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Path through manual

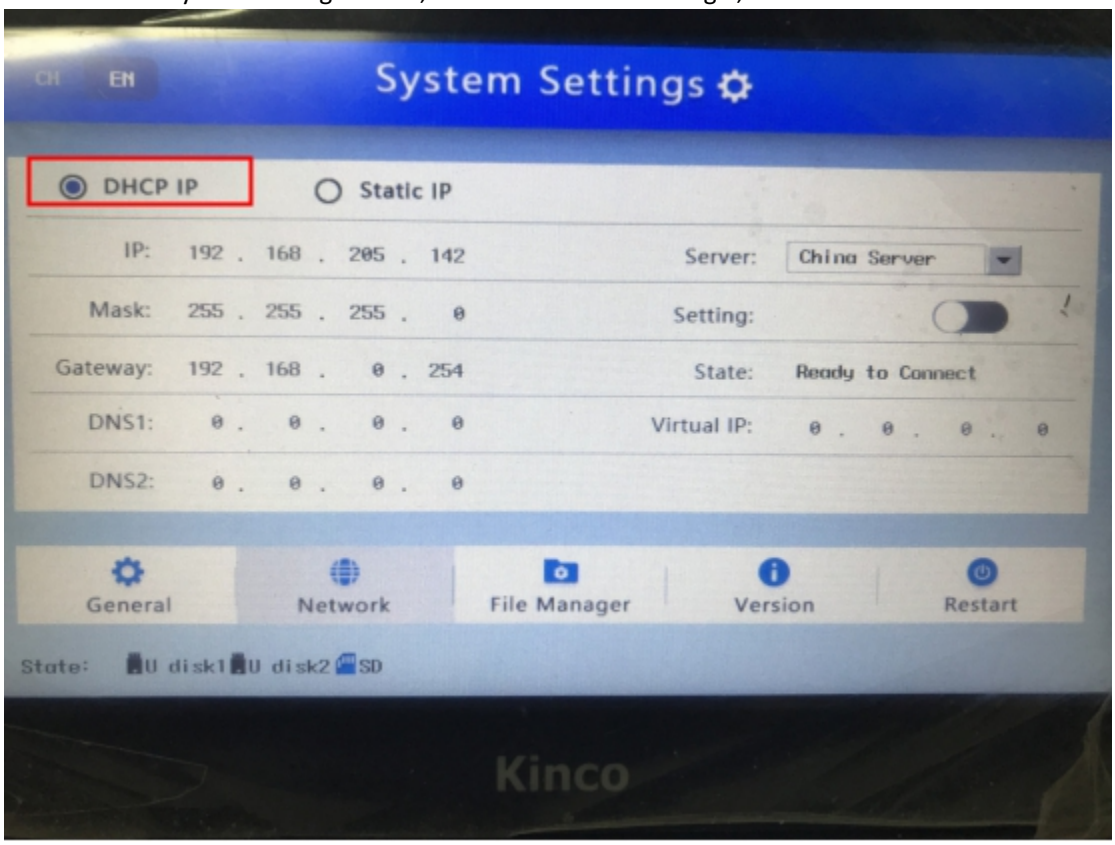
1. Net pass through

1.1 VPN external network connection of HMI and PC

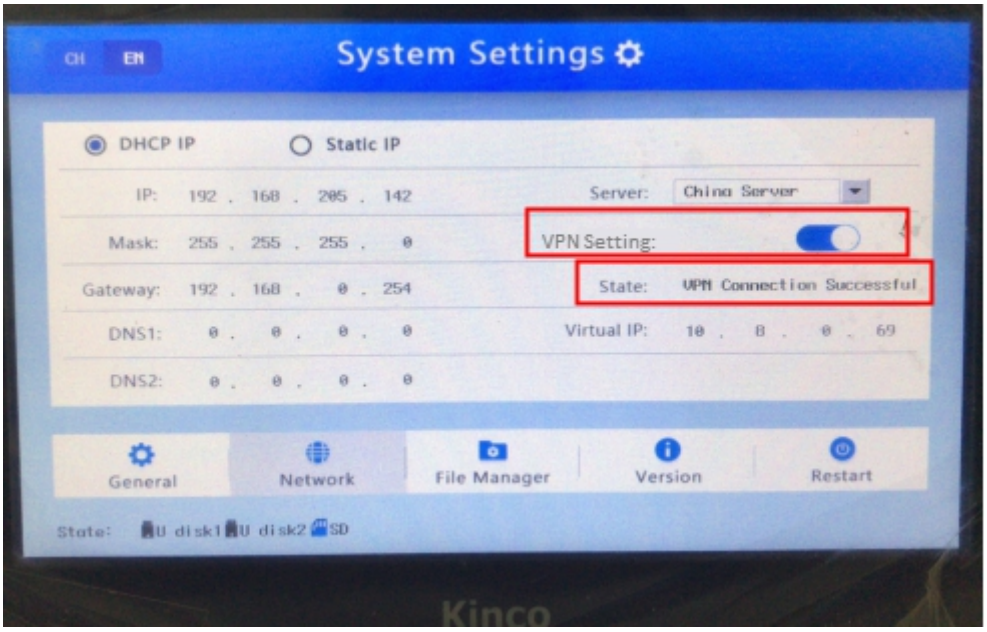
1.1.1 HMI settings

1.Make sure the HMI external network connection is normal.

2.Switch HMI into” System settings”mode, choose “Network Settings”, and select”GHCP IP”

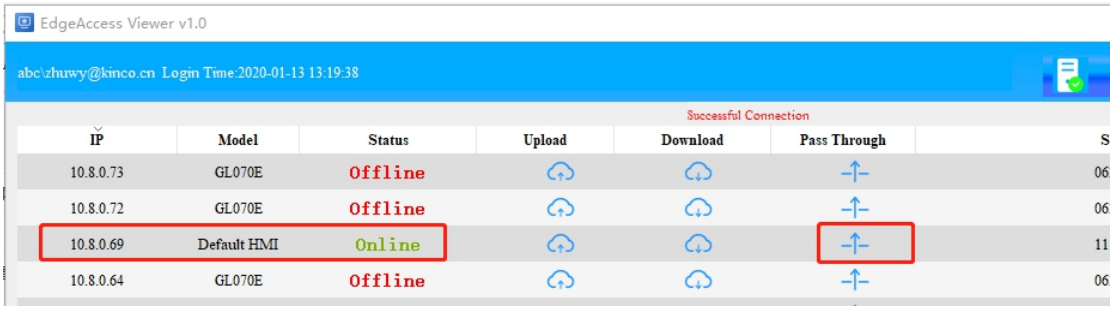


3.Turn on the "VPN connection" function and wait for a while to see the status display "VPN connection successful". (Please ensure that the screen has been authorized by the platform administrator)



1.1.2 PC Settings

1.Open EdgeAccessViewer and log in to find the screen you need to operate. This article uses 10.8.0.69 as an example. Click the pass through icon to enter the network transparent transmission setting interface.



1.2 Examples of PLC pass through settings

We explain the operation of the following representative PLC downloading programs by HMI pass through. The uploading program and online monitoring operation are similar. (Please refer to Annex 1 for the current PLC series that support Ethernet transparent transmission

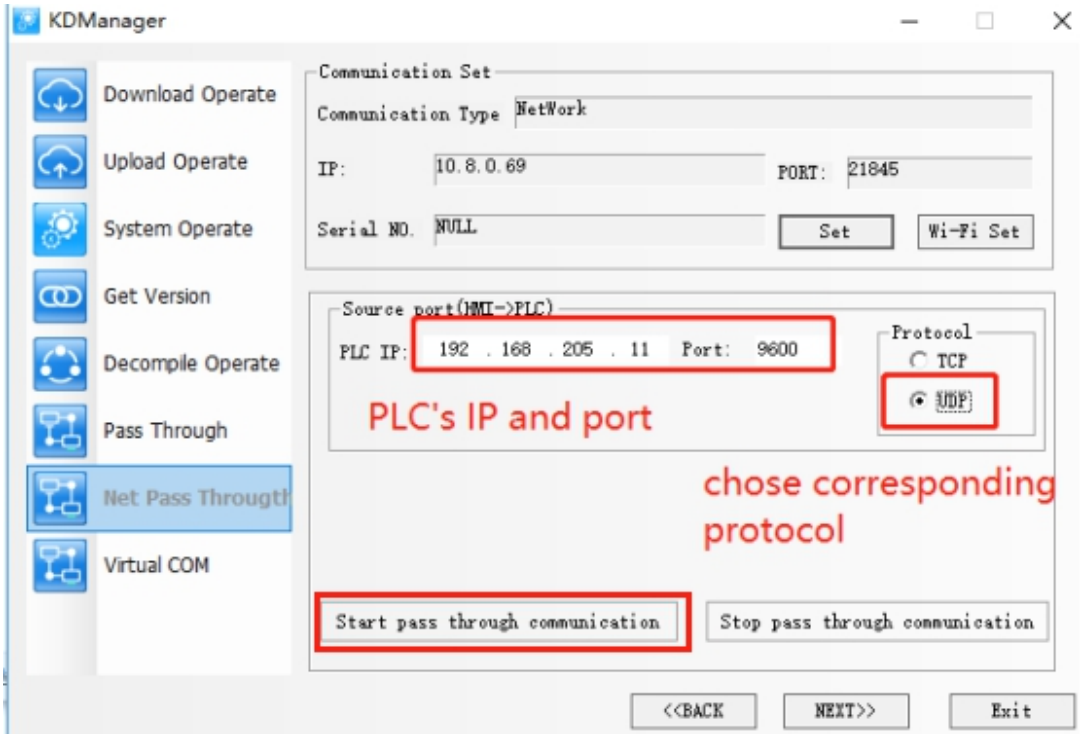
PLC	model	Port\protocol	Settings
OMRON	OMRON CP Series	9600\UDP	Setting
Delta	Delta DVP	502\TCP	Setting
Siemens	1200\1500	102\TCP	*Setting*
Mitsubishi	FX5U	5562\TCP	Setting
Panasonic	Panasonic FP Series	Search port by tool\TCP	*Setting*

1.2.1 OMRON CP Series

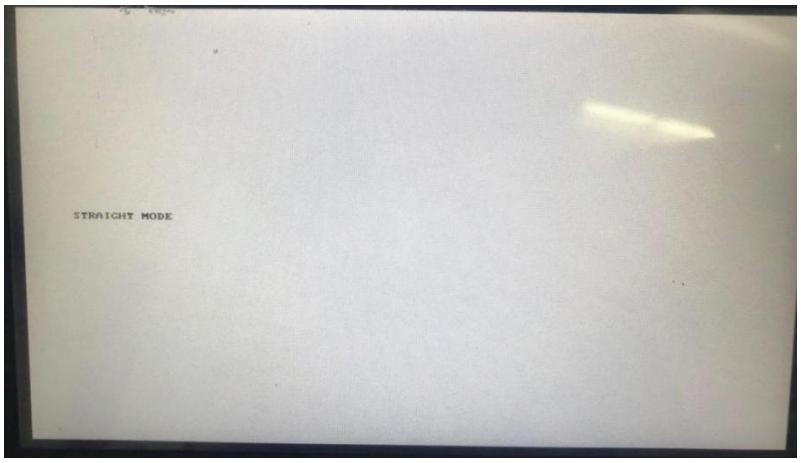
OMRONCP1L PLC for example:

PLC 's ip is 192.168.205.11 （The wired Ethernet IP of the touch screen must be in the same network segment as the IP of the PLC,like192.168.205.XXX），PLC software download default port

is 9600， KDmanager setting :

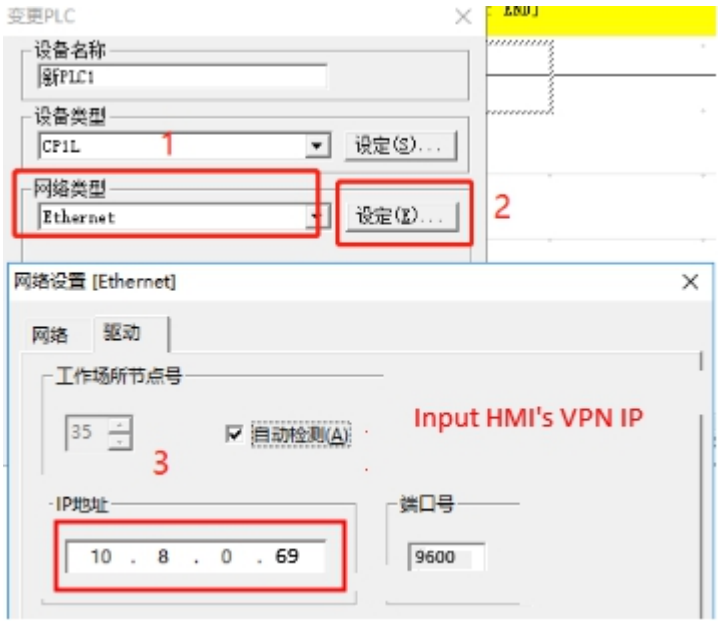


Click”start pass through communication”, the screen will enter a white screen state, as shown in the figure

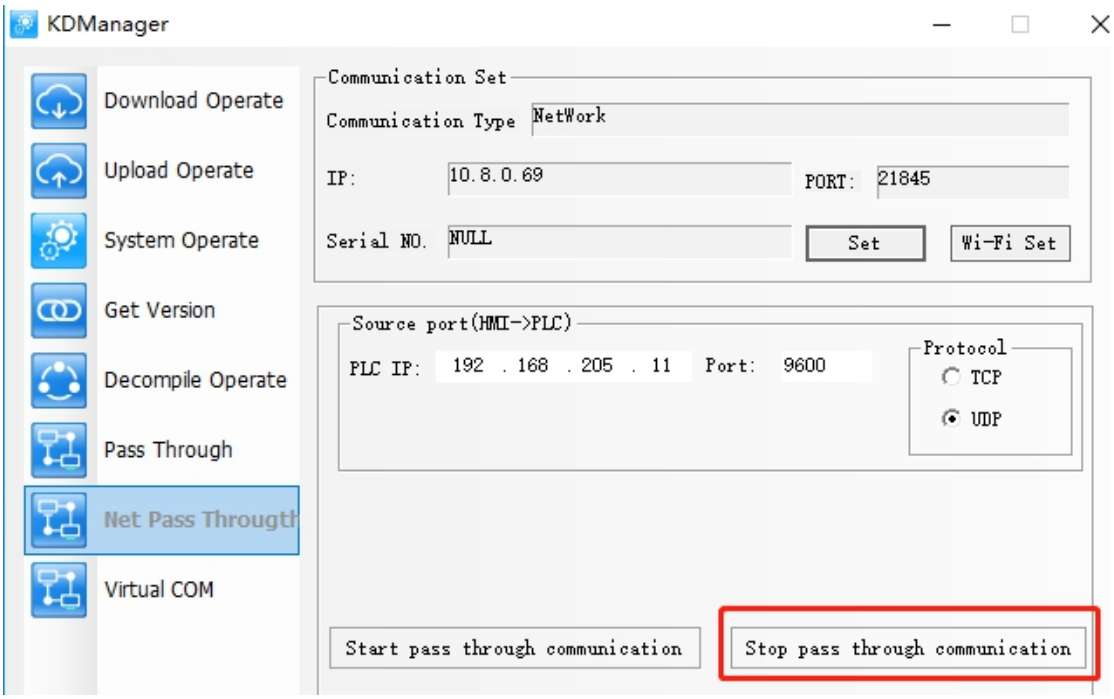


PLC software VPN pass through setting:

Open CX-programmer PLC programming software， input VPN IP（10.8.0.69）for Online IP

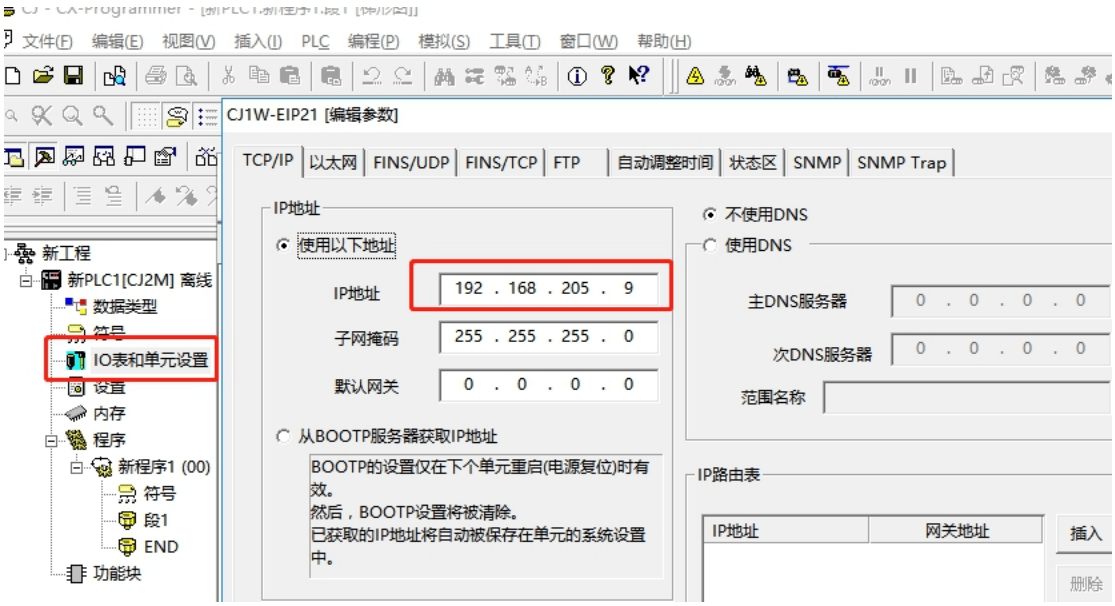


After downloading the PLC project, chose “stop pass through”to exit and the screen will resume working status.

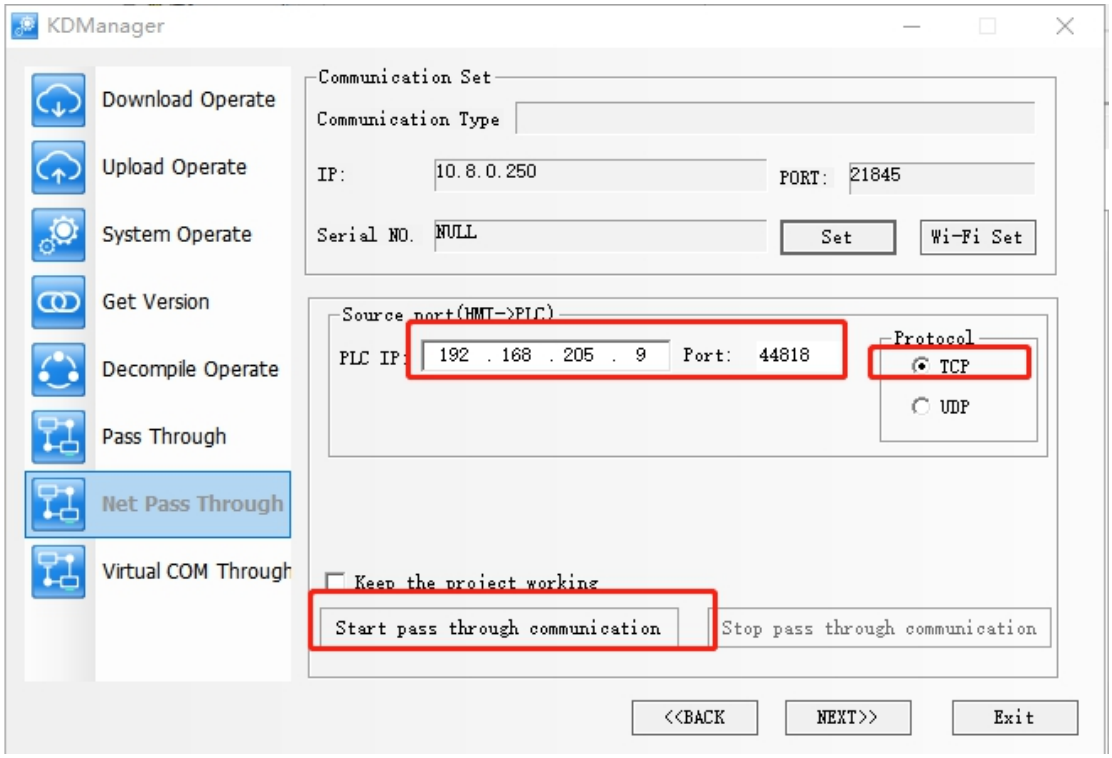


1.2.2 OMRON CJ Series

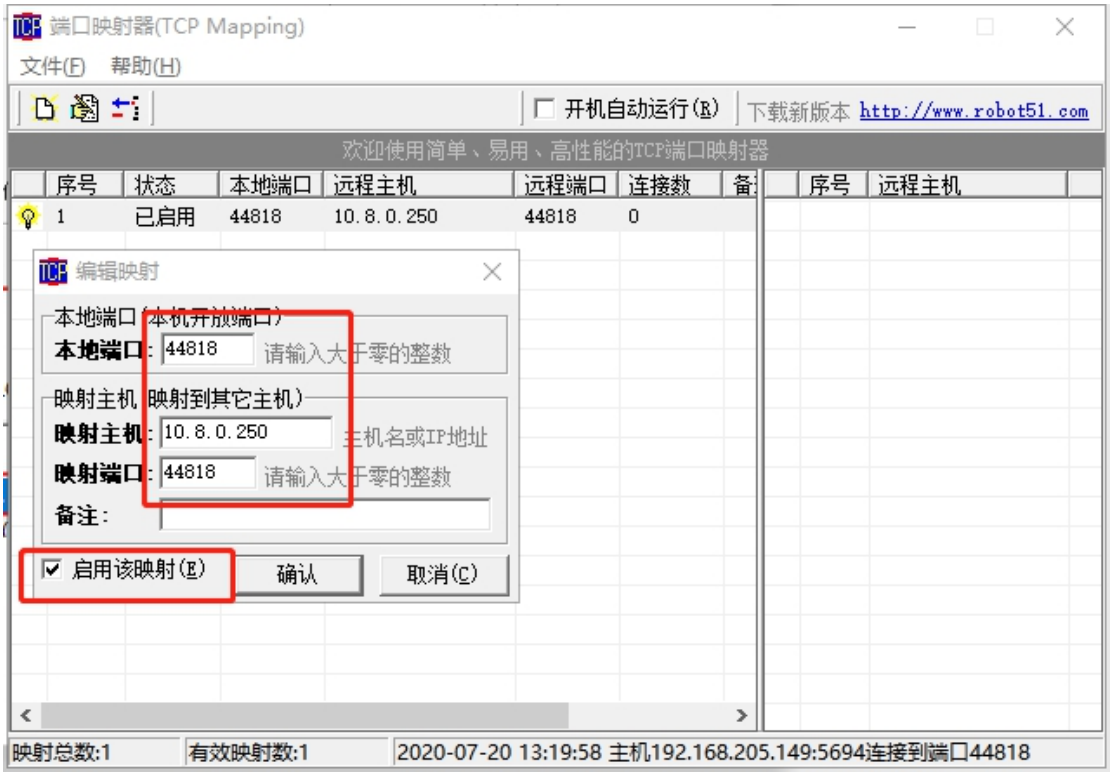
1. First change the IP of the PLC to be the same as the network segment of the computer, for example 192.168.205.9, download to the PLC and restart the PLC



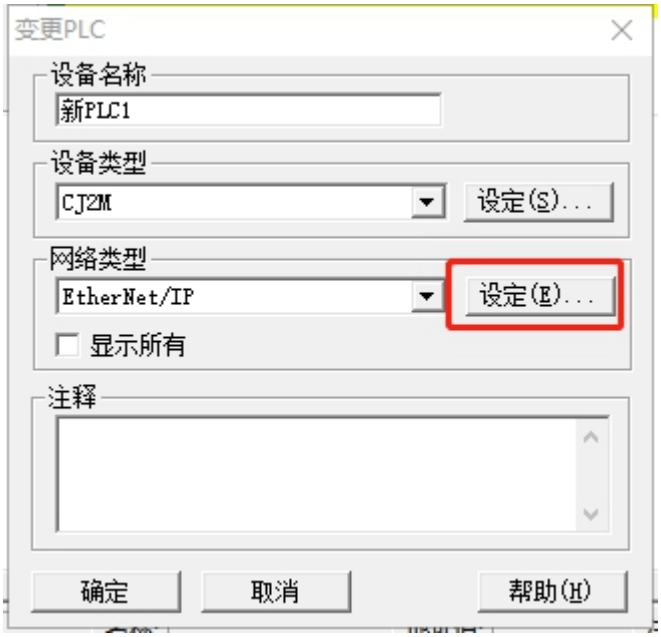
2. KDmanager setting

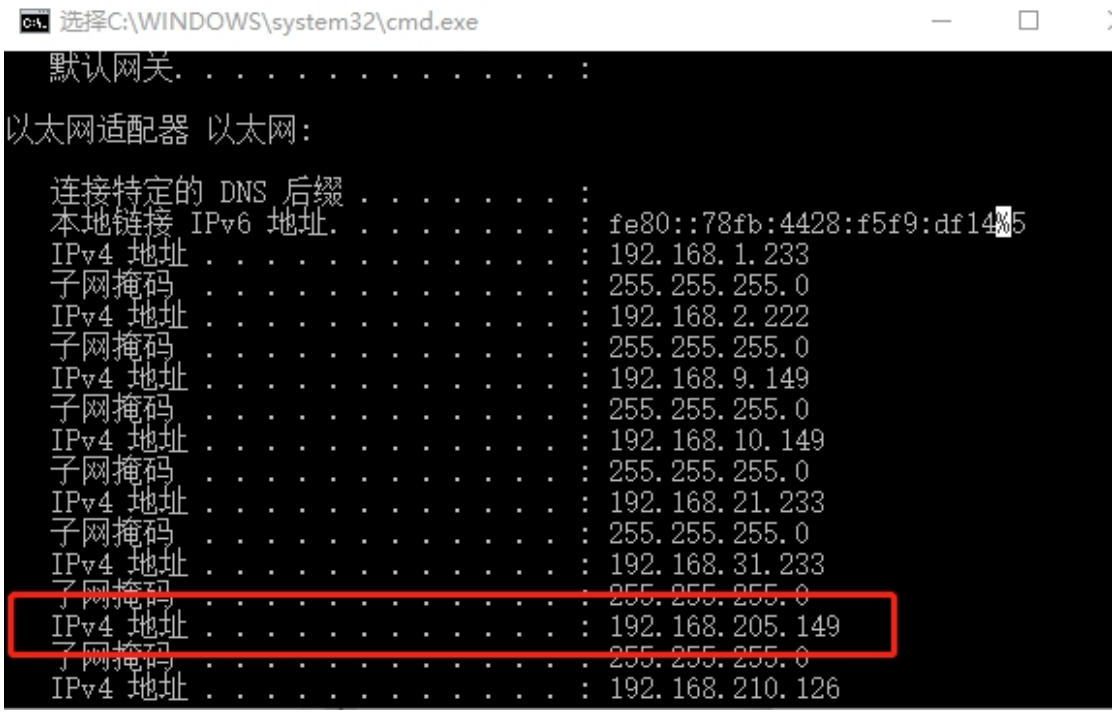


3.Use TCP port mapping tool to map the screen's VPN IP to port number 44818

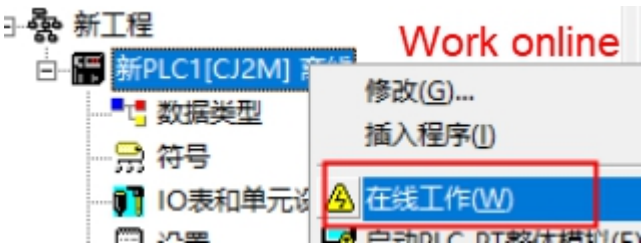


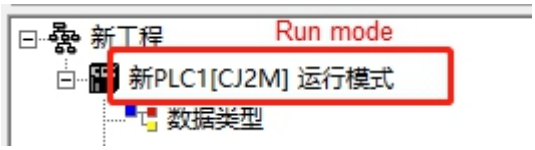
PLC Software settings：Open CX-programmer PLC software，setting the online IP to the local IP of the computer

