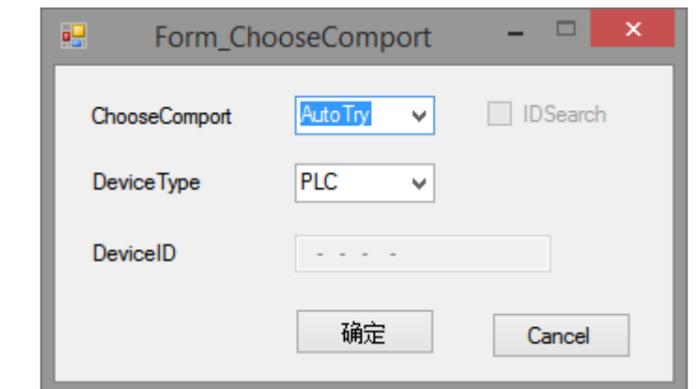


The USB cable needs to install USB driver, please use the file VirtualCOMSetUp.exe to install the driver.

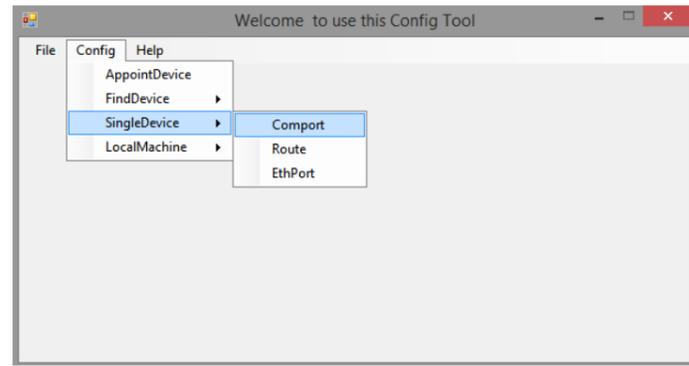
1. open the XINJE Config tool



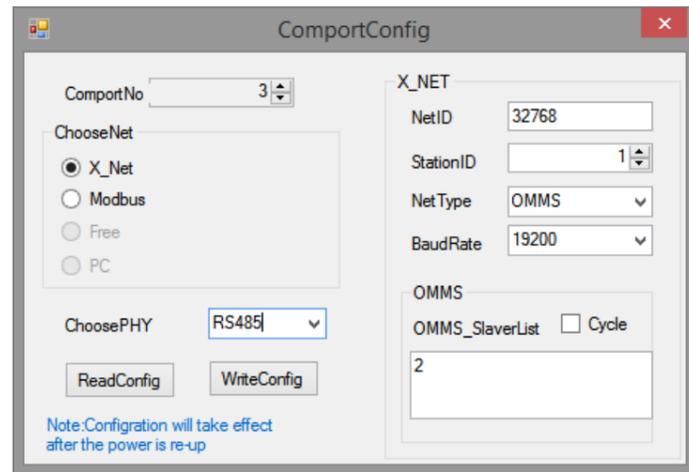
2. click config/find device, it will show below window:



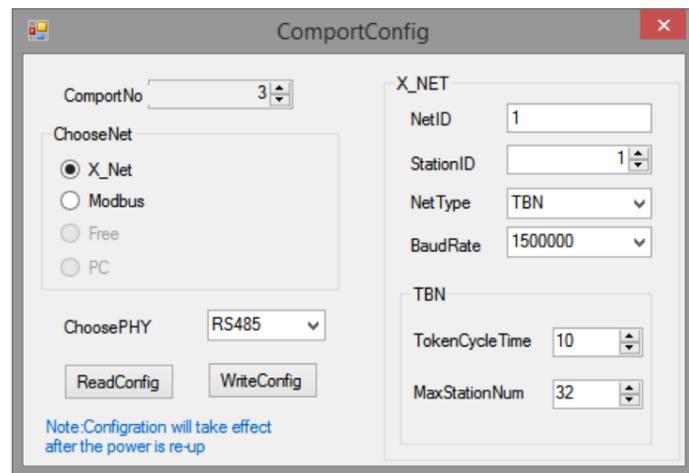
3. the com port please choose the one connecting PLC and PC, the device type please choose PLC. Then click ok to return to main interface. Click config/single device/com port.



4. it will show serial port configuration window:



5. As XD3-32T-E only can extend one ED module, which is the com3, XD-NES-ED should be set to com3, the net type please set to X-NET, the physical layer please set to RS485.



NetID: the communication network no. constructed by the two PLC. The network number of all the devices must be consistent in the same network. The network number can be set to any value. We define this communication network to no.1.

Station ID: the PLC station no. in the same network. We will set PLC A to no. 1, PLC B set to no.2.

Net type: there are three kinds of option, TBN is PLC communication. If the HMI communicates with PLC, please choose OMMS or TBN, please choose OMMS when the PLC communicates with servo drive. Here we will set to TBN. The net type in the same network must be consistent.

Baud rate: set to 1.5M.

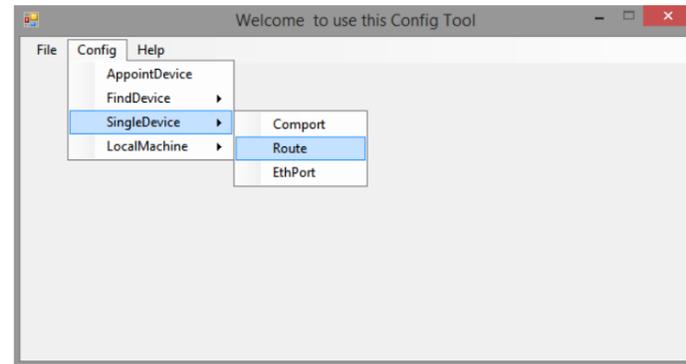
Token cycle time: the time each station no. cycling once in the network, the unit is ms. In this example, there are two PLC, we set it to 10ms.

Max station num: the max device numbers in the network. X-NET communication cannot over 32, so we set this to 32.

6. click write config, it will show write in succeeded information.

7. click ok, then cut the PLC power and power on again to make the parameters effective.

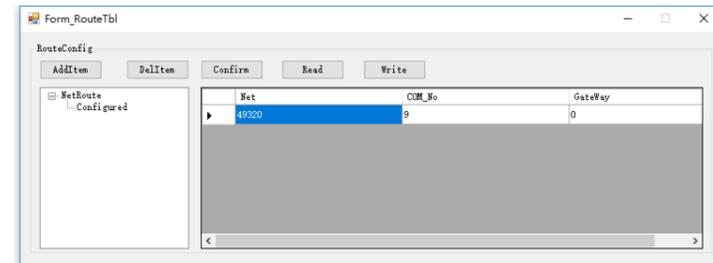
8. return to the main interface, click config/single device/route.



9. it will show below window.



10. click AddItem, it will show subnet routing configuration items.



The net is the netID in the serial port configuration window. Com_No is the PLC serial port no., we used extension ED module XD-NE-BD, so the port is com4. The gateway address is 0.

11. after configuration, click write, it will show write in successful information.

12. close the XINJEConfig tool, then cut the PLC power and power on again to make the setting effective.

Note:

- (1) after changing the device, it needs to configure again.
- (2) if it shows the error "Xnetserver read config error!", it needs to restart the software and configure again.

The other details please refer to X-NET manual, modbus instructions please refer to XD/XL programming manual.