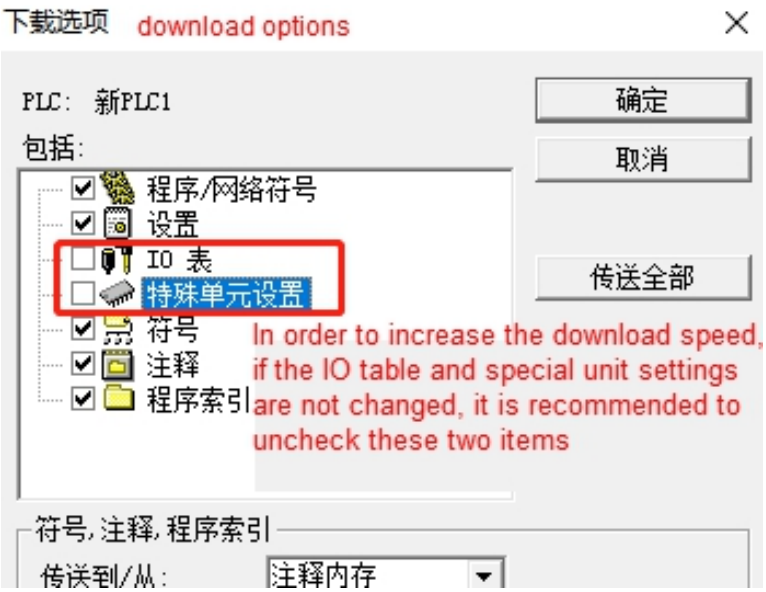




Fill in the local IP of the computer into the PLC software connection settings

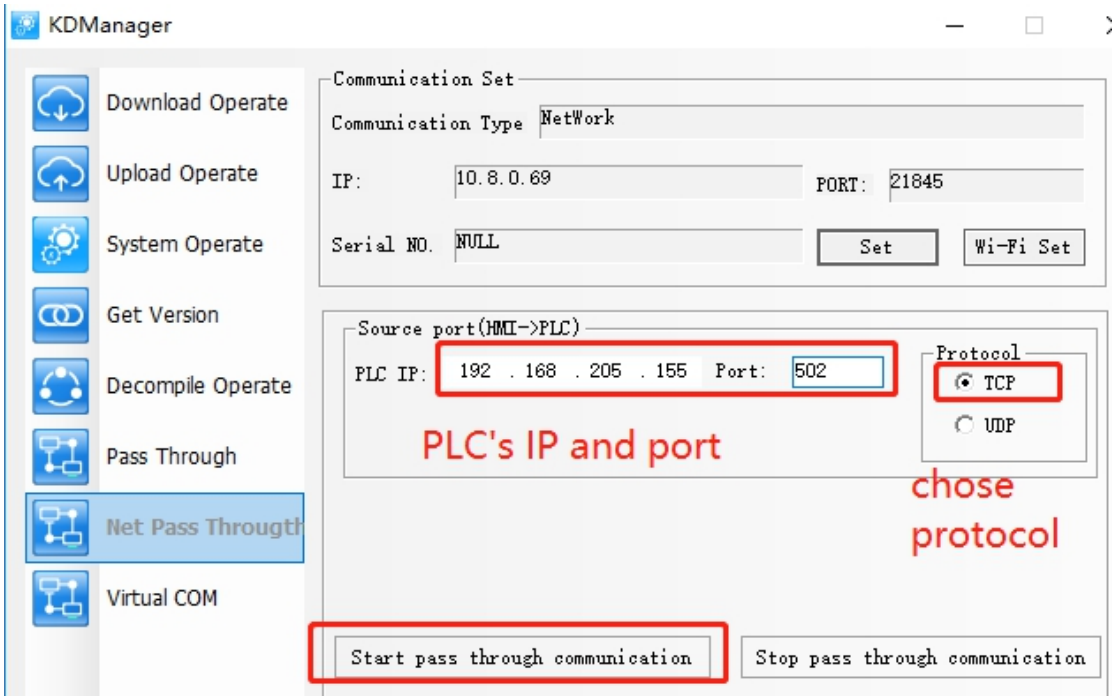




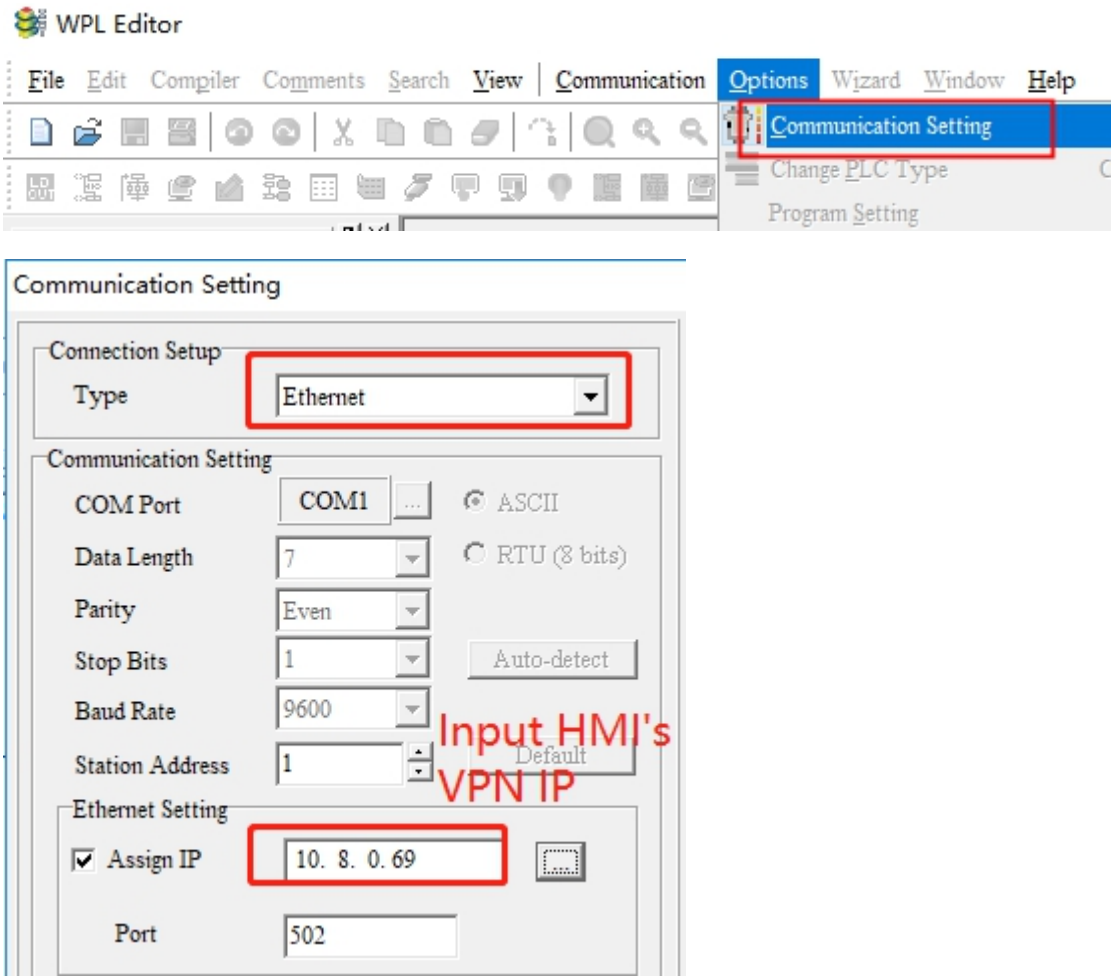


1.2.3 Delta DVP

Foe example: DVP PLC's IP is 192.168.205.155， Use EdgAceess Viewer to open pass through，KDmanager settings as below:

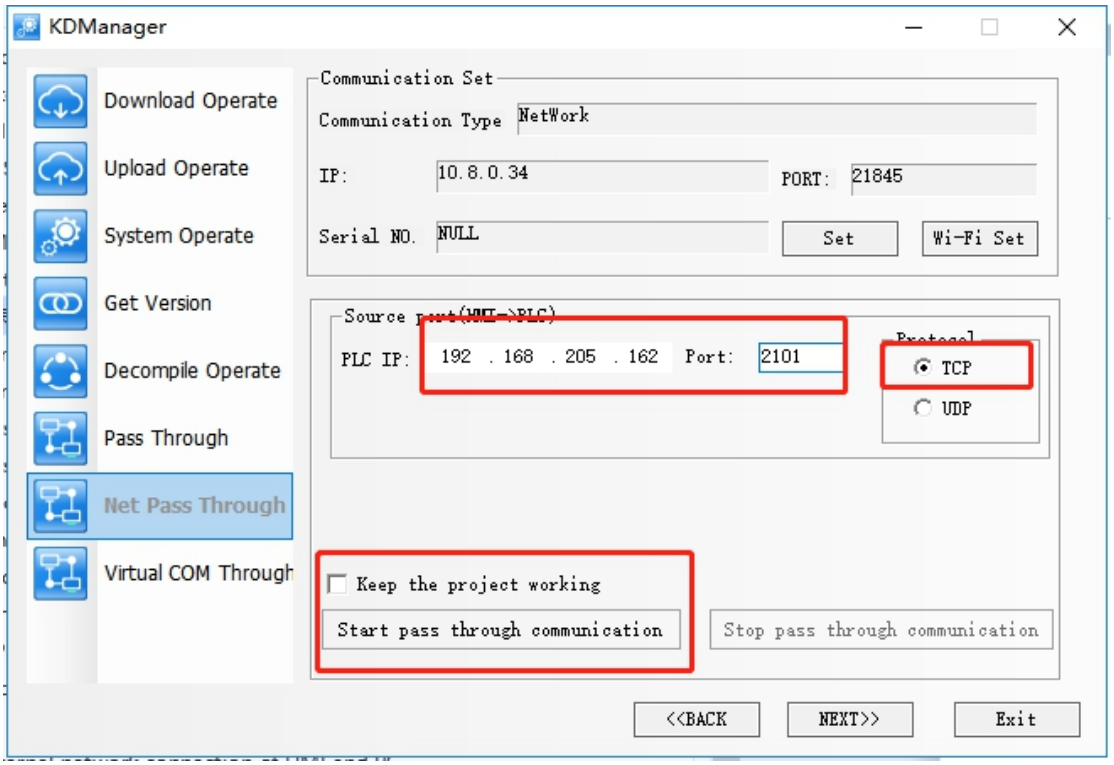


PLC Software settings: Options---Communication Setting



1.2.4 IDEC FC Series

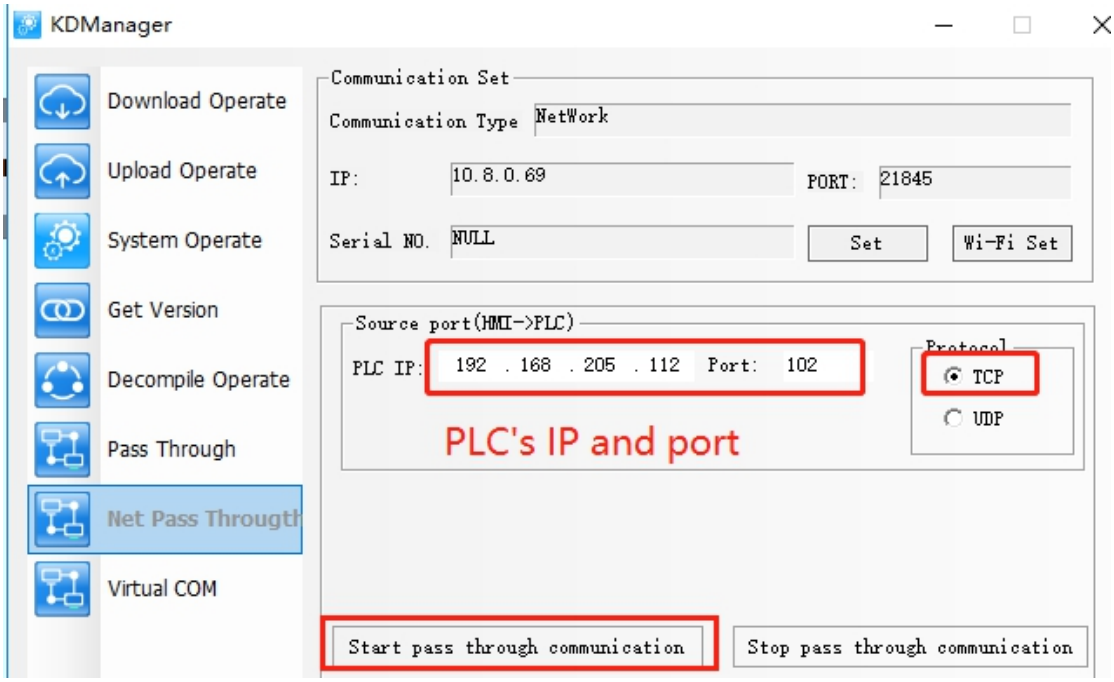
For example:FC 6A's IP is 192.168.205.162 ; Open Edgaceess and chose pass-through ,KDmanager settings as below



PLC Settings:

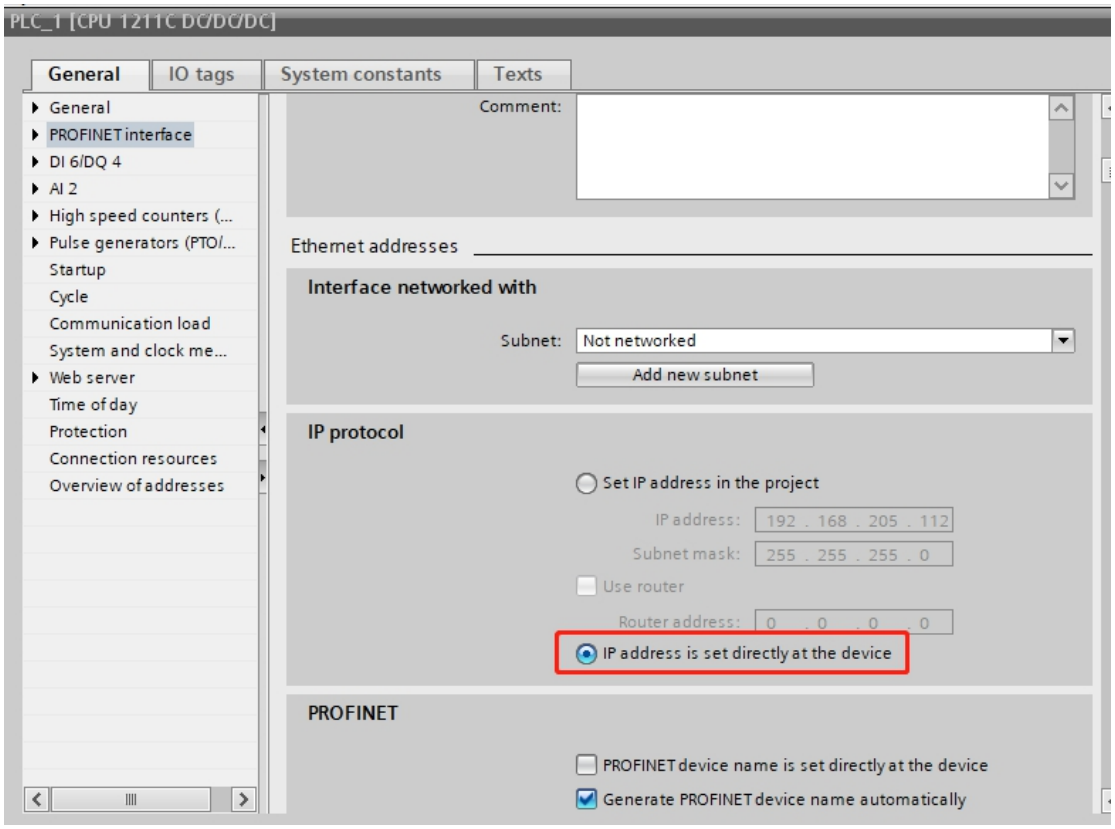
1.2.5 Siemens 1200\1500\ET200\300

KDmanager Settings：

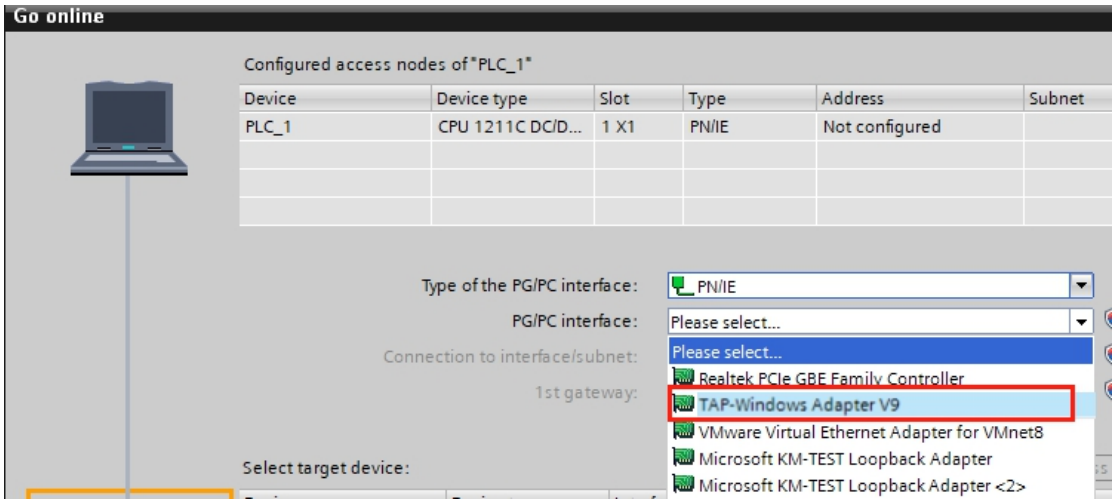


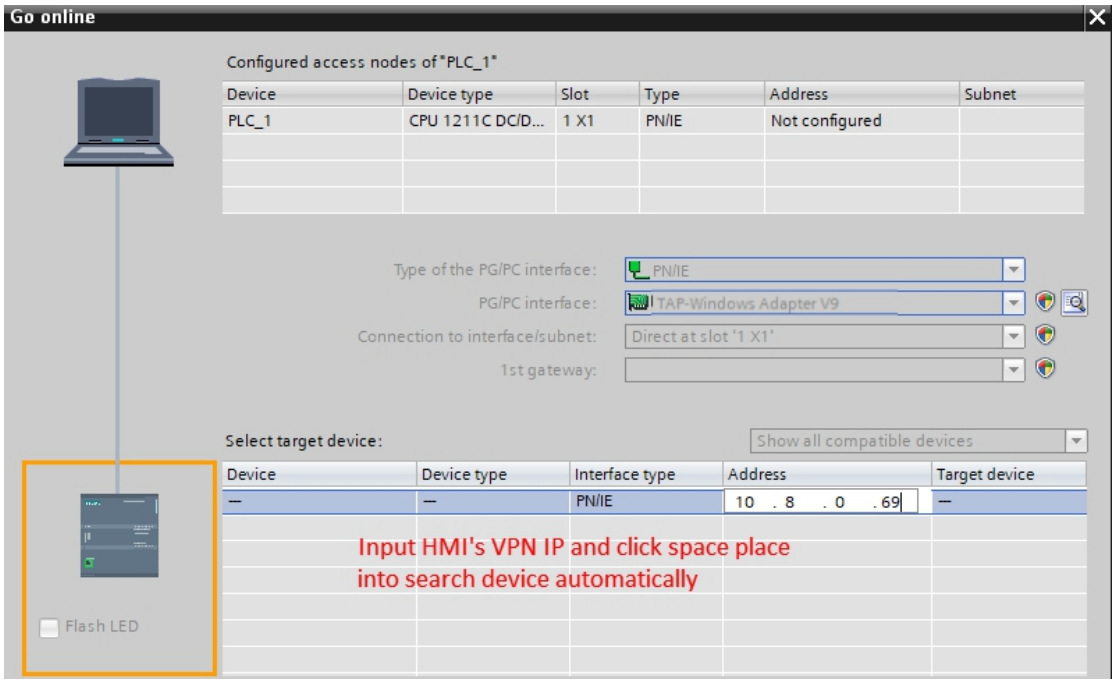
PLC Software Setting :(Note: Portal software V15 may not support some 1200 models, it is recommended to use V14 and below)

Open portal TIA software---PLC properties---PROFINET interface



Click “Go online”， chose TAP V9 for VPN

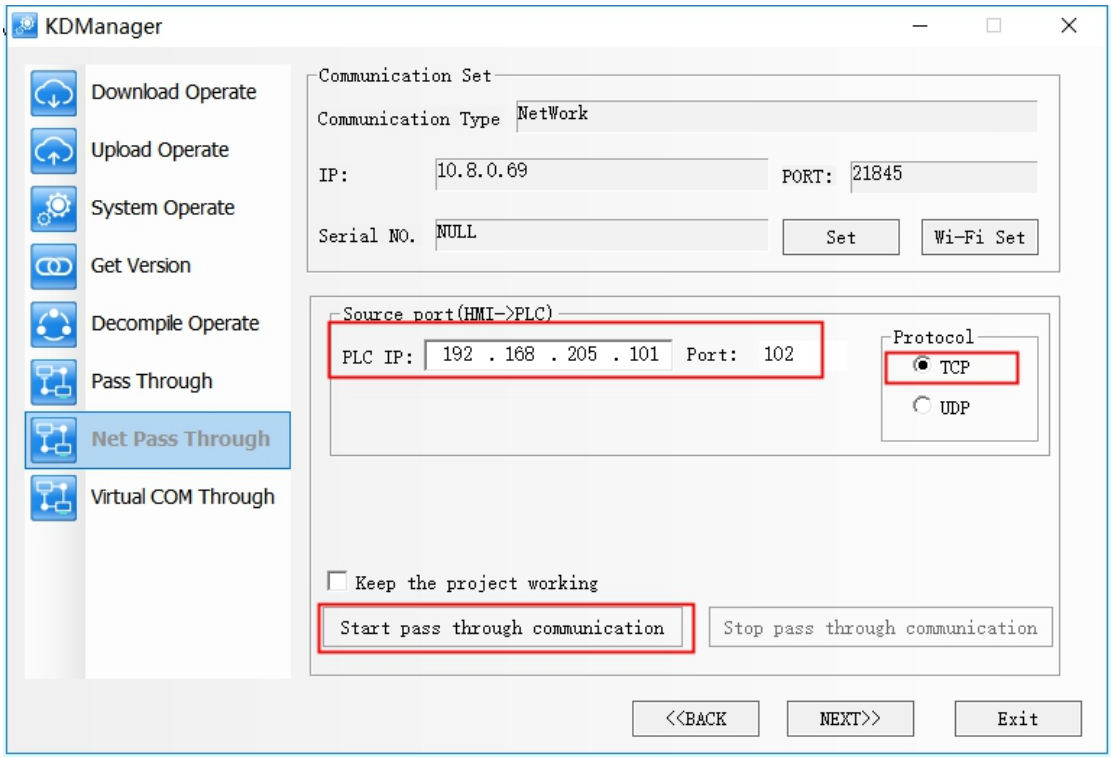




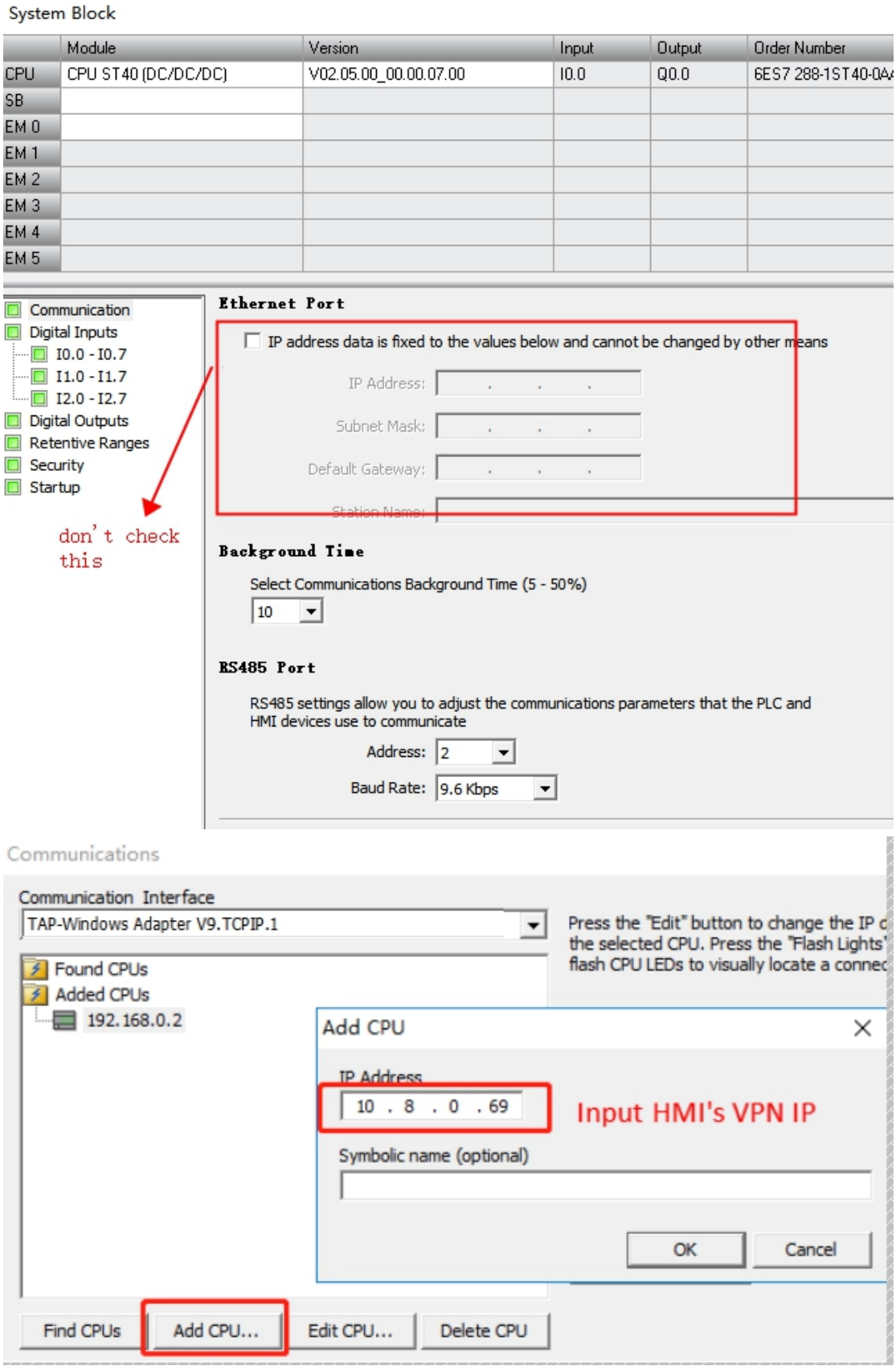
After searching device successfully, click Go Online, you can enter the online simulation, and download the PLC program.

1.2.6 Siemens smart 200

KDmanager Settings：

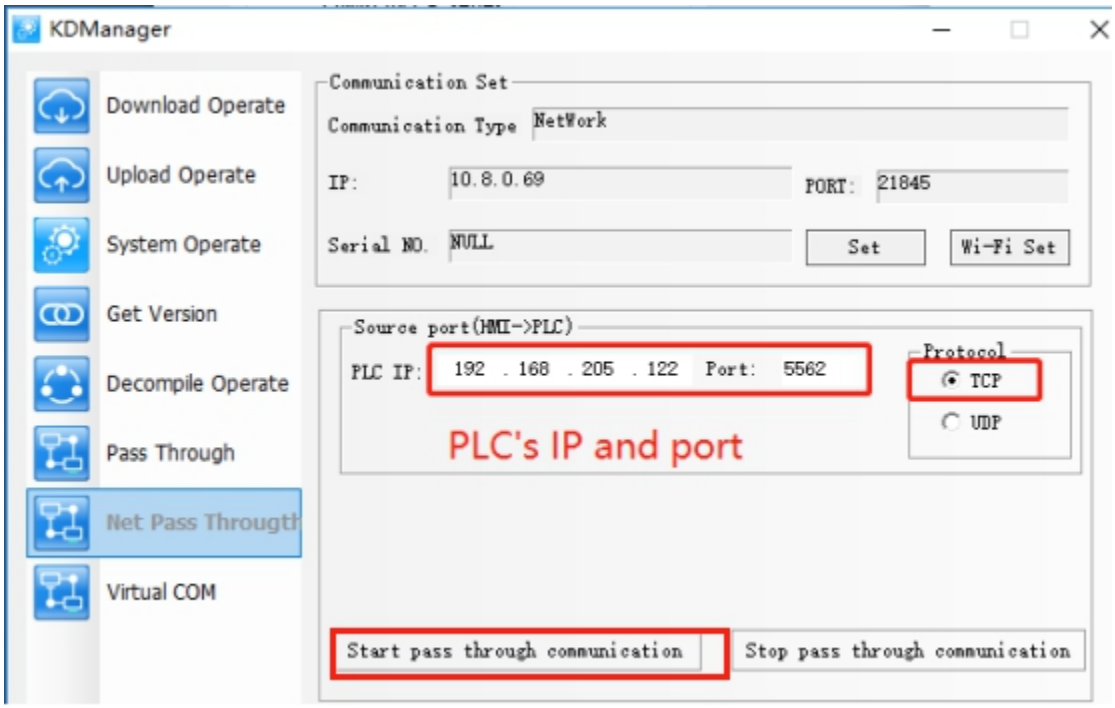


PLC Software settings:

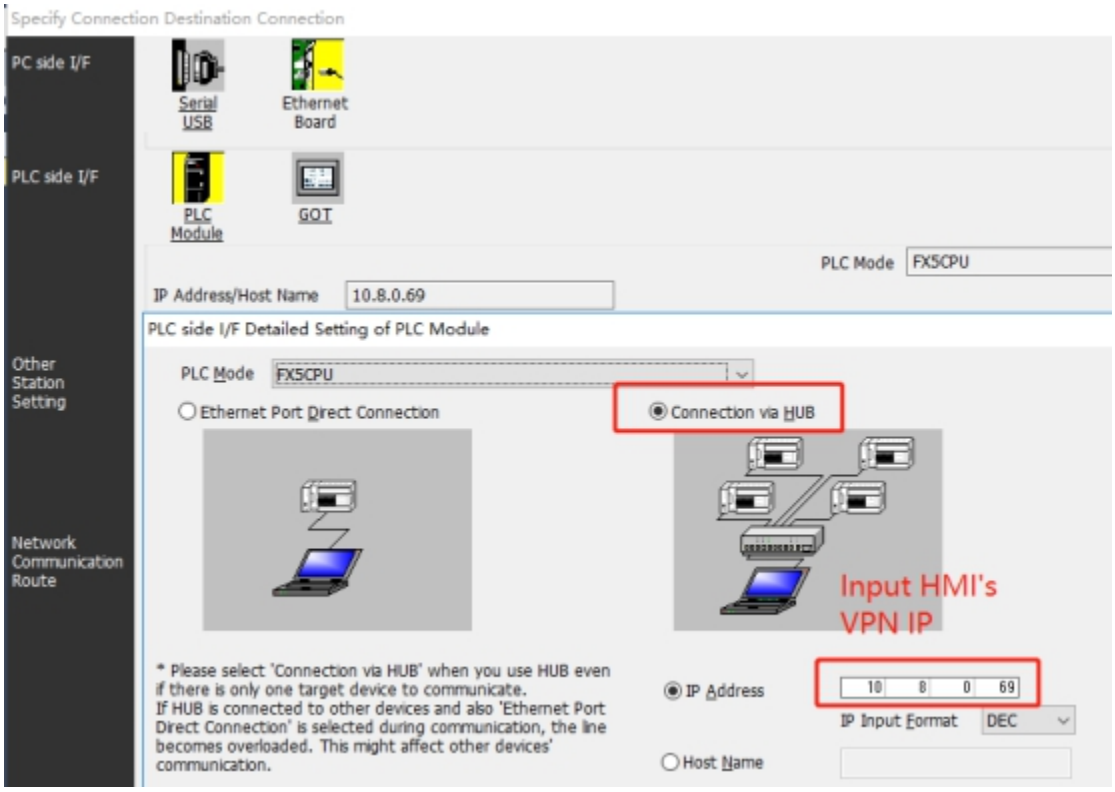


1.2.7 Mitsubishi FX5U

KDmanager Settings:



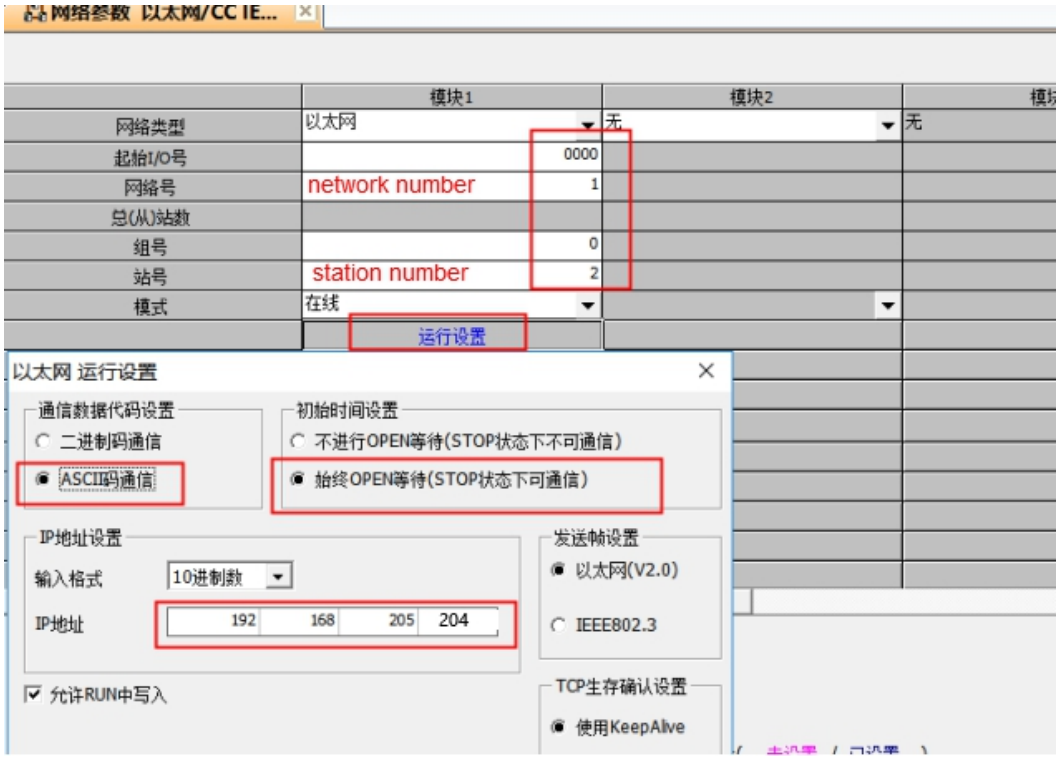
PLC Software settings:



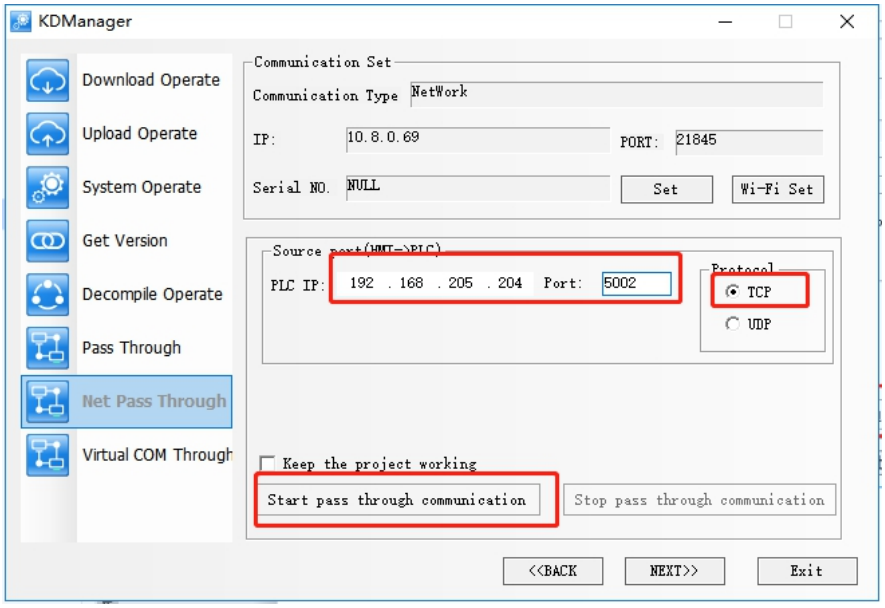
1.2.8 Mitsubishi QJ71E7 Ethernet

PLC Settings

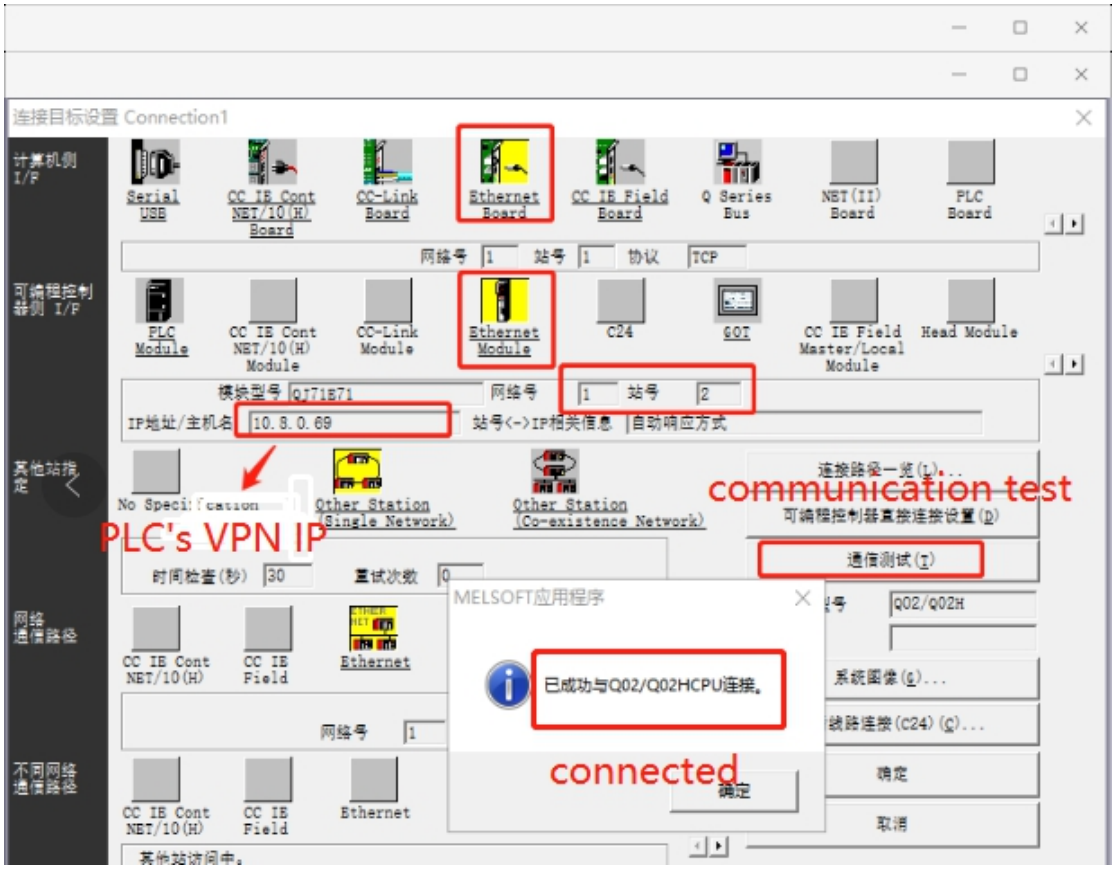
First set the communication parameters of PLC as shown below, download it to PLC and restart it to take effect



KDmanager settings

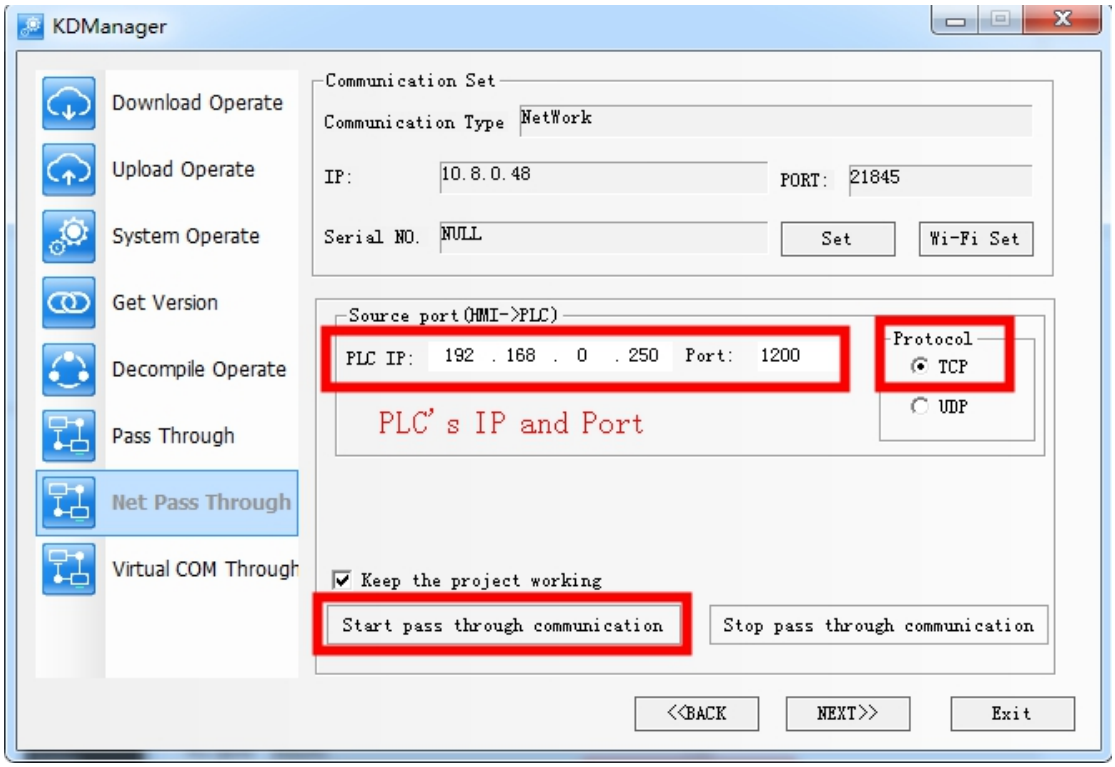


Start pass through

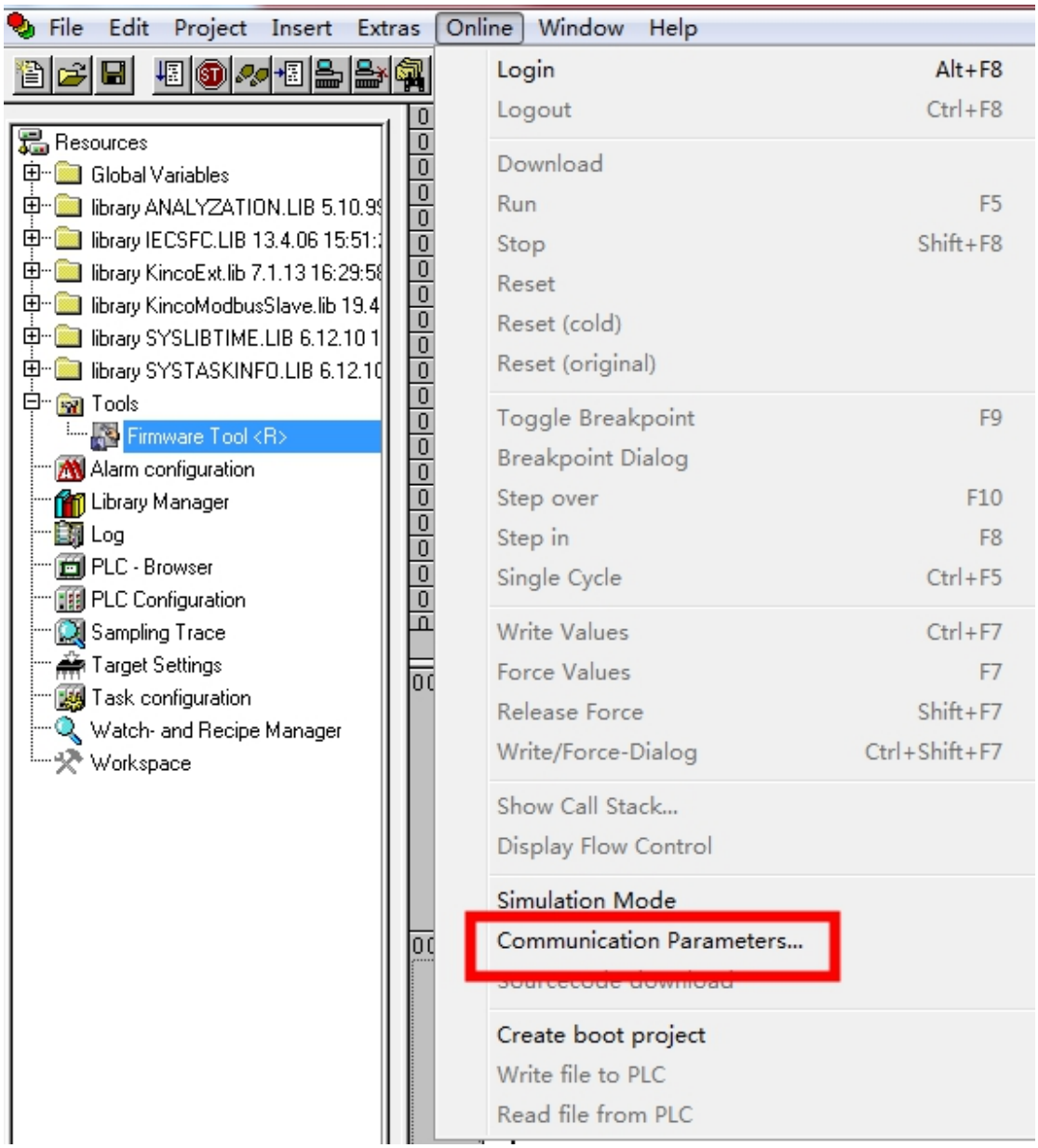


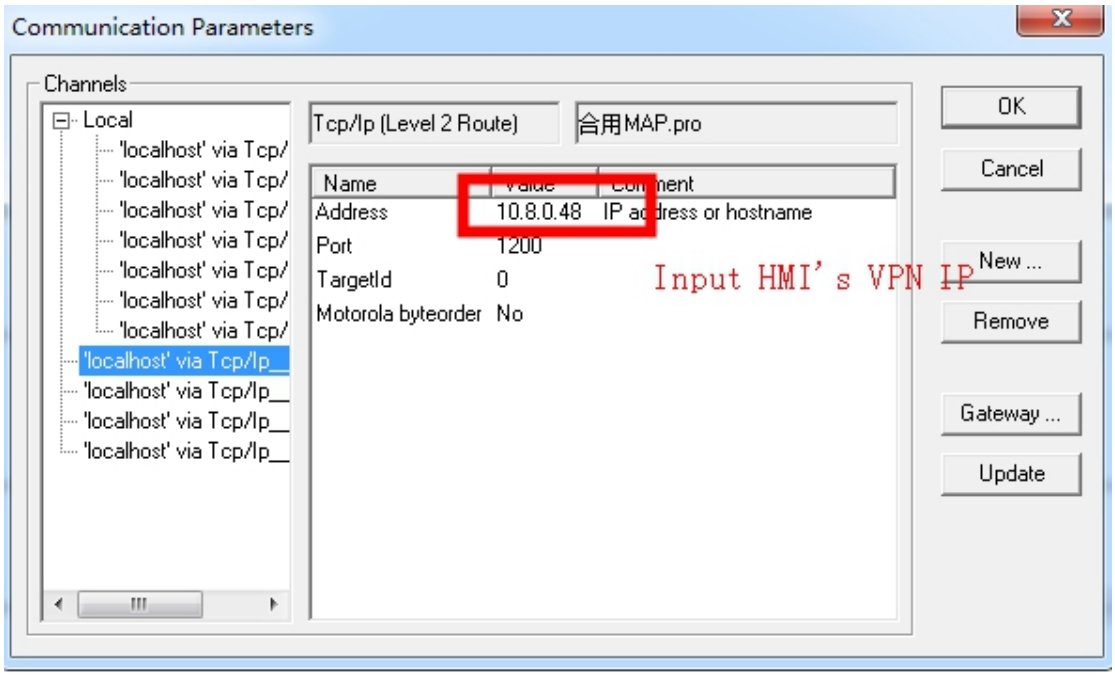
1.2.9 Kinco F1

KDmanager Settings:



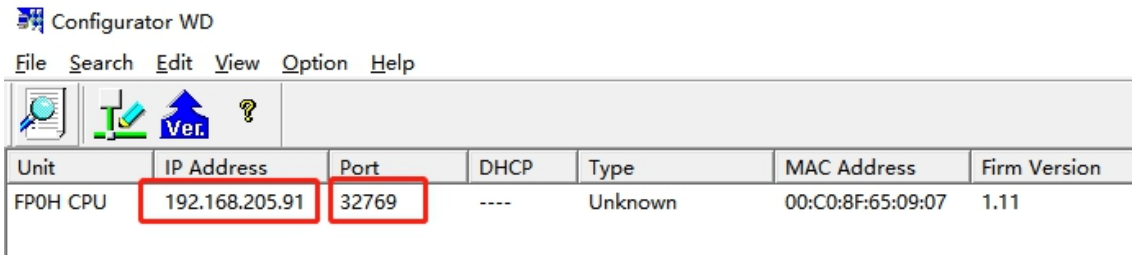
PLC Software settings:


File
Edit
Project
Insert
Extras
Online
Window
Help
Resources
Global Variables
library ANALYZATION.LIB 5.10.9
library IECSFC.LIB 13.4.06 15:51:
library KincoExt.lib 7.1.13 16:29:5
library KincoModbusSlave.lib 19.4
library SYSLIBTIME.LIB 6.12.10 1
library SYSTASKINFO.LIB 6.12.1
Tools
Firmware Tool <R>
Alarm configuration
Library Manager
Log
PLC - Browser
PLC Configuration
Sampling Trace
Target Settings
Task configuration
Watch- and Recipe Manager
Workspace
Login Alt+F8
Logout Ctrl+F8
Download
Run F5
Stop Shift+F8
Reset
Reset (cold)
Reset (original)
Toggle Breakpoint F9
Breakpoint Dialog
Step over F10
Step in F8
Single Cycle Ctrl+F5
Write Values Ctrl+F7
Force Values F7
Release Force Shift+F7
Write/Force-Dialog Ctrl+Shift+F7
Show Call Stack...
Display Flow Control
Simulation Mode
Communication Parameters...
Create boot project
Write file to PLC
Read file from PLC

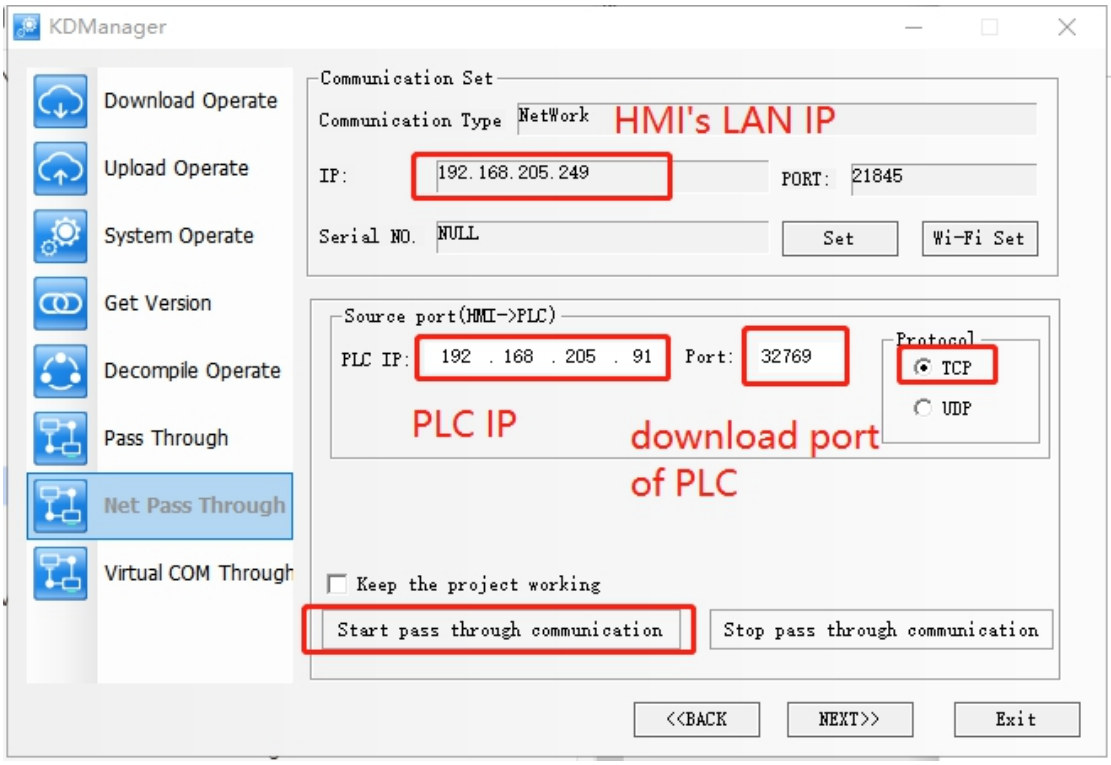


1.2.10 Panasonic FP

U need "Configurator WD"tool to search PLC's IP and port

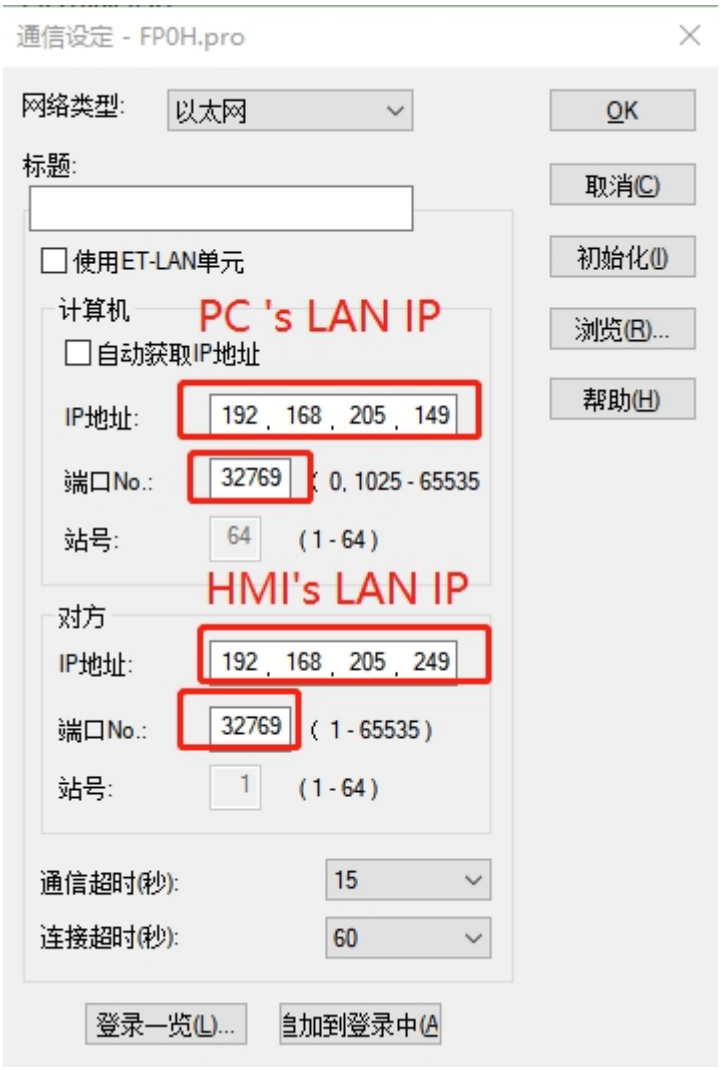


KDmanager Setting


KDManager
Download Operate
Upload Operate
System Operate
Get Version
Decompile Operate
Pass Through
Net Pass Through
Virtual COM Through
Communication Set
Communication Type
NetWork
HMI's LAN IP
IP:
192.168.205.249
PORT:
21845
Serial NO.
NULL
Set
Wi-Fi Set
Source port(HMI->PLC)
PLC IP:
192 . 168 . 205 . 91
Port:
32769
Protocol
TCP
UDP
PLC IP
download port of PLC
Keep the project working
Start pass through communication
Stop pass through communication
<<BACK
NEXT>>
Exit

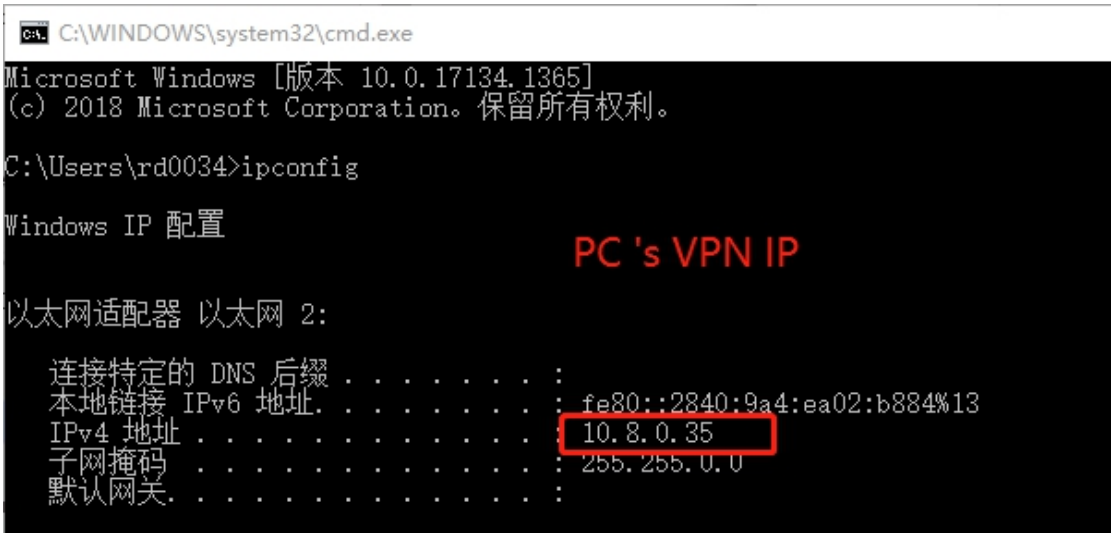
PLC Setting

FP0H.pro - Control FPWIN Pro 7 - IEC 61131-3 编程系统 - COM0
项目(P)
对象(O)
编辑(E)
在线(L)
监控(M)
调试(D)
其它(X)
在线模式(L)
Shift+Esc
在线编辑模式(I)
通信设置(U)...
网络参数(N)...
项目
项目 [D:\songxia\Samp

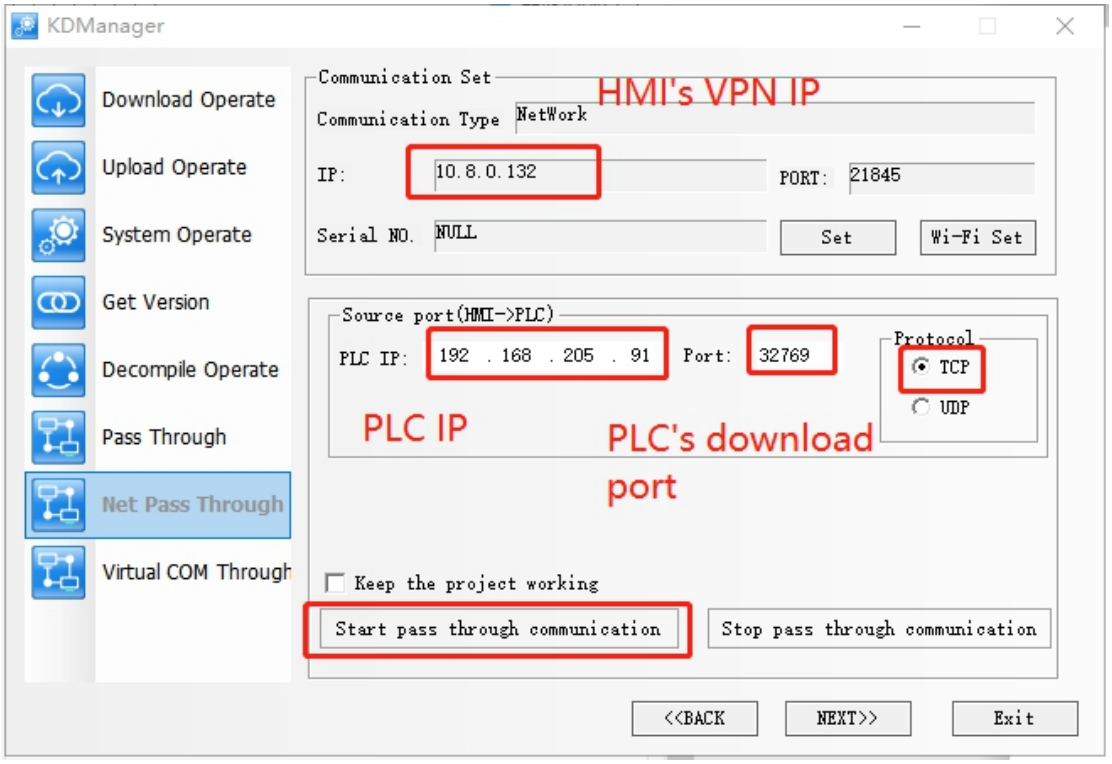


If using VPN IP to Pass through,setting as below：

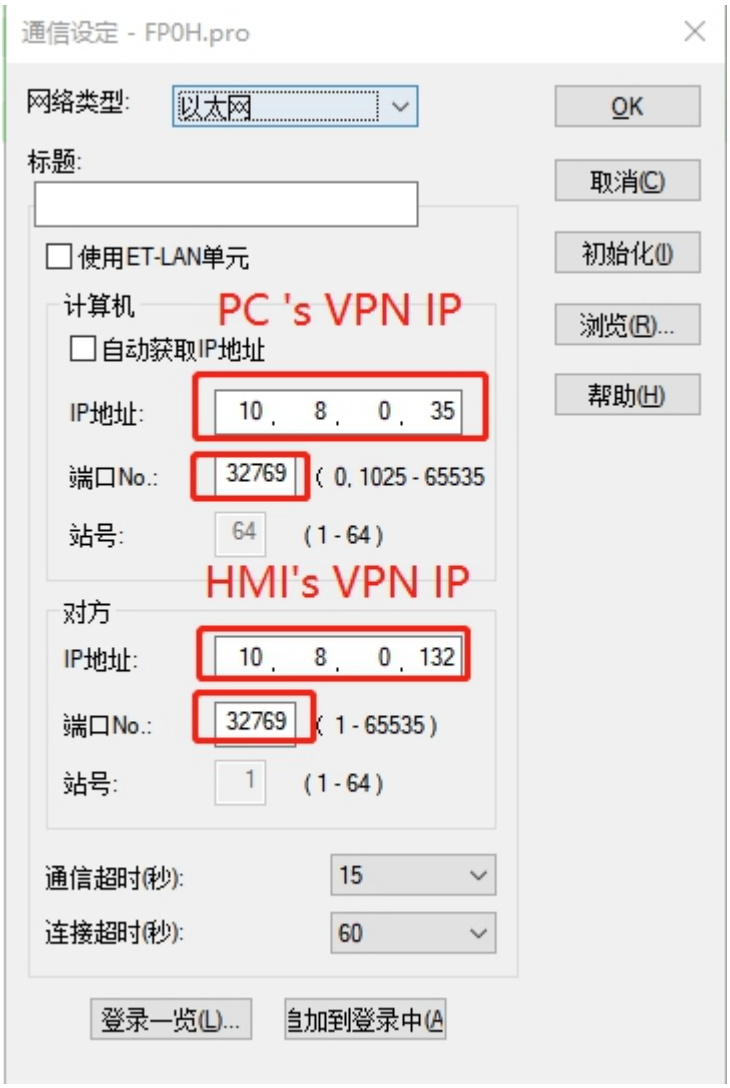
IPconfig to get the VPN IP of PC



KDmanager setting

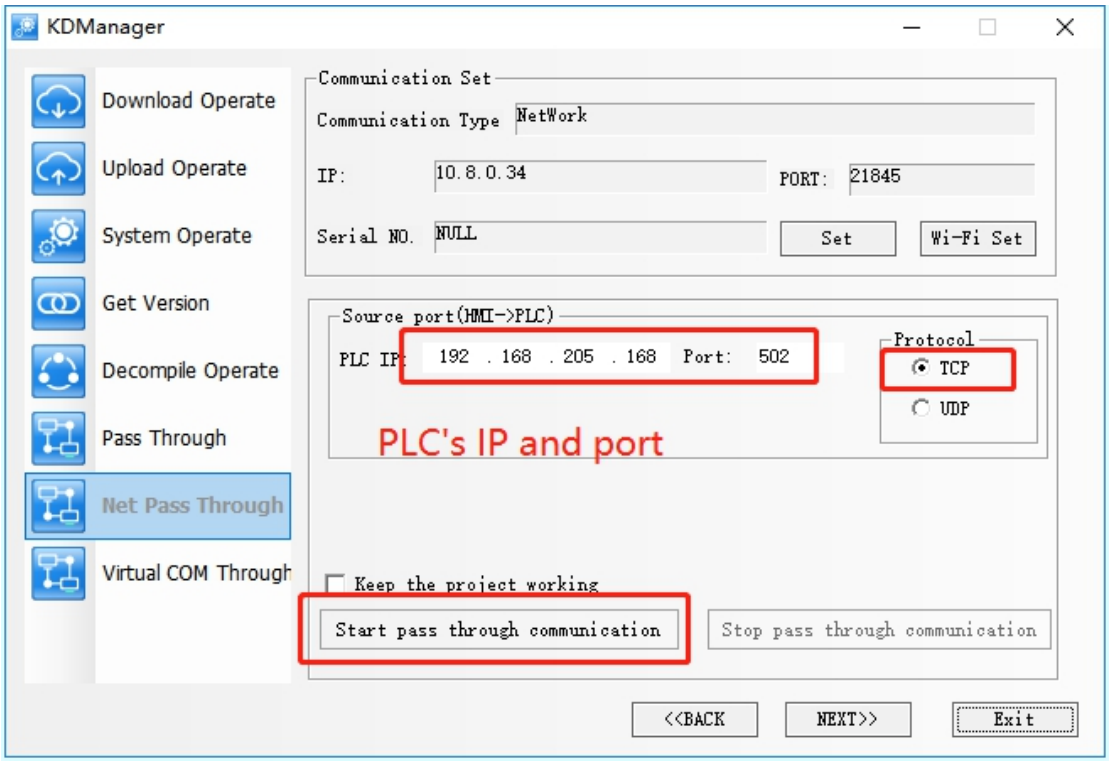

KDManager
Download Operate
Upload Operate
System Operate
Get Version
Decompile Operate
Pass Through
Net Pass Through
Virtual COM Through
Communication Set
HMI's VPN IP
Communication Type
NetWork
IP:
10.8.0.132
PORT:
21845
Serial NO.
NULL
Set
Wi-Fi Set
Source port(HMI->PLC)
PLC IP:
192 . 168 . 205 . 91
Port:
32769
Protocol
TCP
UDP
PLC IP
PLC's download port
Keep the project working
Start pass through communication
Stop pass through communication
<<BACK
NEXT>>
Exit

PLC Setting

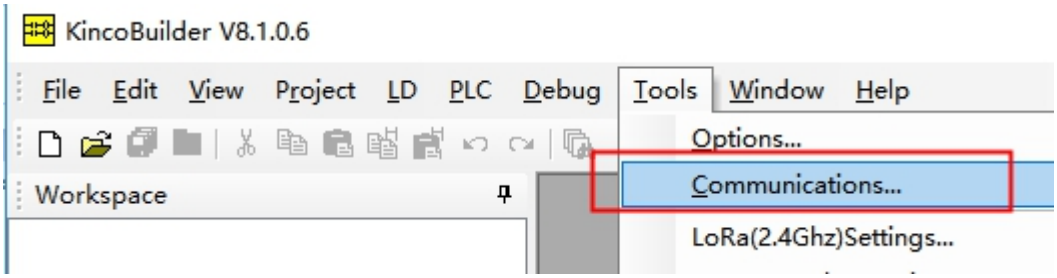


1.2.11 Kinco PLC series

For example, a K204 PLC's IP is 192.168.205.168，Open Edgaceess，KDmanager settings as below

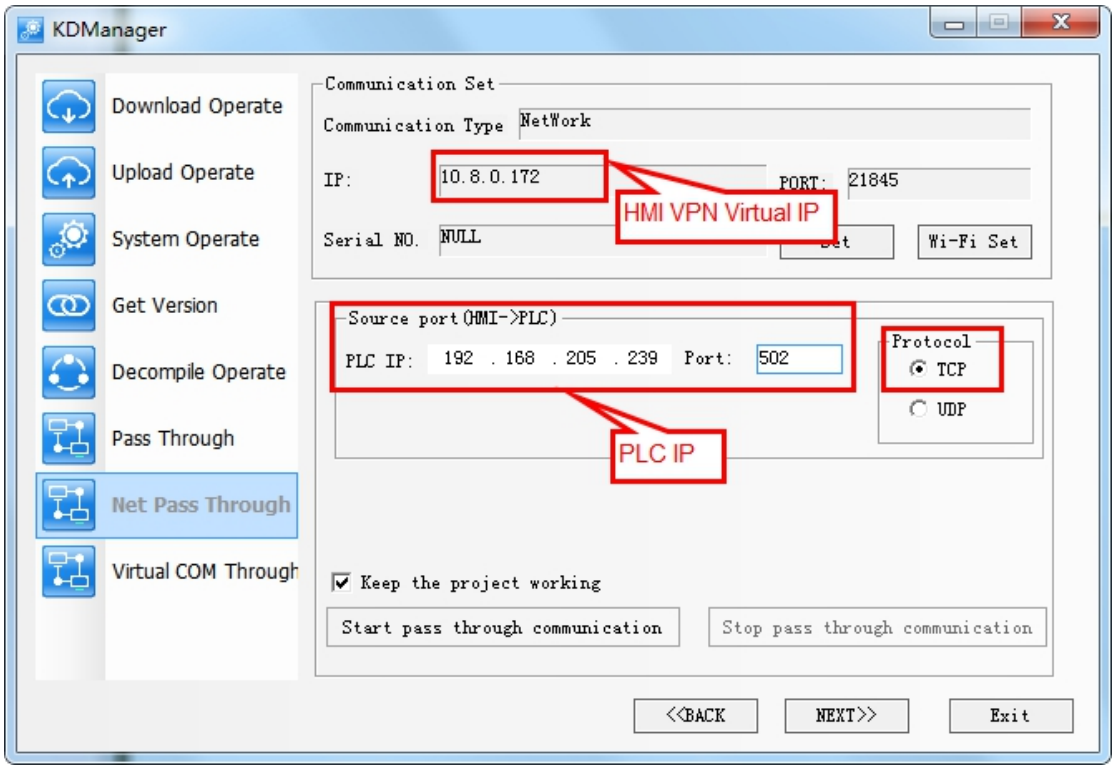


PLC software settings

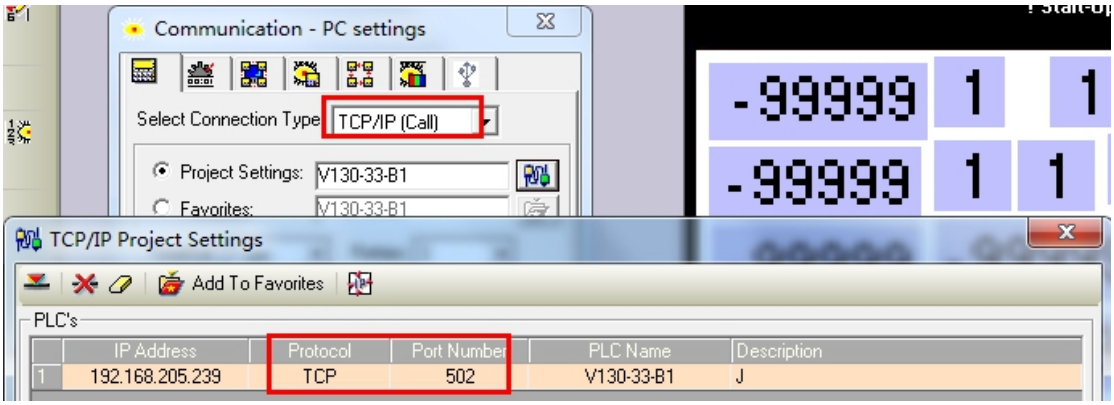


1.2.12 Unitronics

KDmanager settings

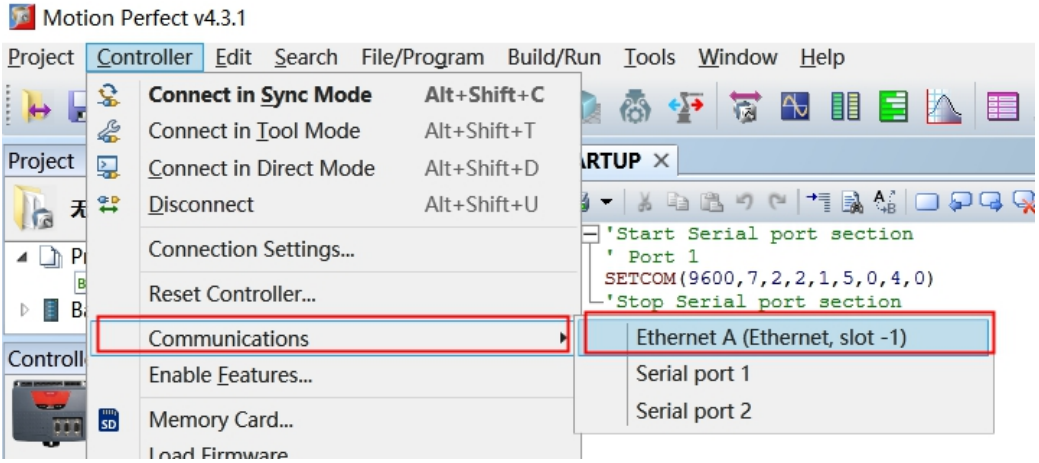


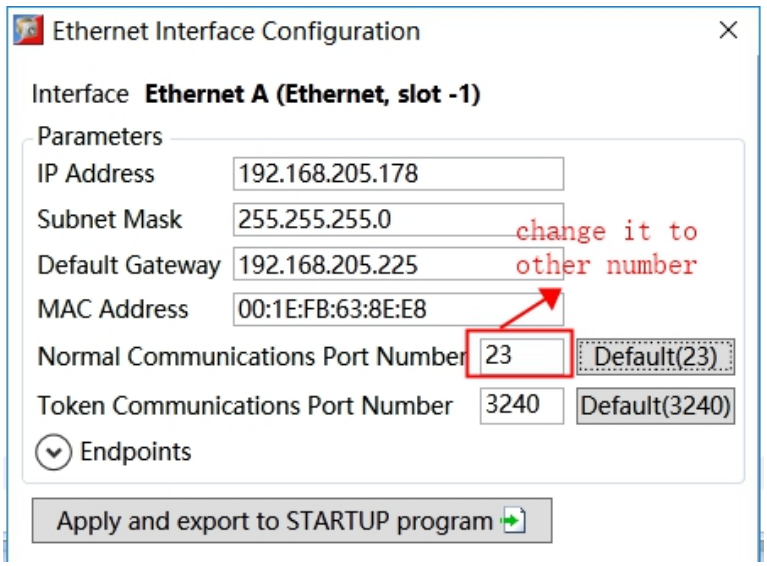
PLC settings

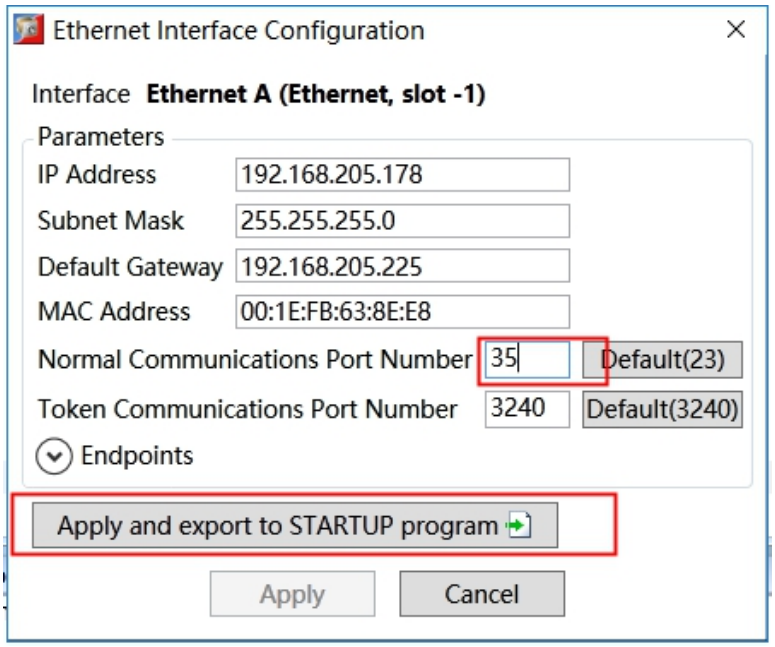


1.2.13 Trio Controller

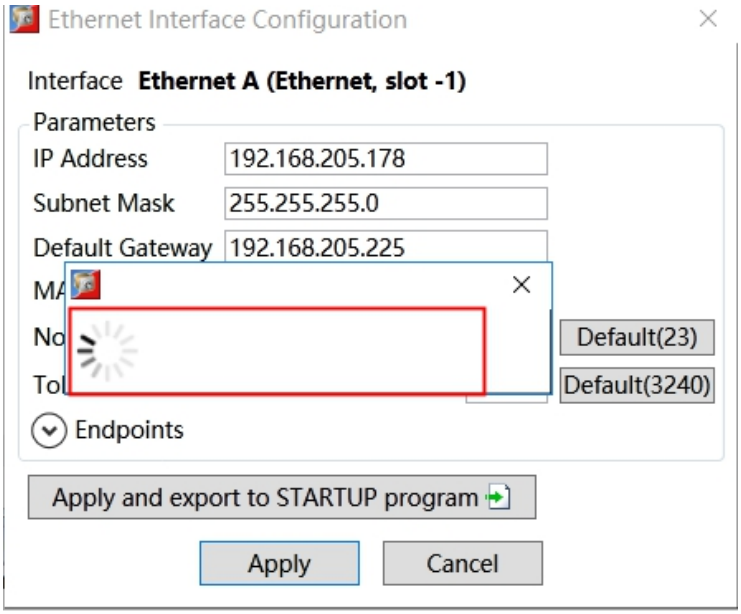
First, change the port number of cuio controller software network port online to non-23 port (because port 23 will conflict with other ports of the computer)

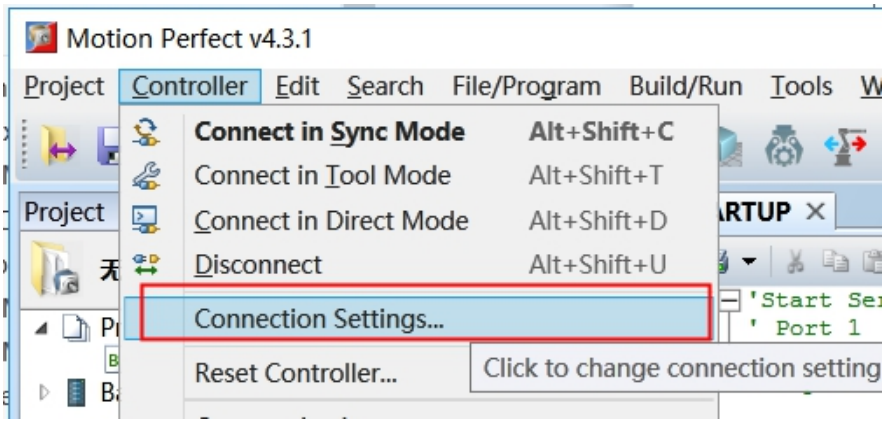


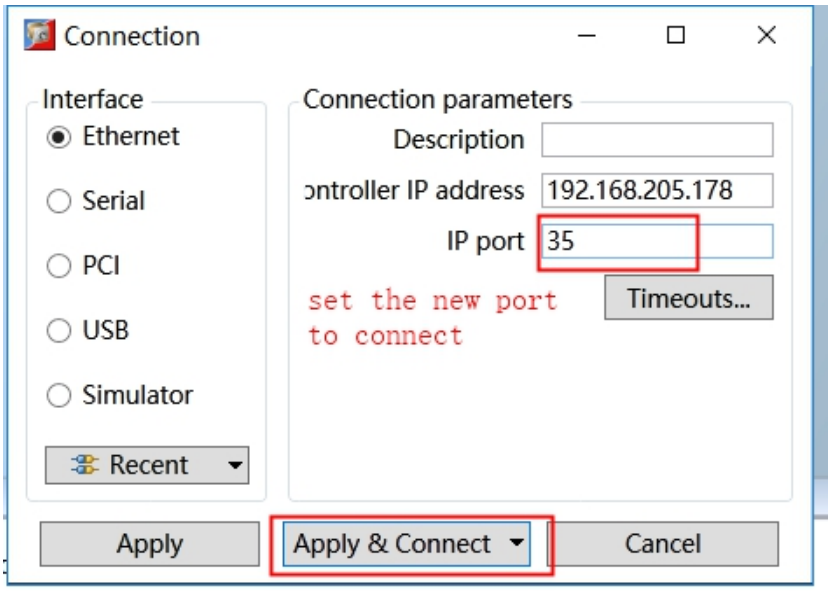


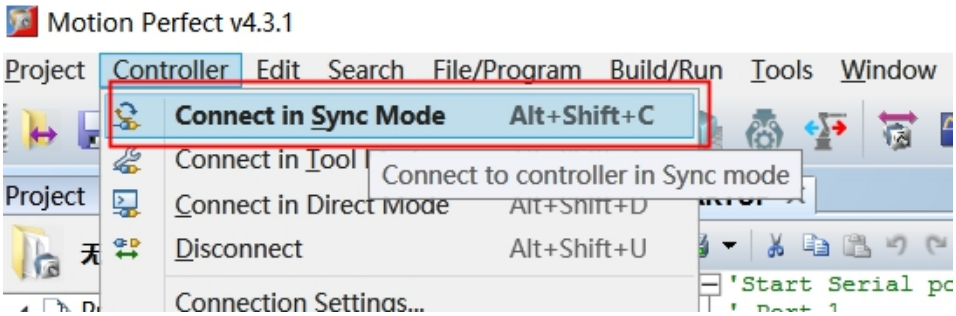


At this time, the software will always be stuck in the loading state, because the port number has been successfully modified to 35, and the default 23 port in the online setting is still available, so it can not be online. At this time, you need to change the port in the communication setting to 35 to go online again


Ethernet Interface Configuration
Interface Ethernet A (Ethernet, slot -1)
Parameters
IP Address 192.168.205.178
Subnet Mask 255.255.255.0
Default Gateway 192.168.205.225
Default(23)
Default(3240)
Endpoints
Apply and export to STARTUP program
Apply
Cancel

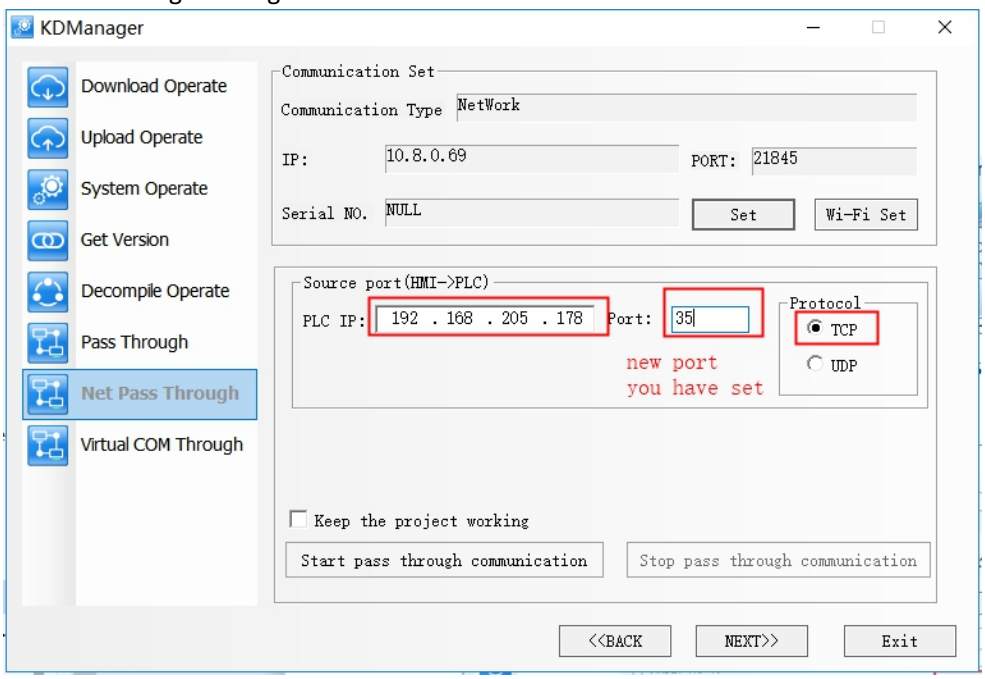

Motion Perfect v4.3.1
Project
Controller
Edit
Search
File/Program
Build/Run
Tools
Connect in Sync Mode Alt+Shift+C
Connect in Tool Mode Alt+Shift+T
Connect in Direct Mode Alt+Shift+D
Disconnect Alt+Shift+U
Connection Settings...
Reset Controller...
Click to change connection setting


Connection
Interface
Ethernet
Serial
PCI
USB
Simulator
Recent
Connection parameters
Description
192.168.205.178
IP port 35
set the new port
to connect
Timeouts...
Apply
Apply & Connect
Cancel

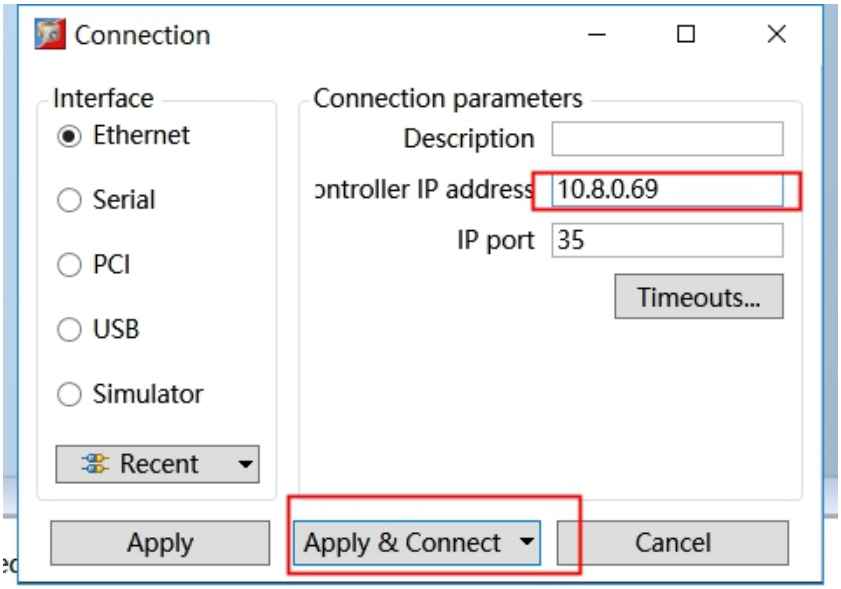


At this point, the connection is successful with the new port 35. And then we can start Net Pass through

Net Pass through settings：

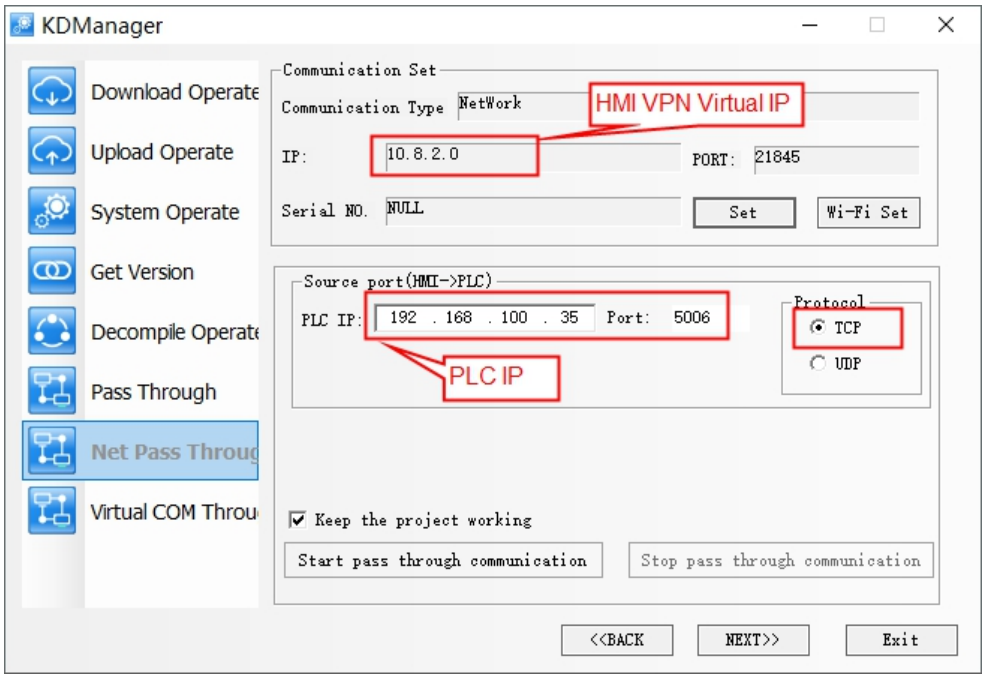


hen change the IP of the connection settings to the VPN IP of the screen to upload and download the program .

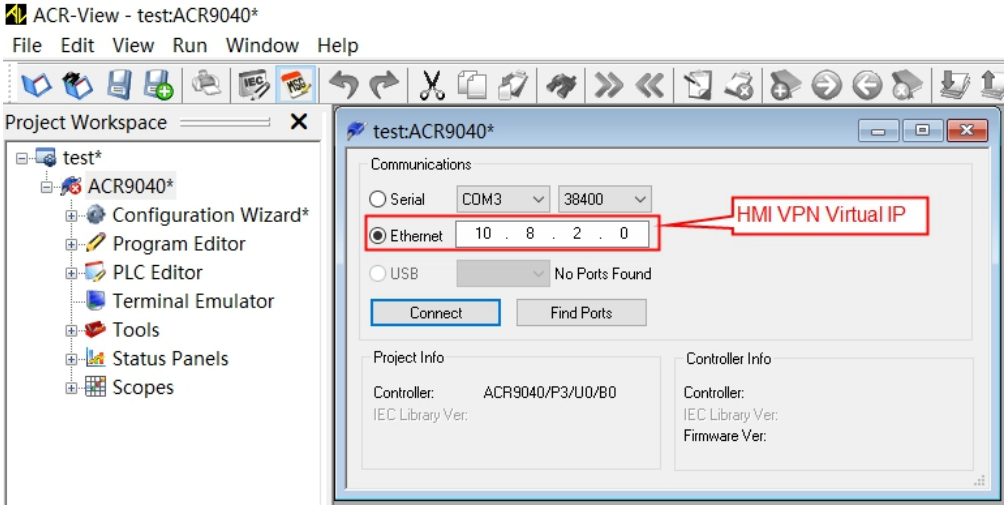


1.2.14 Parker ACR Series

KDmanager settings

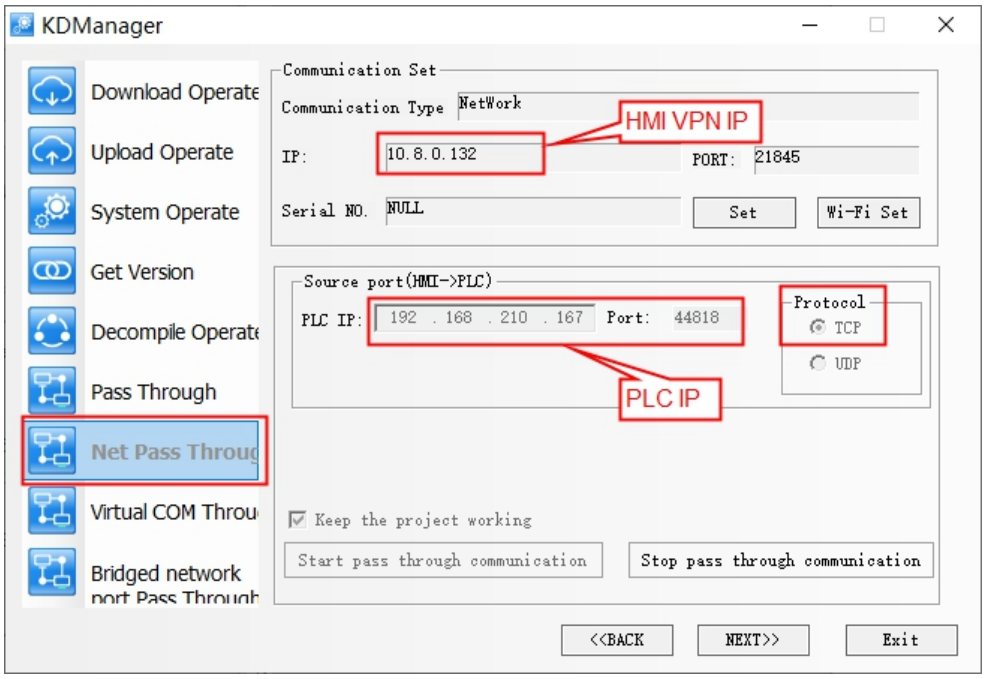


PLC settings



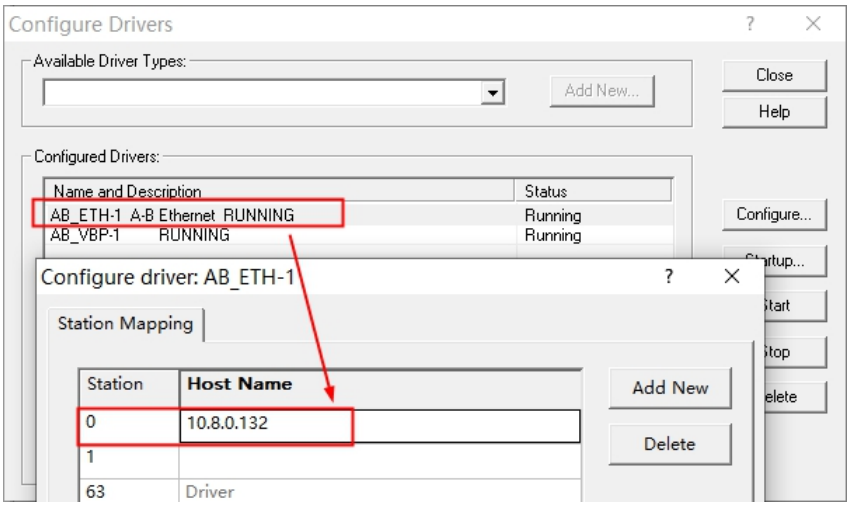
1.2.15 Rockwell MicroLogix1400

KDmanager settings

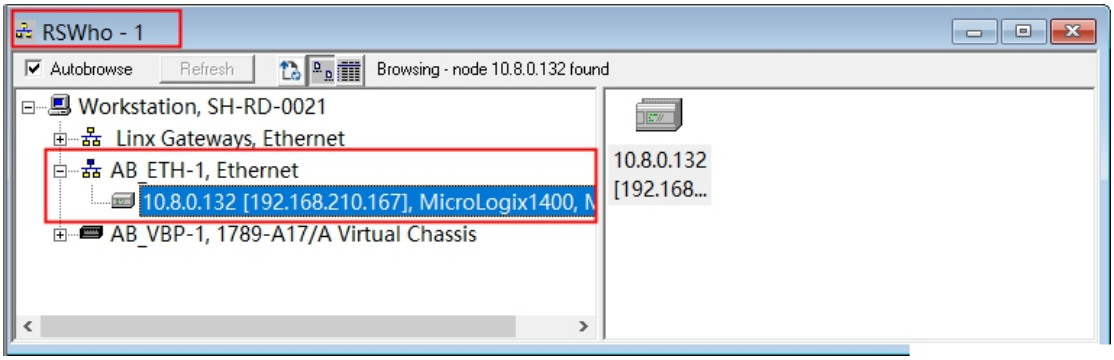


PLC setting

1） Click RSLinx classic and configure drivers

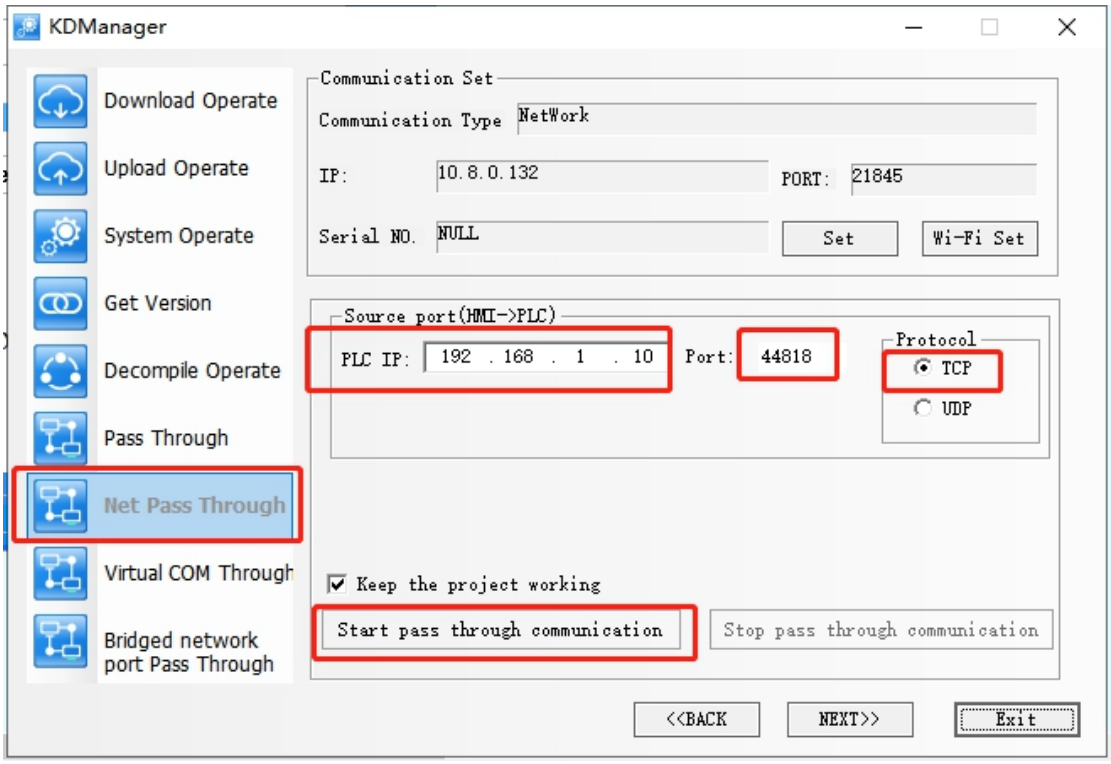


2) Click RSWho, and browse



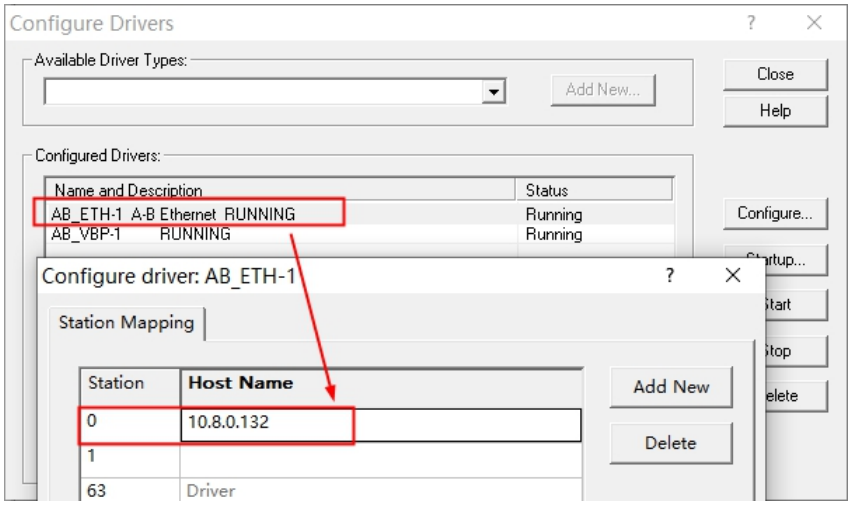
1.2.16 Rockwell compactlogix 1769

KDmanager settings

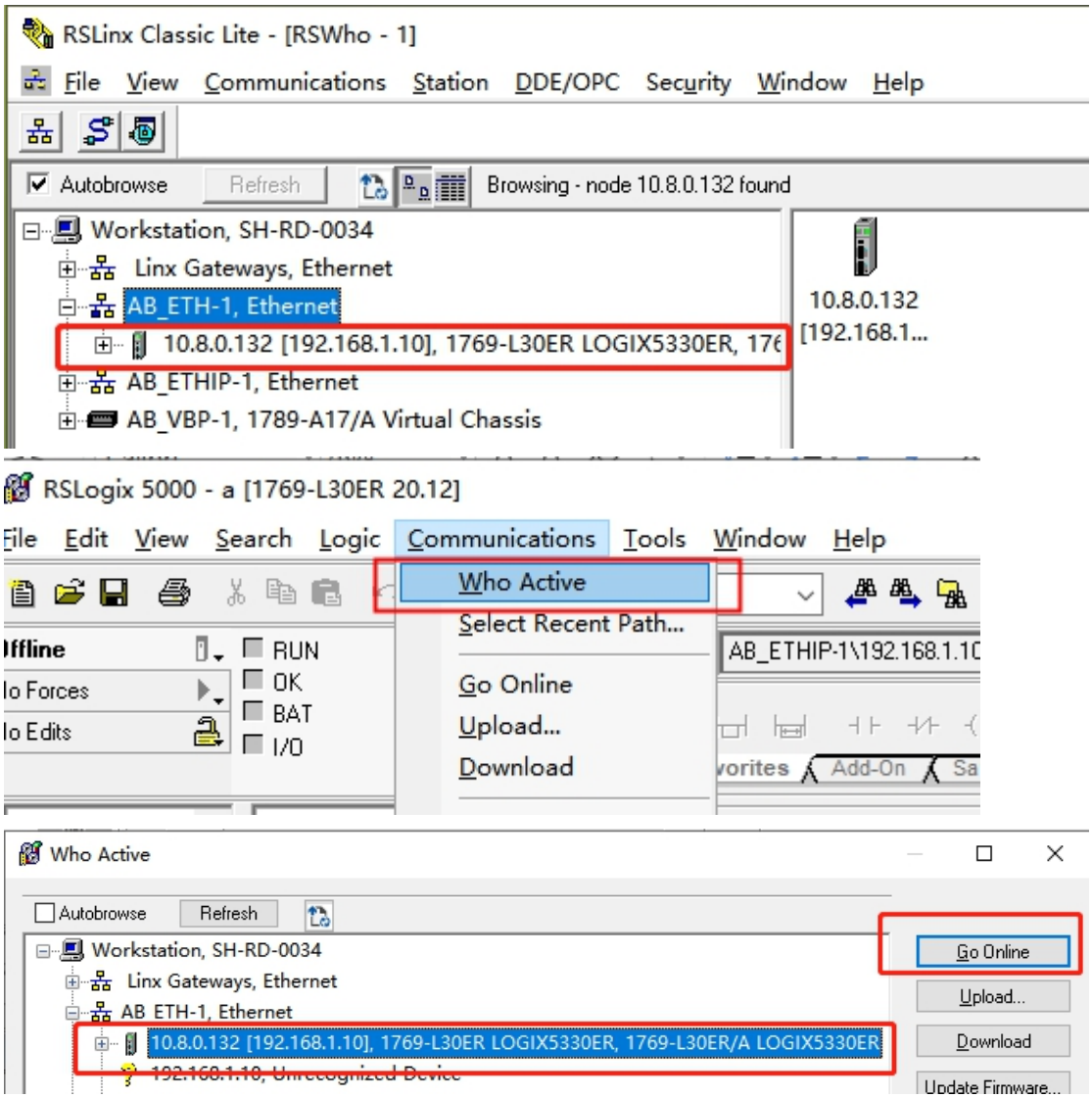


PLC setting

1） Click RSLinx classic and configure drivers



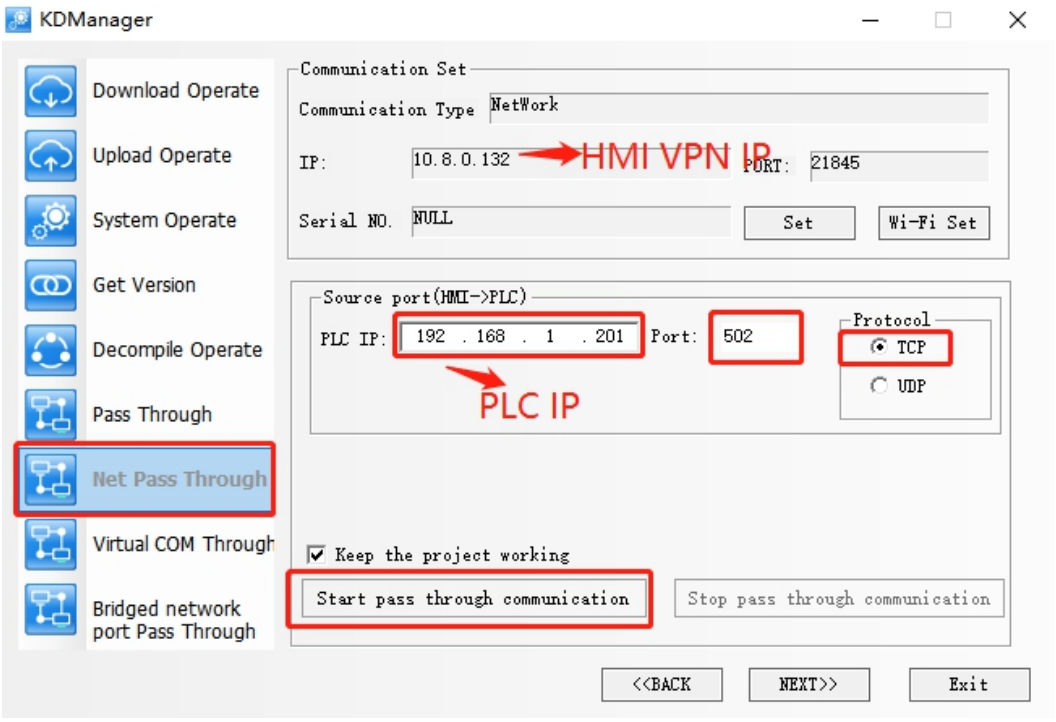
2) Click RSWho, and browse



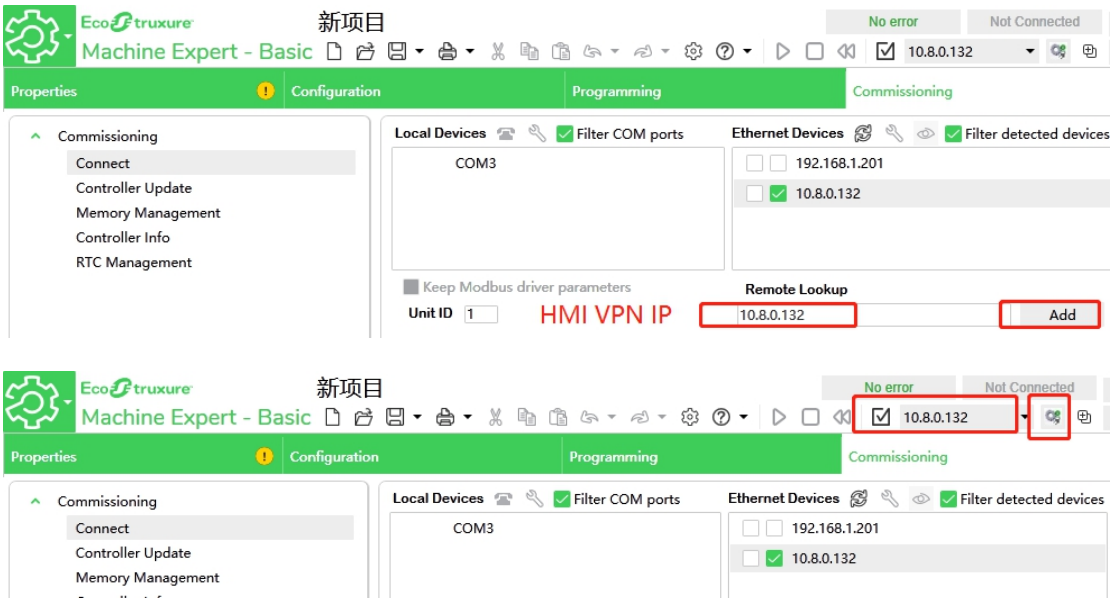
Using network pass through to download project for Rockwell 1769 is more slower than Bridged network pass through.Click here to go to Bridged network pass through

1.2.17 Schneider M200

KDmanager settings



PLC settings



1.3 List of PLC supported VPN pass-through models

1.3.1 Appendix 1: Ethernet pass through model table

PLC	Models	Port\Protocol	Pass through	Description
OMRON	OMRON CP Series	9600\UDP	Supported	
	OMRON CJ Series	44818\TCP	Supported	
Delta	Delta DVP	502\TCP	Supported	
IDEC	IDEC FC Series	2101\TCP	Supported	
Kinco	Kinco Series	502\TCP	Supported	

Siemens	Smart 200 Series	102\TCP	Supported	
	1200\1500\ET200\300 Series	102\TCP	Supported	
	Smart 700IE (HMI)	5002\TCP	Supported	
Mitsubishi	QJ71E71	5002\TCP	Supported	
	FX5U CPU Ethernet	5562\TCP	Supported	
	FX3U-ENET-L	5551\TCP	Supported	
Trio	Trio MC Series	Port\TCP	Supported	The PLC software can be changed to any port number, of which port 23 cannot be used to pass through
Keyence	Keyence KV series	8500\TCP	Supported	
LS	XMC Series	2002\TCP	Supported	
Panasonic	Panasonic FP	Search port by tool\TCP	Supported	
Unitronics	Unitronics	502\TCP	Supported	
Parker	ACR 9000 series	5006\TCP	Supported	
Rockwell	MicroLogix1400,AB1769	44818\TCP	Supported	
Schneider	M200	502\TCP		

2. Virtual COM through

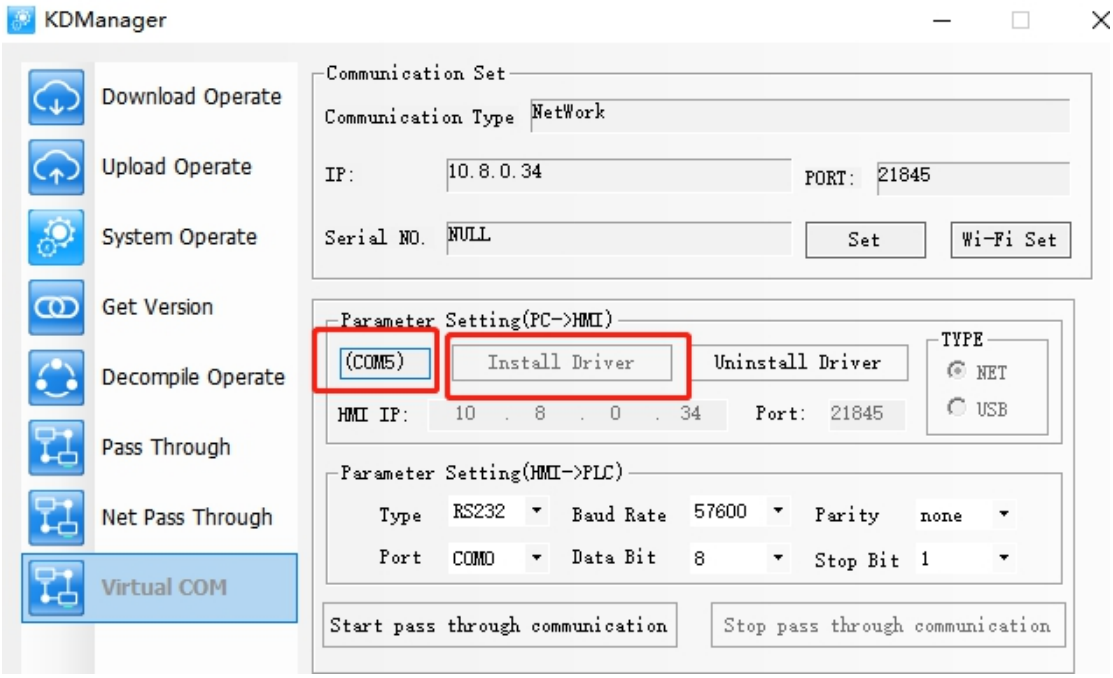
2.1 VPN external network connection of HMI and PC

The same settings as “1.1.1”-”1.1.2” of 1.1 above

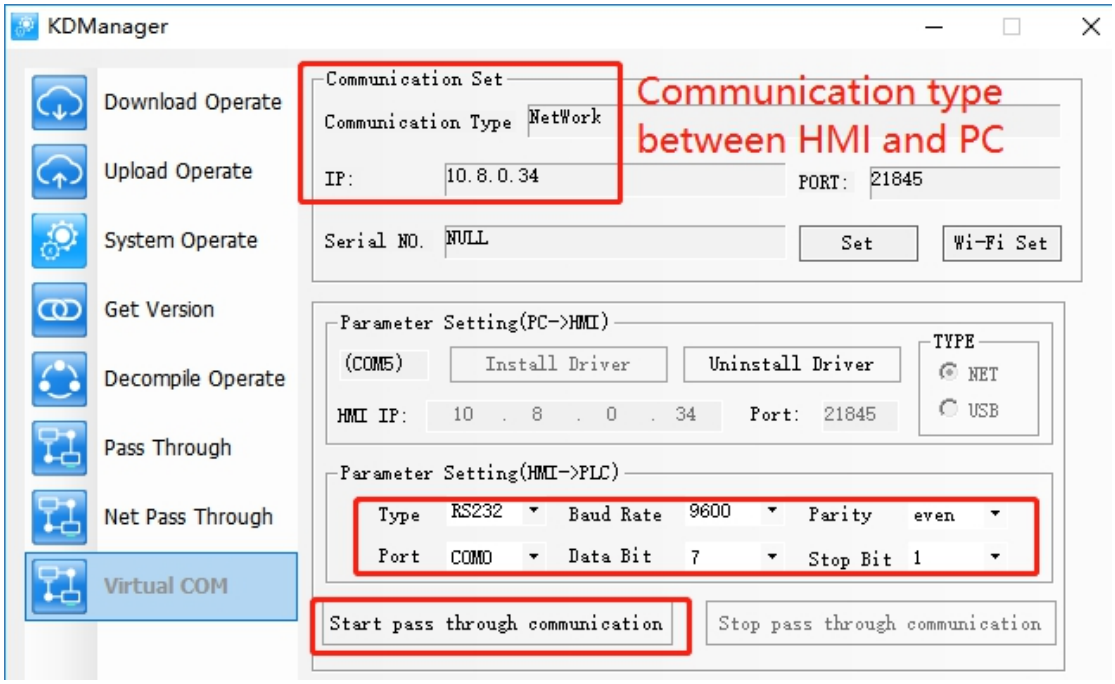
2.2 PLC pass-through connection setting

2.2.1HMI pass-through settings

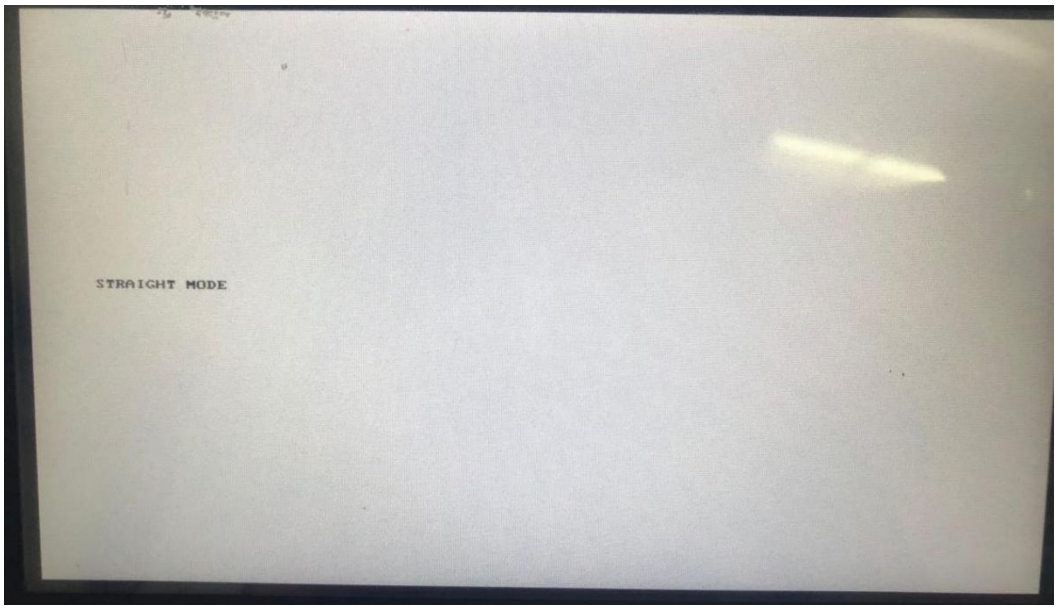
①Click”Install Driver”， U can get virtual COM5



② Set the direct communication parameters of the HMI and PLC (You must knew the programming port parameters of the PLC in advance), and for example the port is connected to the screen COM0 port.



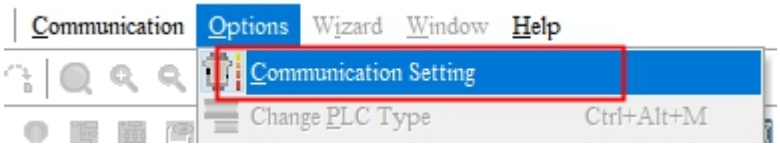
Click start pass through communication, the screen will enter a white screen state, as shown in the figure

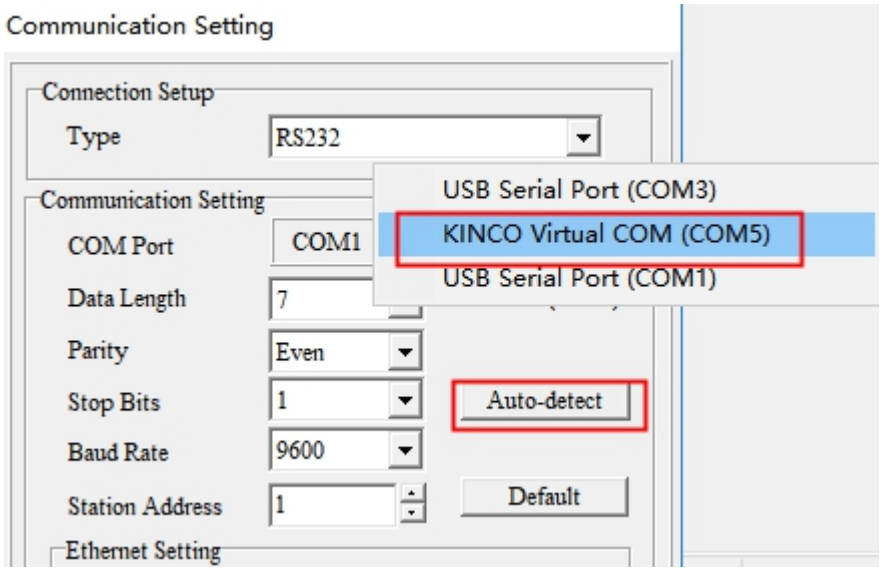


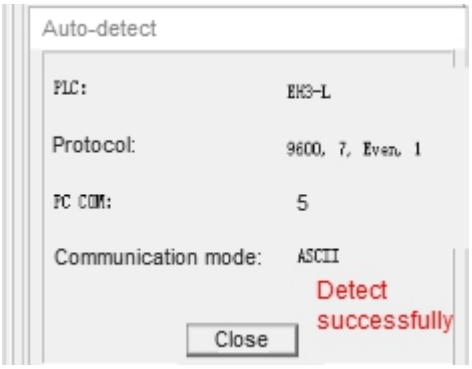
2.2.2PLC Software settings

PLC programming software set virtual serial port to upload and download programs (Take Delta DVP PLC as an example)

Open Delta WPLSoft programming software ， Option-Communication setting， COM port chose Virtual COM5

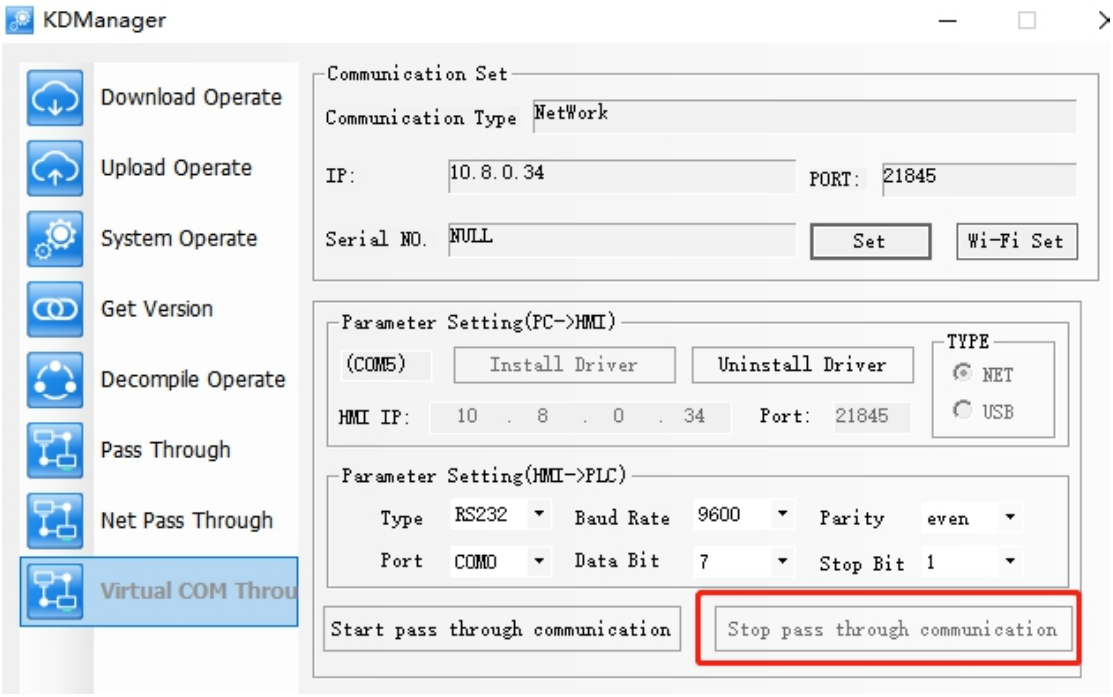






2.2.3Exist pass through

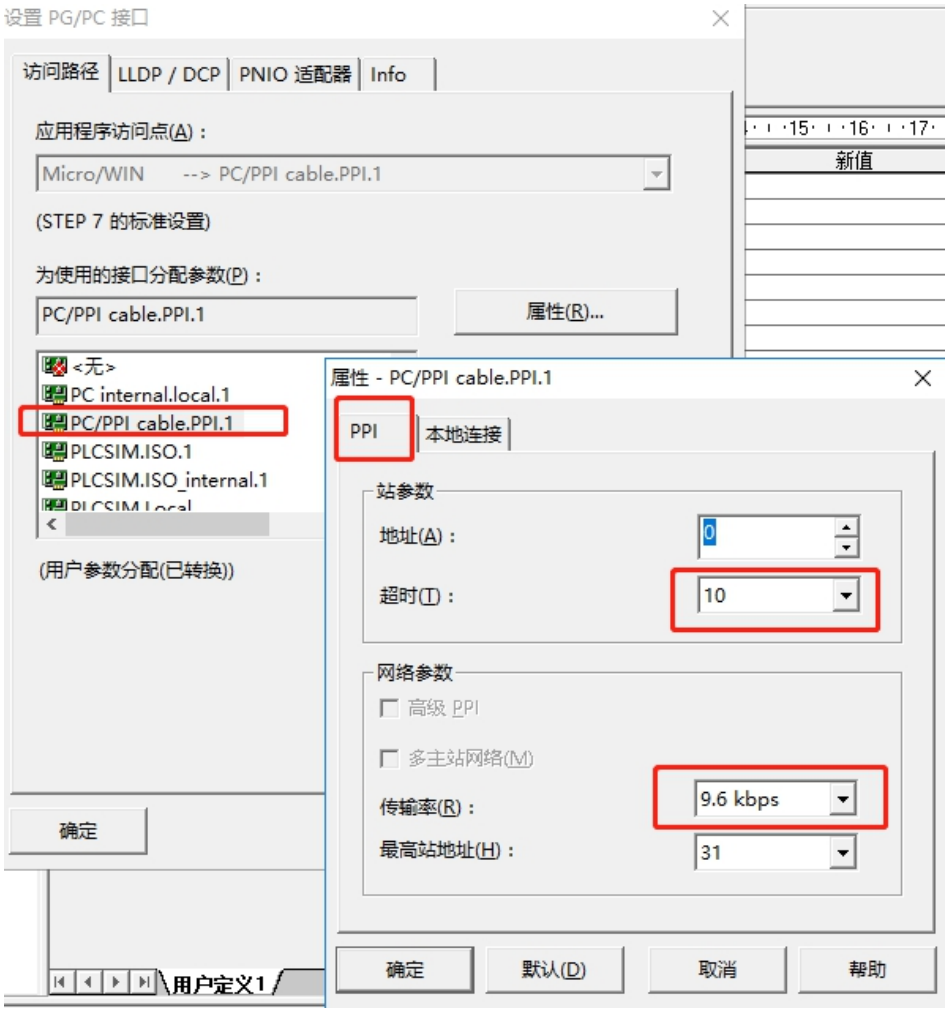
After downloading the PLC project, chose “stop pass through”to exit and the screen will resume working status.

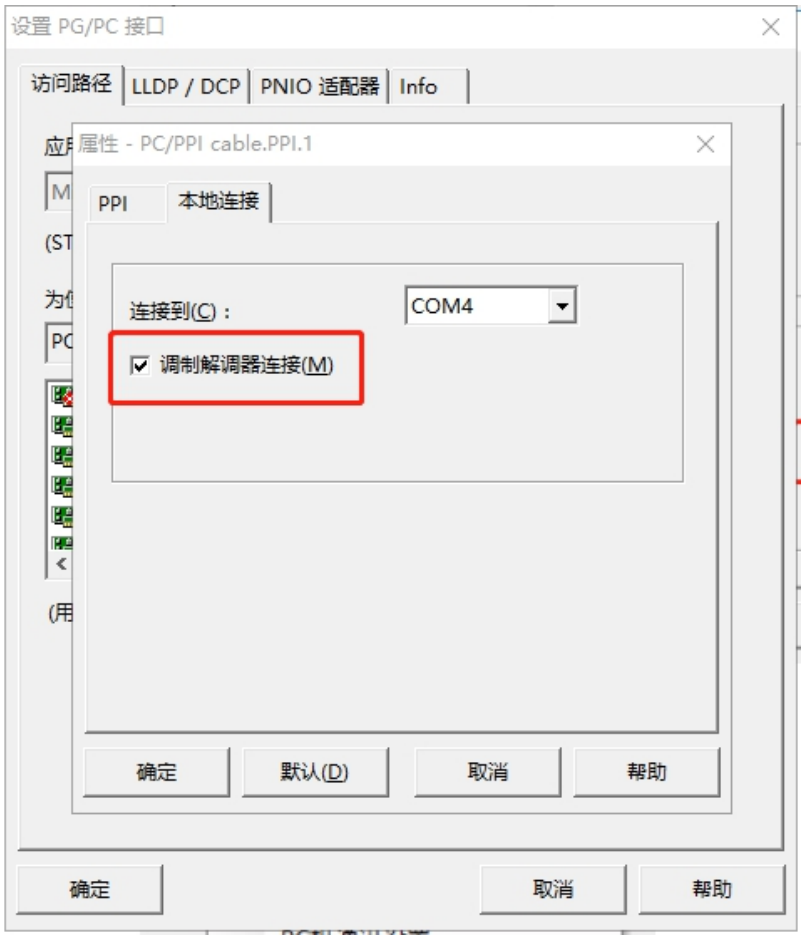


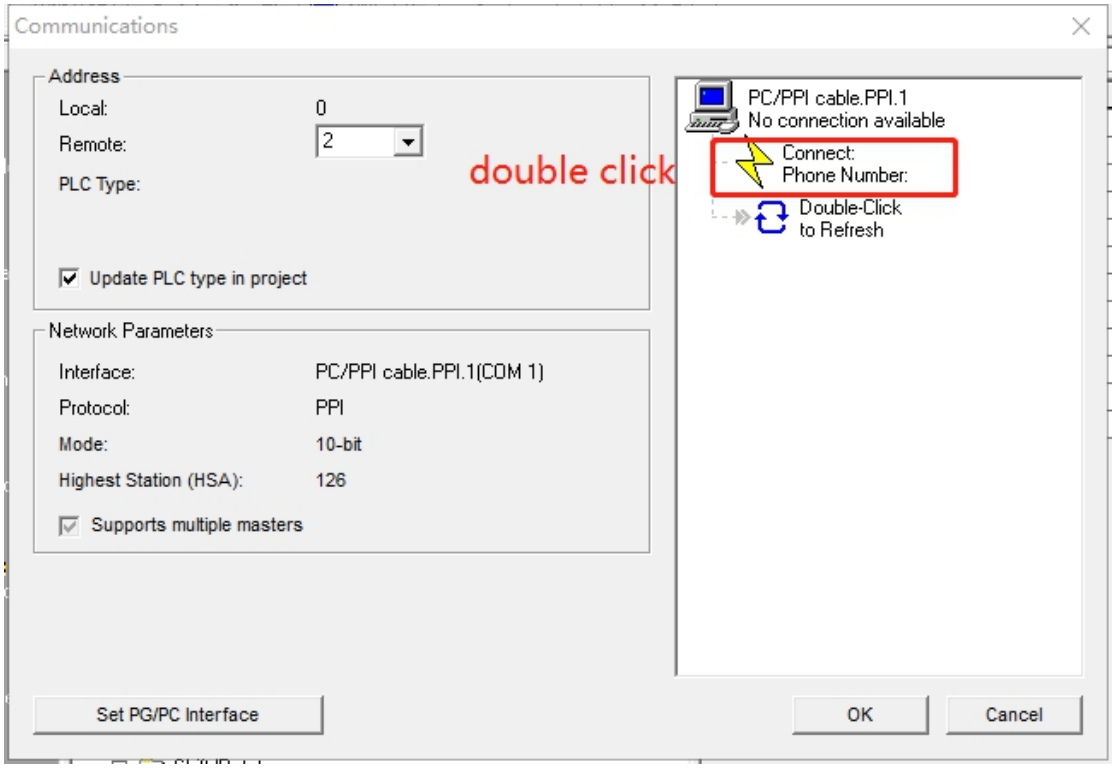
2.3 Examples of PLC pass through settings

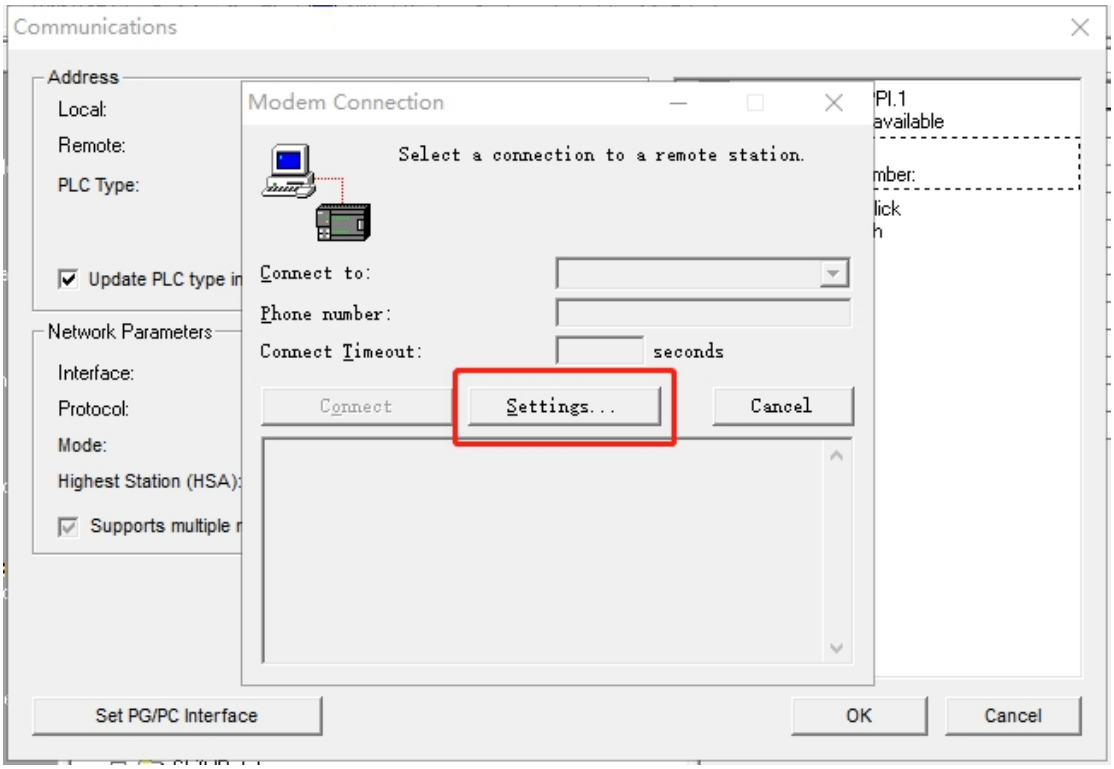
2.3.1 Siemens 200

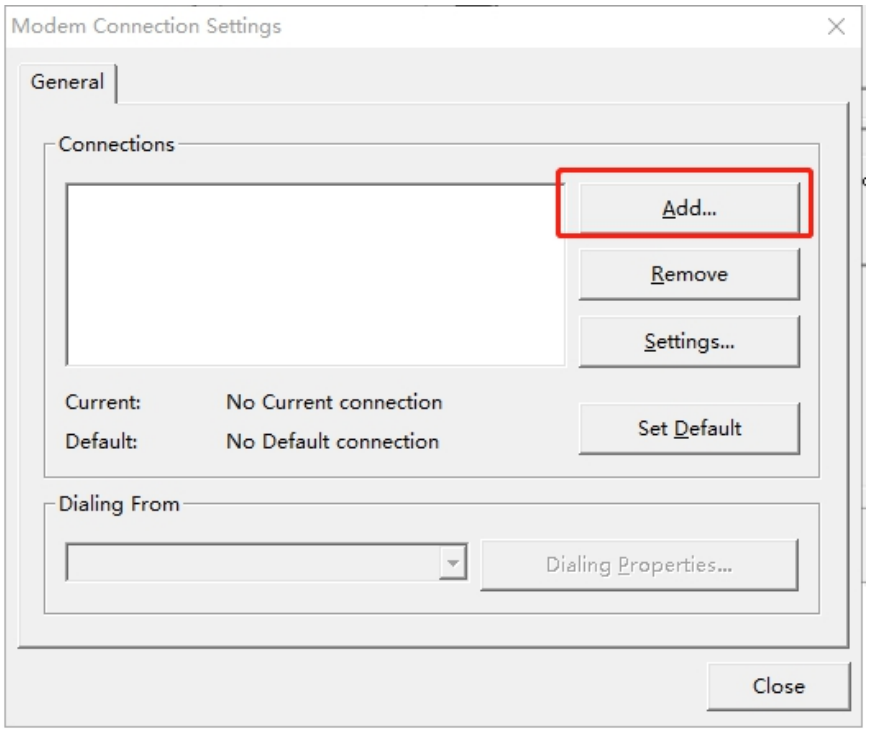
Open SETO7 software， setting as follows:

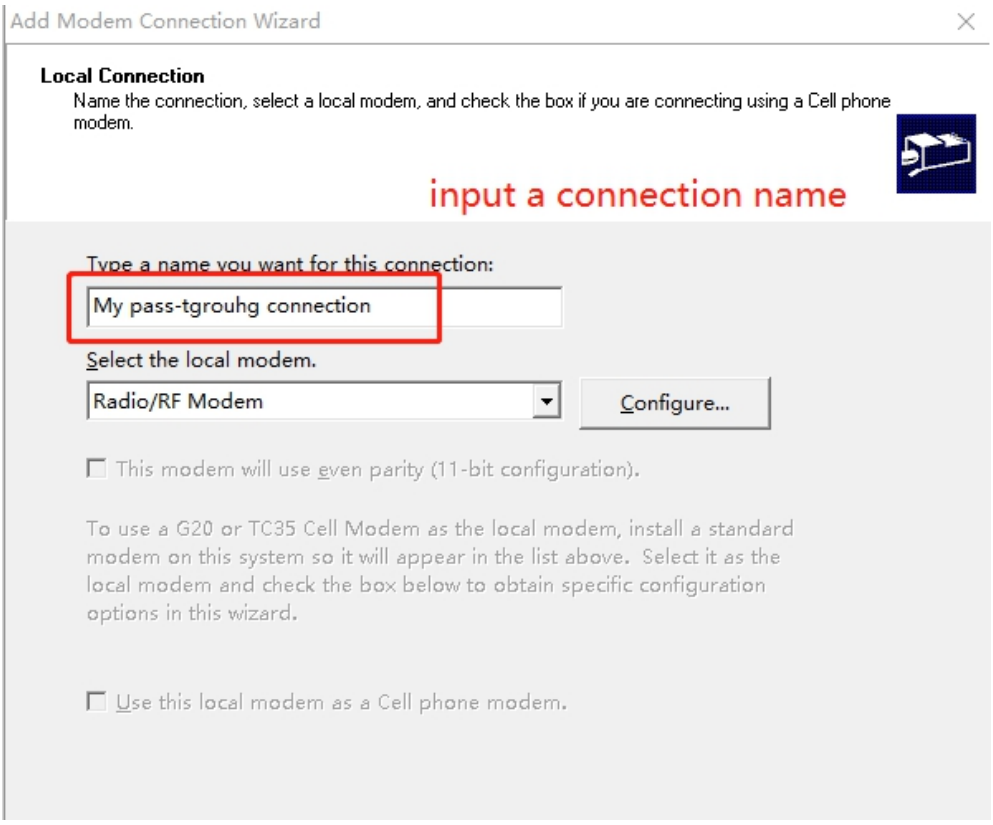

设置 PG/PC 接口
访问路径
LLDP / DCP
PNIO 适配器
Info
应用程序访问点(A)：
Micro/WIN --> PC/PPI cable.PPI.1
(STEP 7 的标准设置)
为使用的接口分配参数(P)：
PC/PPI cable.PPI.1
属性(R)...
<无>
PC internal.local.1
PC/PPI cable.PPI.1
PLCSIM.ISO.1
PLCSIM.ISO_internal.1
(用户参数分配(已转换))
确定
用户定义1
属性 - PC/PPI cable.PPI.1
PPI
本地连接
站参数
地址(A)：
0
超时(T)：
10
网络参数
高级 PPI
多主站网络(M)
传输率(R)：
9.6 kbps
最高站地址(H)：
31
确定
默认(D)
取消
帮助
新值


设置 PG/PC 接口
访问路径
LLDP / DCP
PNIO 适配器
Info
属性 - PC/PPI cable.PPI.1
PPI
本地连接
连接到(C)：
COM4
调制解调器连接(M)
确定
默认(D)
取消
帮助
确定
取消
帮助

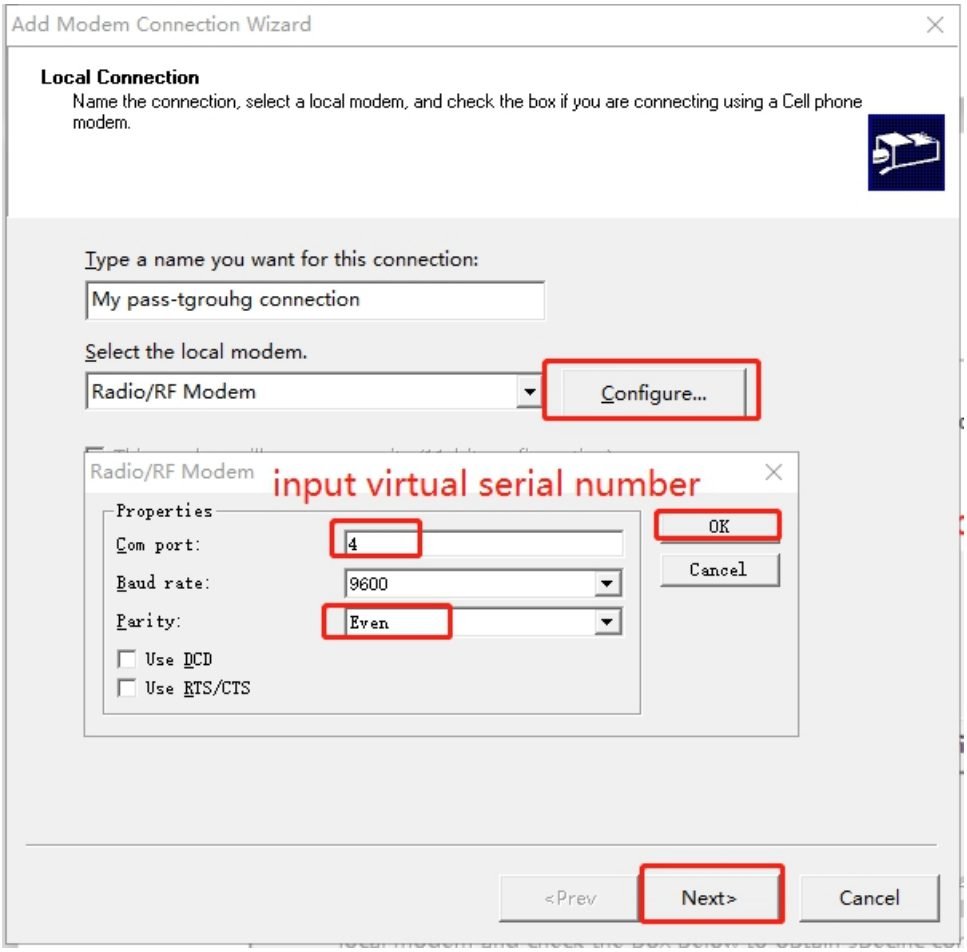

Communications
Address
Local:
0
Remote:
2
PLC Type:
double click
Update PLC type in project
Network Parameters
Interface:
PC/PPI cable.PPI.1(COM 1)
Protocol:
PPI
Mode:
10-bit
Highest Station (HSA):
126
Supports multiple masters
PC/PPI cable.PPI.1
No connection available
Connect:
Phone Number:
Double-Click
to Refresh
Set PG/PC Interface
OK
Cancel


Communications
Address
Local:
Remote:
PLC Type:
Update PLC type in
Network Parameters
Interface:
Protocol:
Mode:
Highest Station (HSA):
Supports multiple r
Modem Connection
Select a connection to a remote station.
Connect to:
Phone number:
Connect Timeout:
seconds
Connect
Settings...
Cancel
PI.1
available
mber:
lick
h
Set PG/PC Interface
OK
Cancel

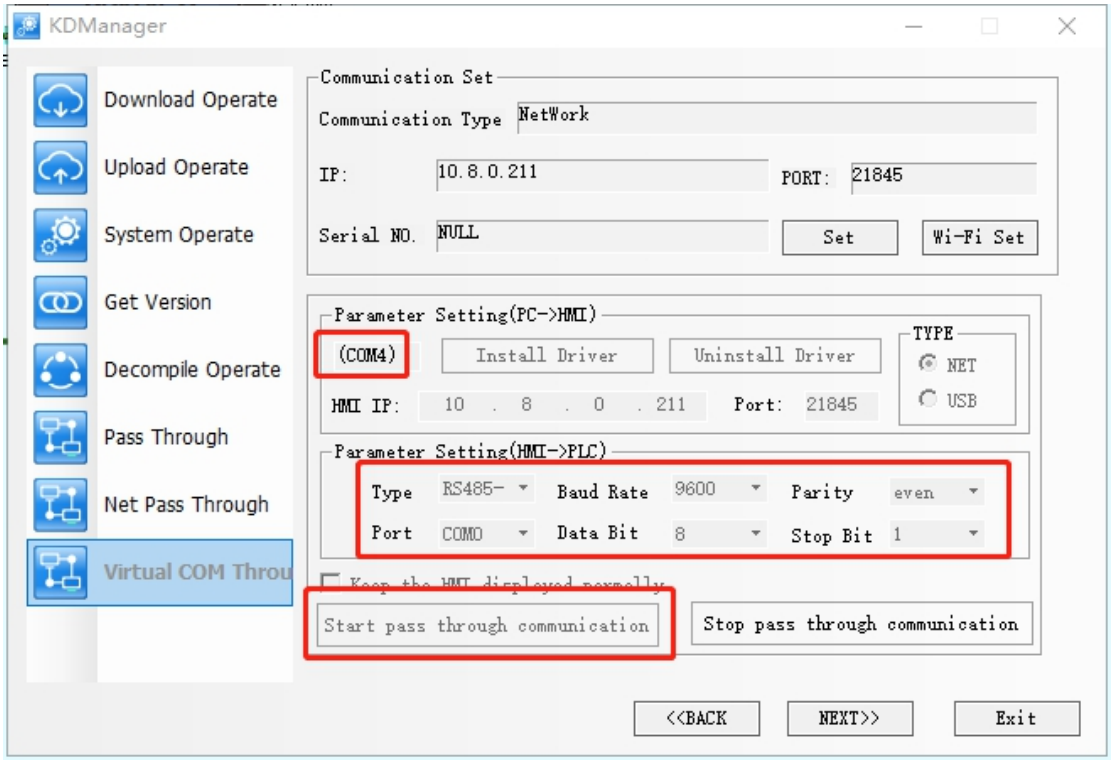

Modem Connection Settings
General
Connections
Add...
Remove
Settings...
Current:
No Current connection
Default:
No Default connection
Set Default
Dialing From
Dialing Properties...
Close



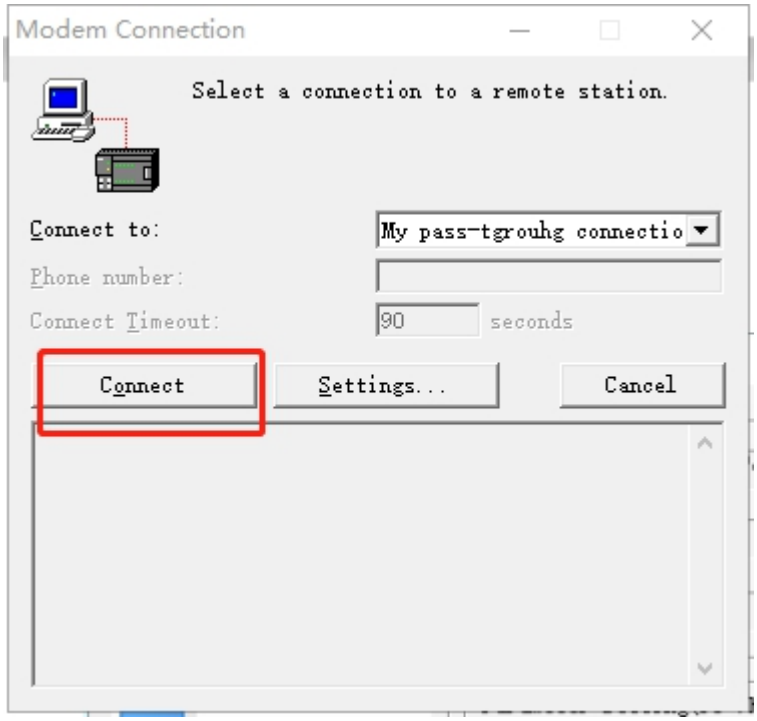
Set virtual COM port that u install by KDManager; Baud rate set as 9600 better,its

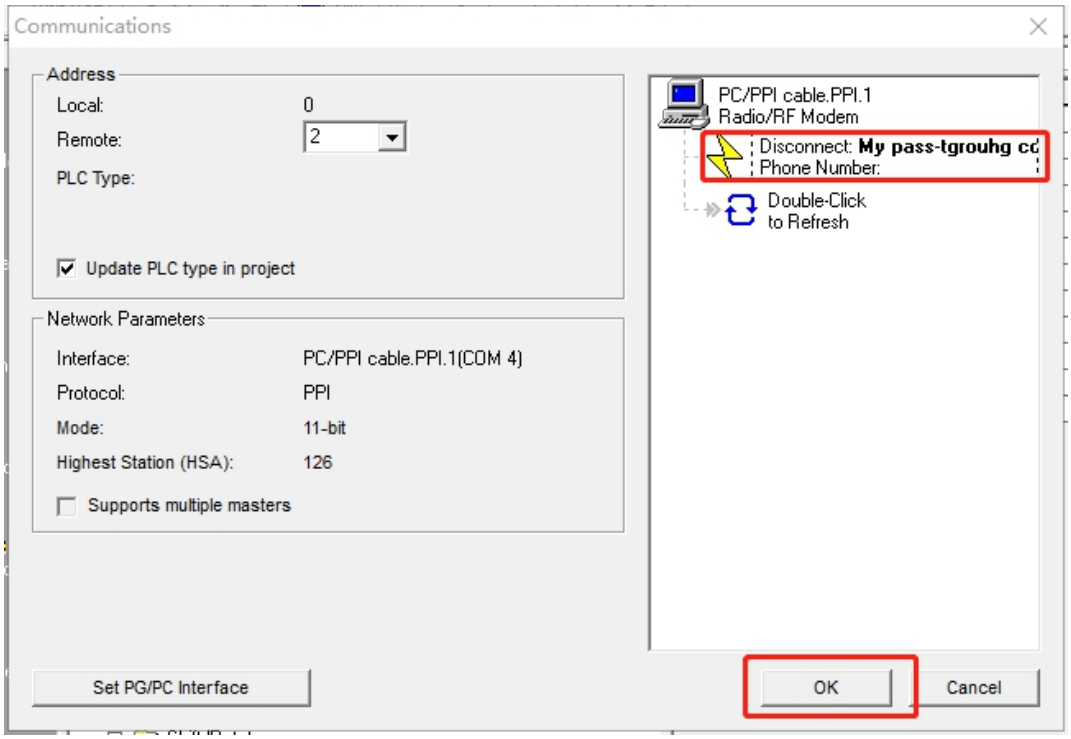


Start pass through communication



Click “connect”

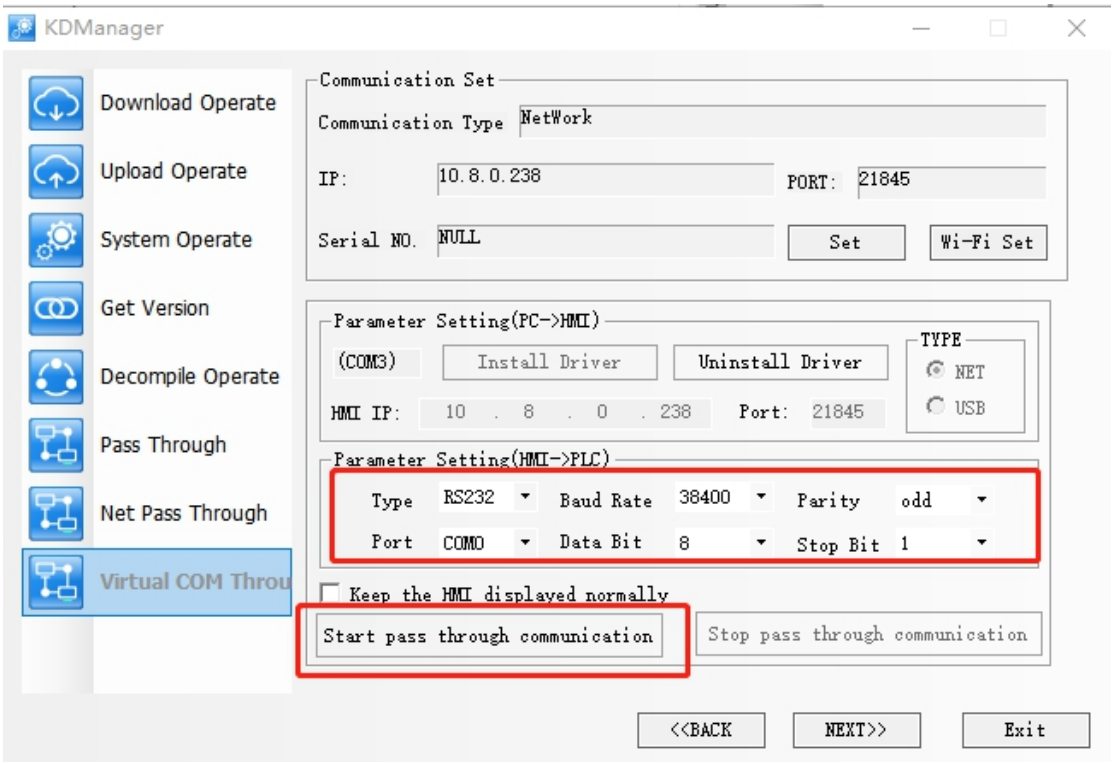




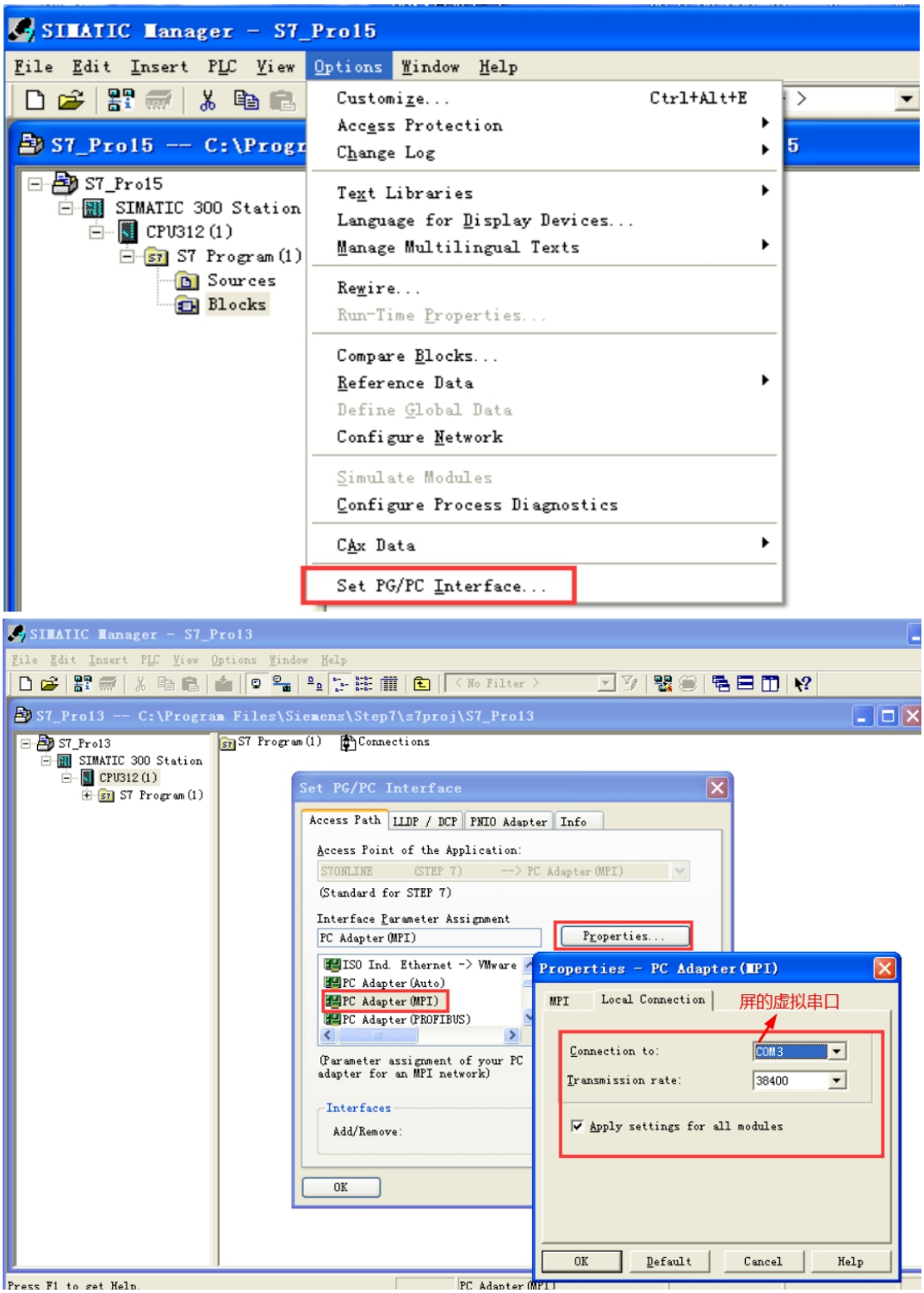
2.3.2 Siemens 300

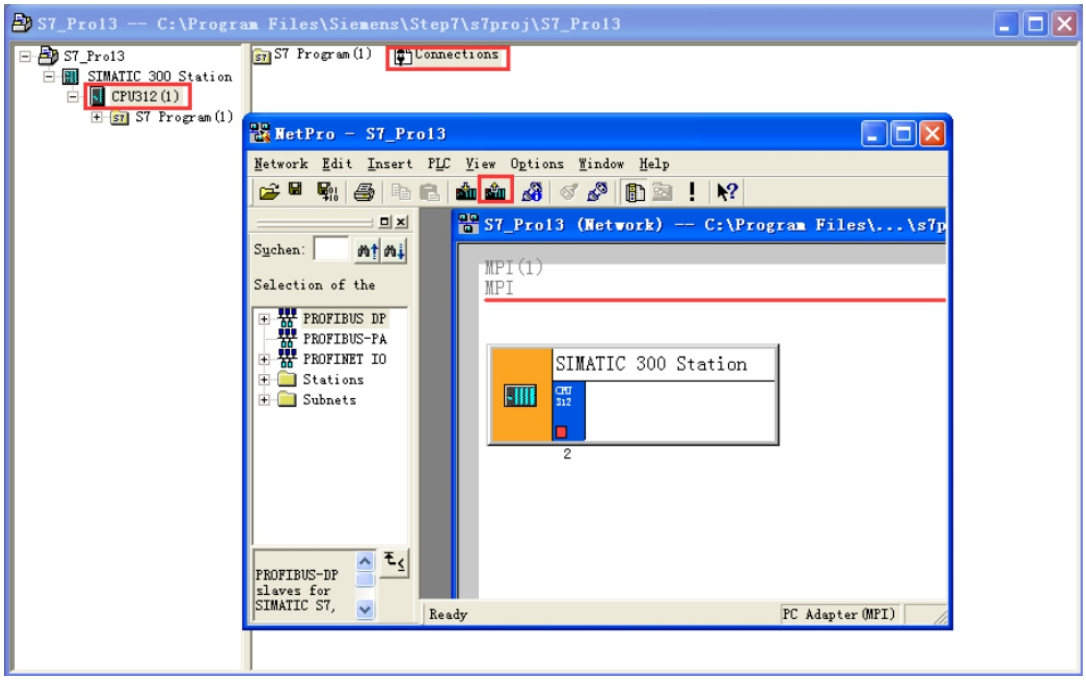
Note: This transparent transmission only supports the PC adapter line for communication transparent transmission.

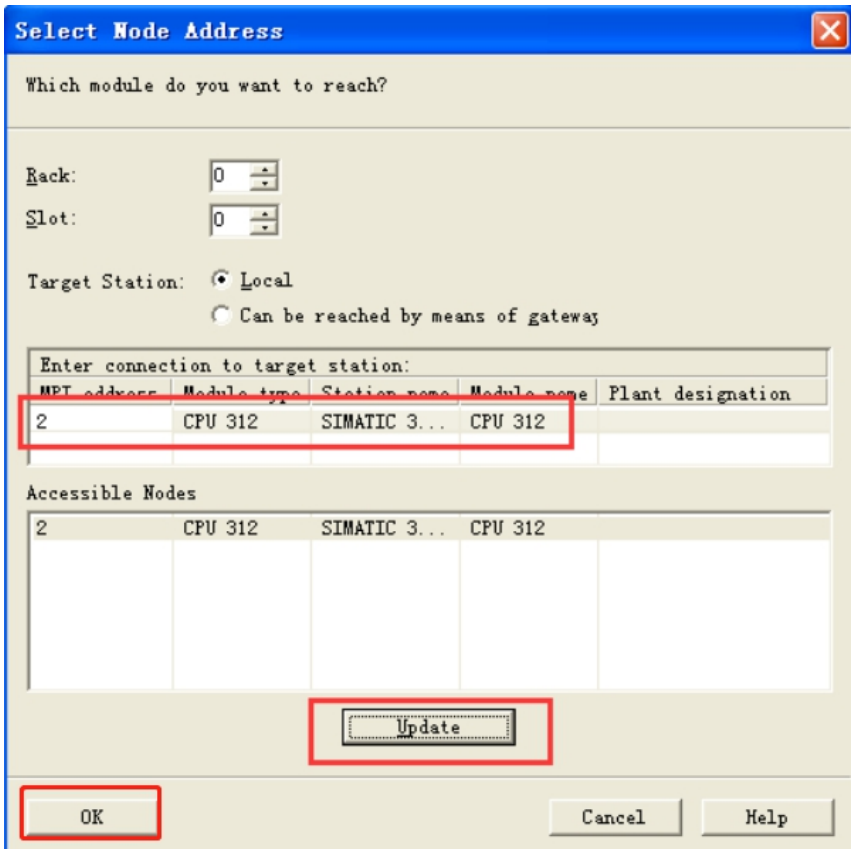
KDmanager settings: only the following parameters can be used for transparent transmission



PLC Settings:

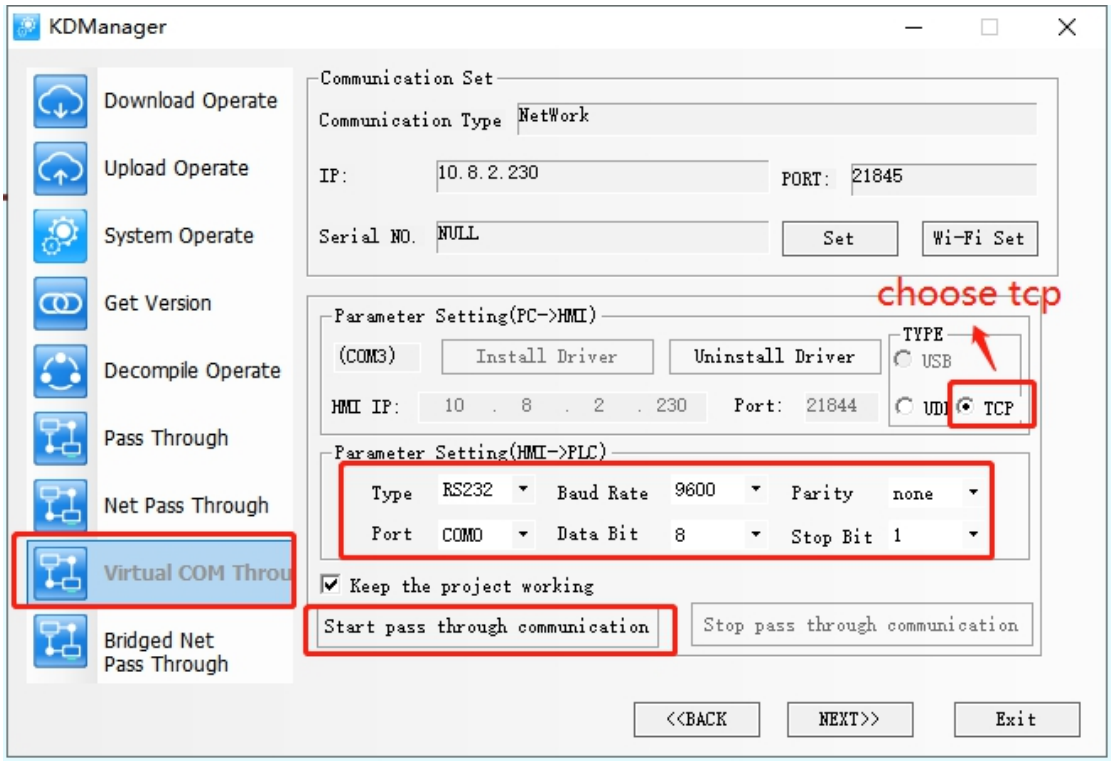

SIMATIC Manager - S7_Pro15
File Edit Insert PLC View Options Window Help
Customize... Ctrl+Alt+E
Access Protection
Change Log
Text Libraries
Language for Display Devices...
Manage Multilingual Texts
Rewire...
Run-Time Properties...
Compare Blocks...
Reference Data
Define Global Data
Configure Network
Simulate Modules
Configure Process Diagnostics
CAx Data
Set PG/PC Interface...
S7_Pro15
SIMATIC 300 Station
CPU312(1)
S7 Program(1)
Sources
Blocks
SIMATIC Manager - S7_Pro13
S7_Pro13 -- C:\Program Files\Siemens\Step7\s7proj\S7_Pro13
Set PG/PC Interface
Access Path
LLDP / DCP
PNIO Adapter
Info
Access Point of the Application:
S7ONLINE (STEP 7) --> PC Adapter(MPI)
(Standard for STEP 7)
Interface Parameter Assignment
PC Adapter(MPI)
Properties...
ISO Ind. Ethernet -> VMware
PC Adapter(Auto)
PC Adapter(MPI)
PC Adapter(PROFIBUS)
(Parameter assignment of your PC adapter for an MPI network)
Interfaces
Add/Remove:
OK
Properties - PC Adapter(MPI)
MPI
Local Connection
屏的虚拟串口
Connection to:
COM3
Transmission rate:
38400
Apply settings for all modules
OK
Default
Cancel
Help



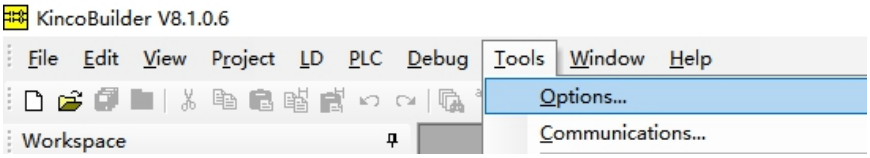


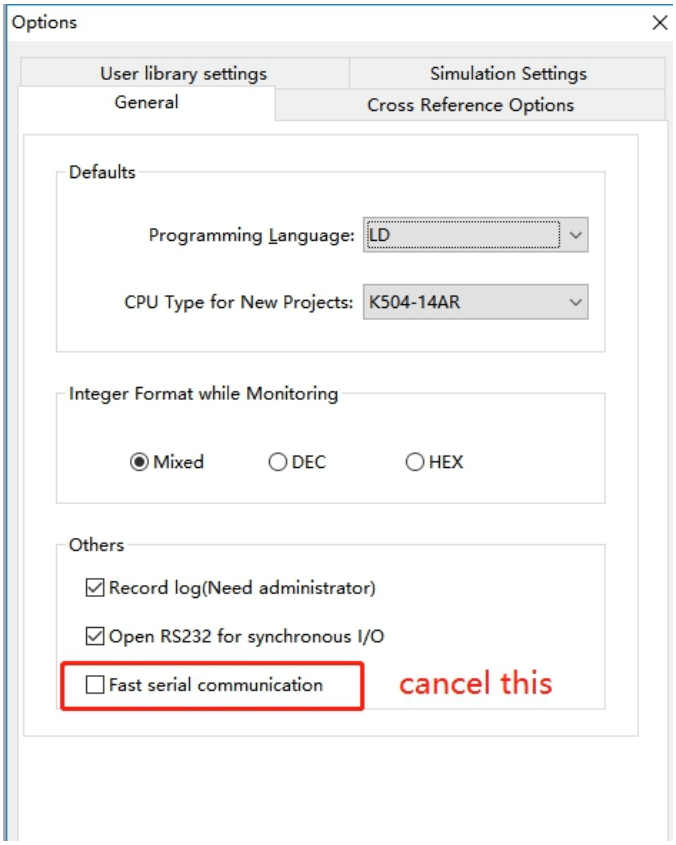
2.3.3 Kinco PLC

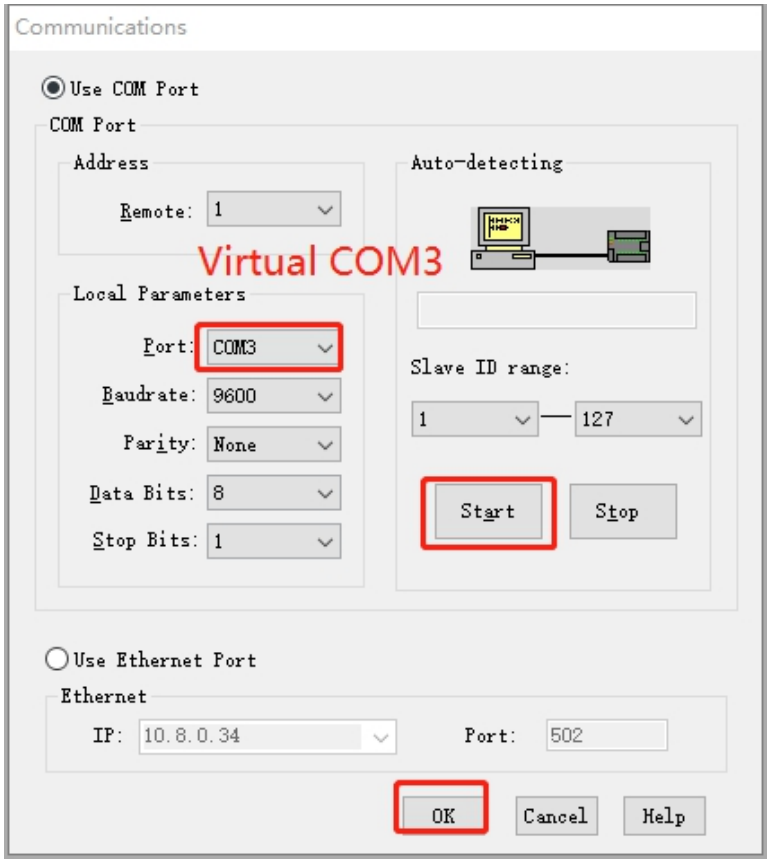
KDmanager settings:



PLC settings:

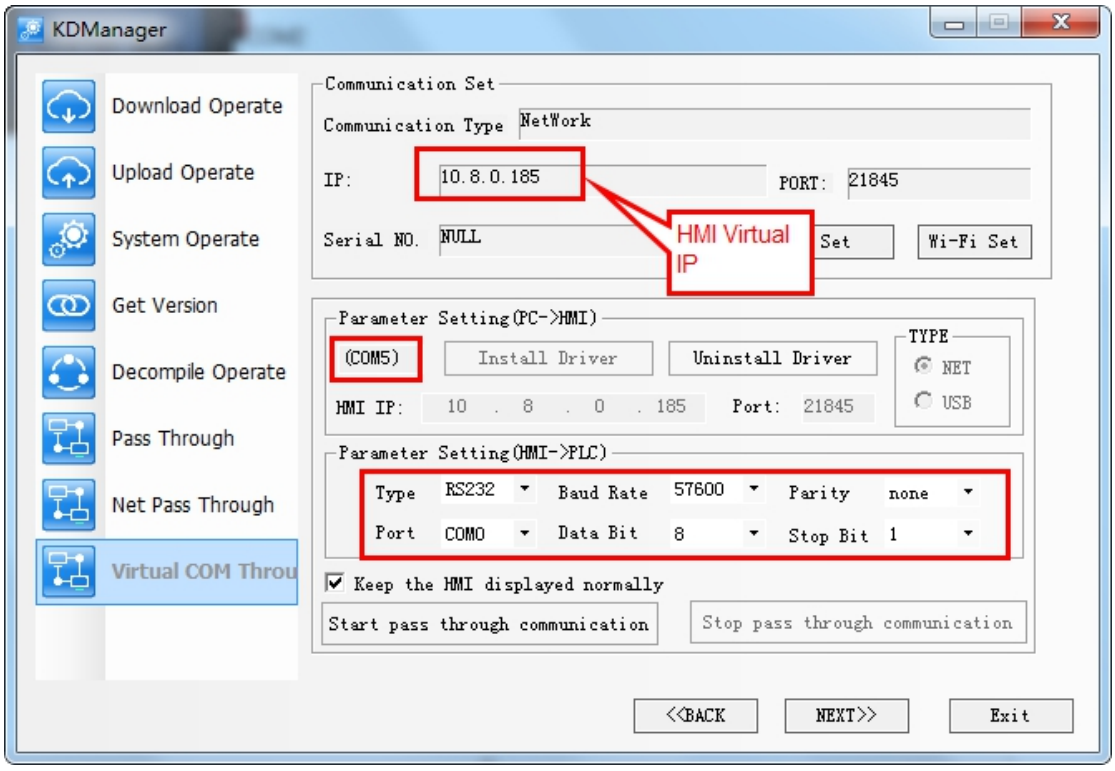




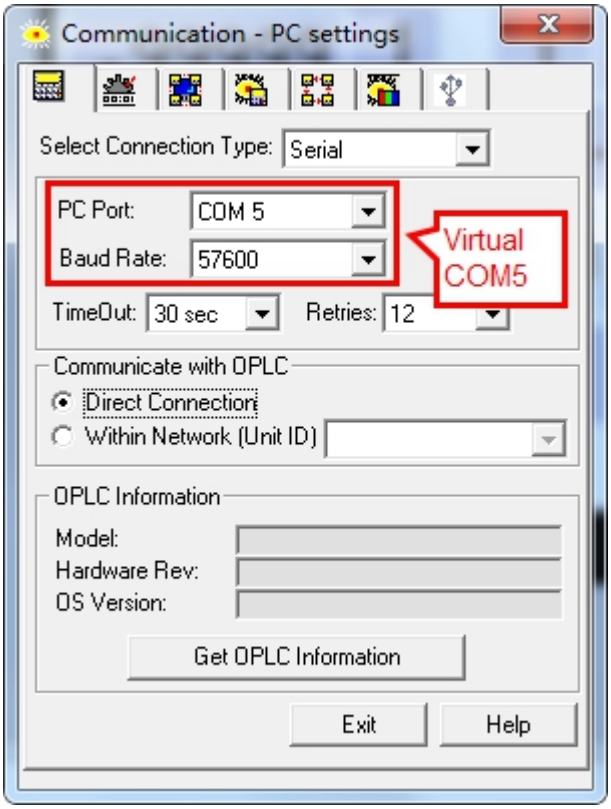


2.3.4 Unitronics PLC

KDManager settings



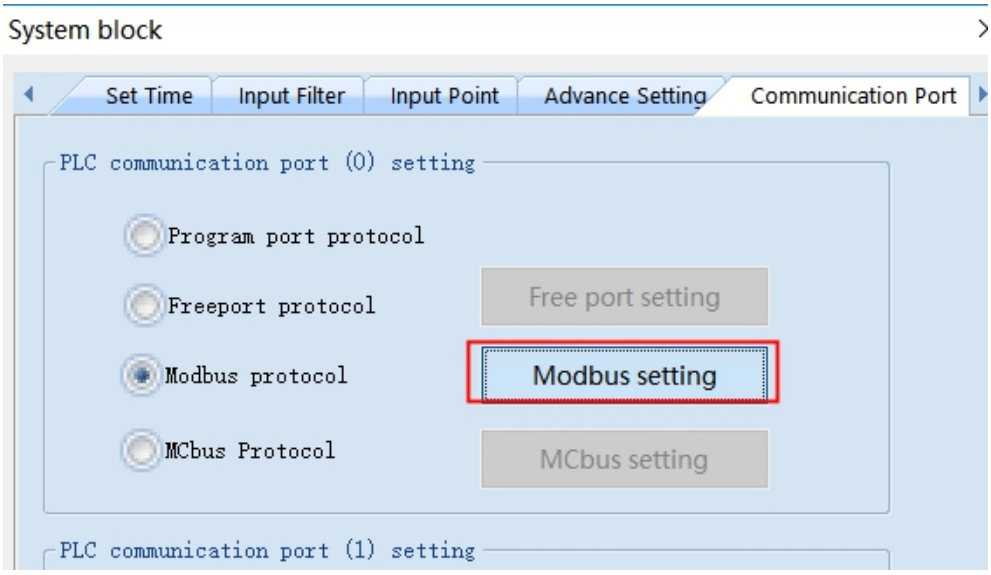
VisiLogic settings

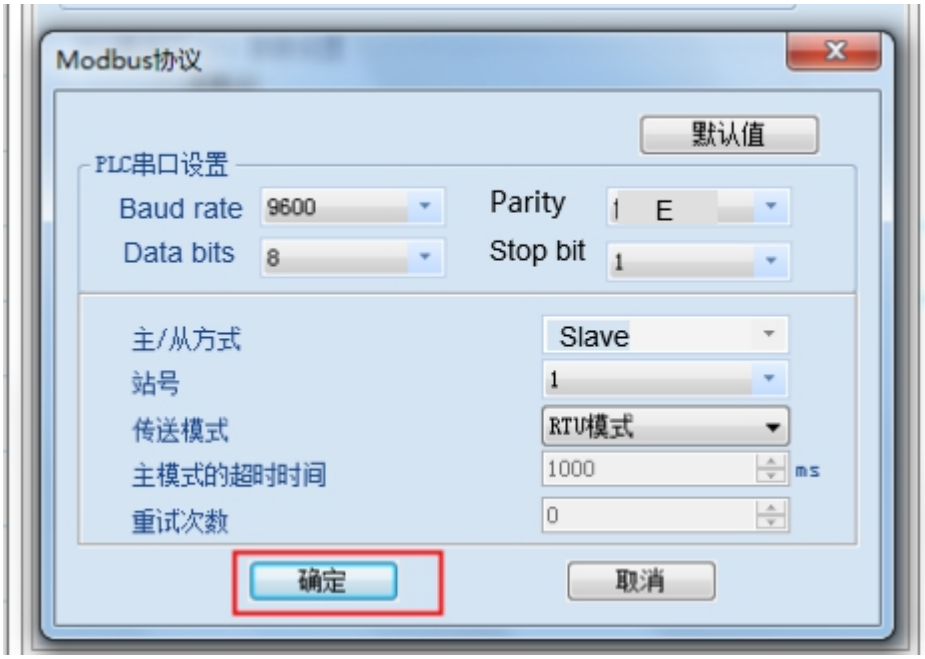


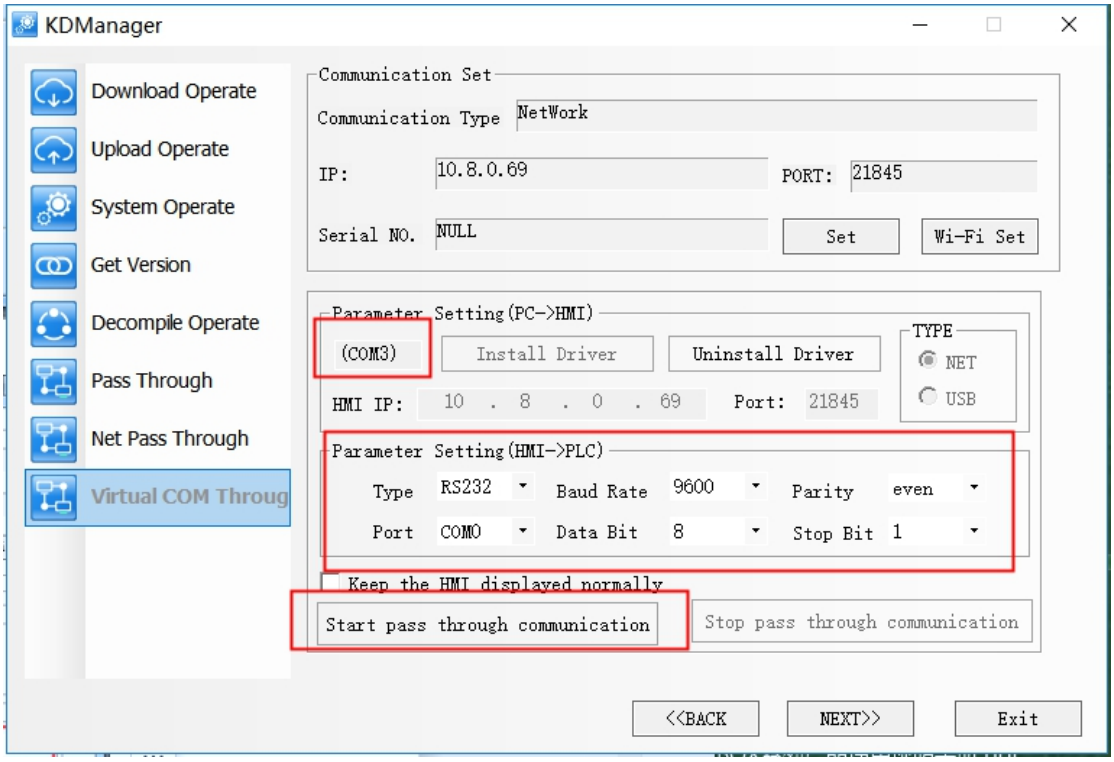
2.3.5 Megmeet PLC

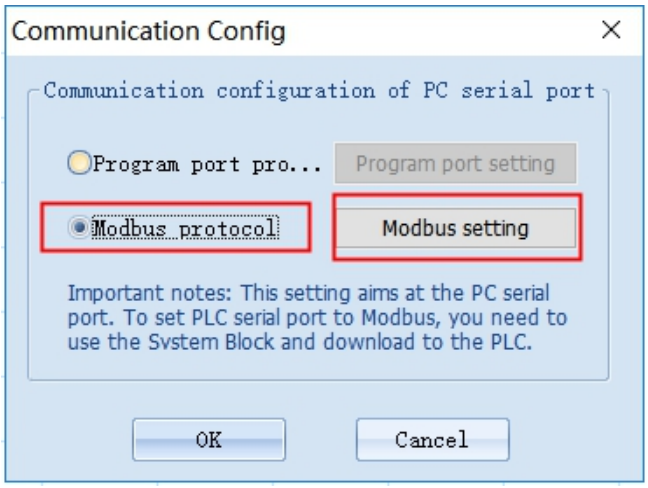
PLC Settings： MC280

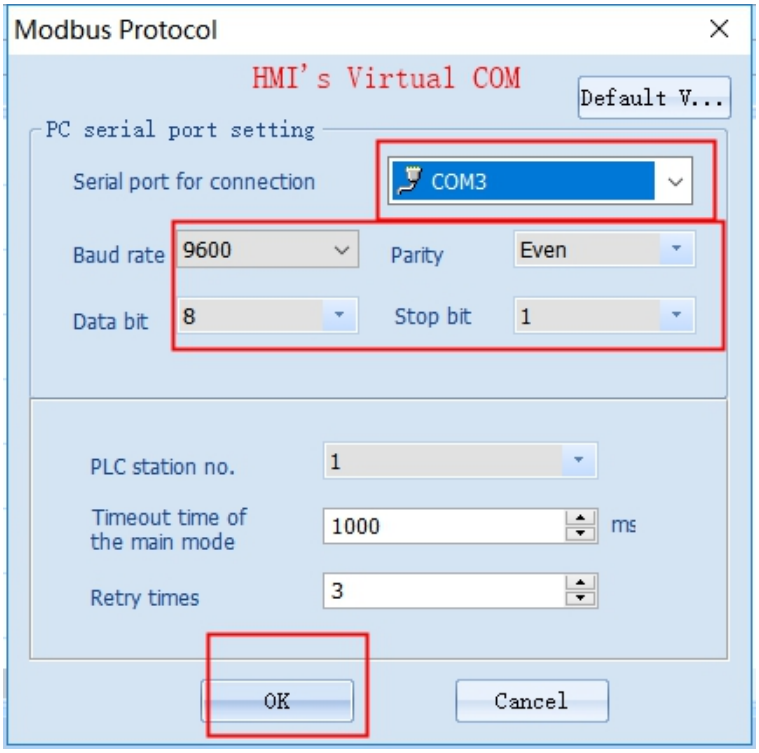
Firstly, you should set the port0 of PLC to Modbus protocol, and then download it to PLC




Modbus协议
默认值
PLC串口设置
Baud rate
9600
Parity
E
Data bits
8
Stop bit
1
主/从方式
Slave
站号
1
传送模式
RTU模式
主模式的超时时间
1000
ms
重试次数
0
确定
取消

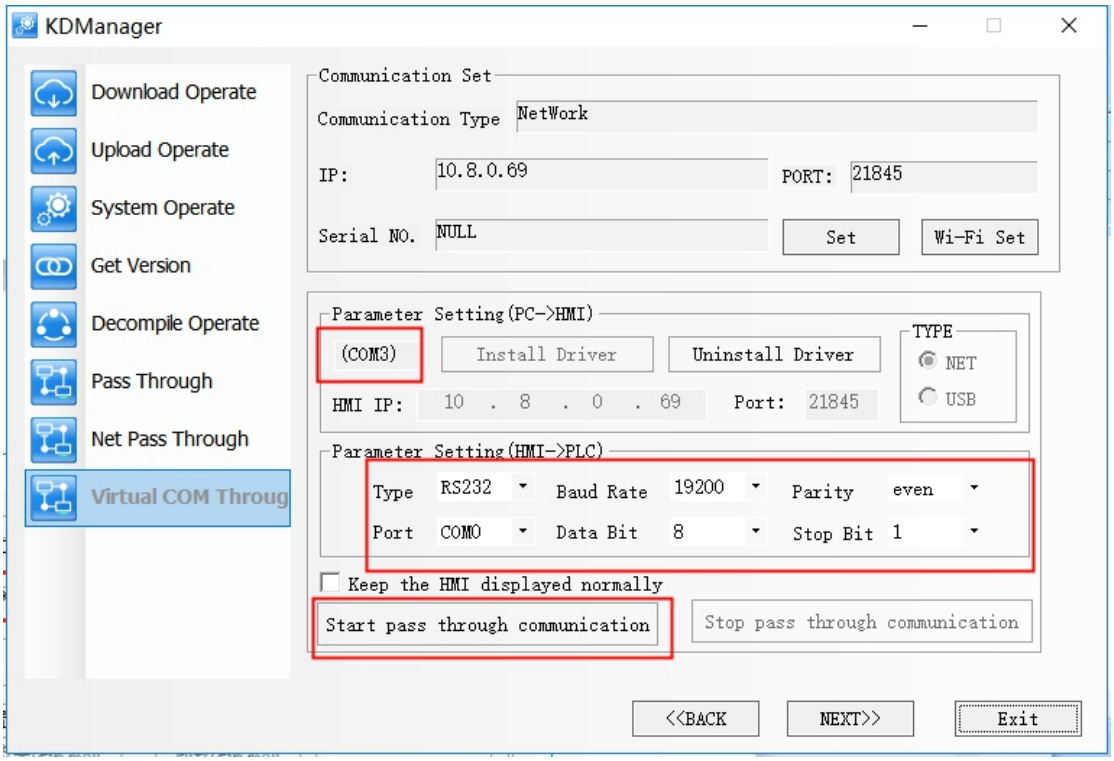

KDManager
Download Operate
Upload Operate
System Operate
Get Version
Decompile Operate
Pass Through
Net Pass Through
Virtual COM Throug
Communication Set
Communication Type
NetWork
IP:
10.8.0.69
PORT:
21845
Serial NO.
NULL
Set
Wi-Fi Set
Parameter Setting(PC->HMI)
(COM3)
Install Driver
Uninstall Driver
TYPE
NET
USB
HMI IP:
10 . 8 . 0 . 69
Port:
21845
Parameter Setting(HMI->PLC)
Type
RS232
Baud Rate
9600
Parity
even
Port
COM0
Data Bit
8
Stop Bit
1
Keep the HMI displayed normally
Start pass through communication
Stop pass through communication
<<BACK
NEXT>>
Exit



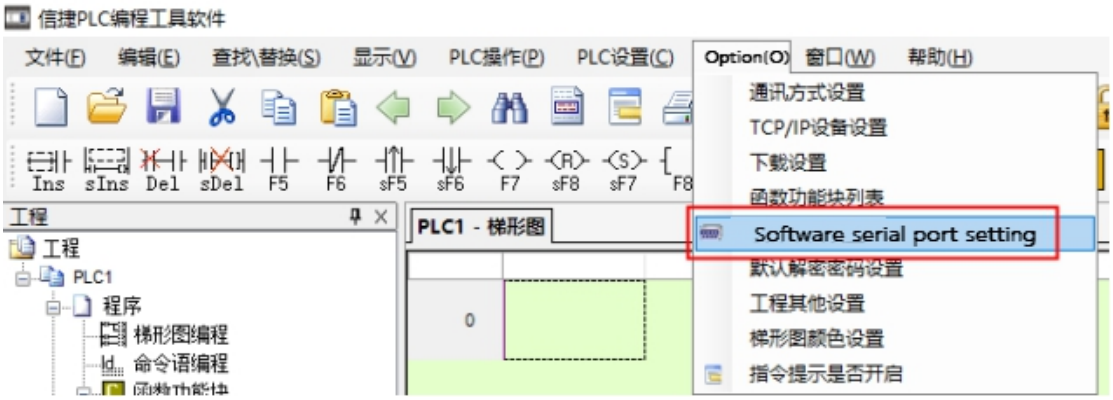


2.3.6 XINJIE XPLC

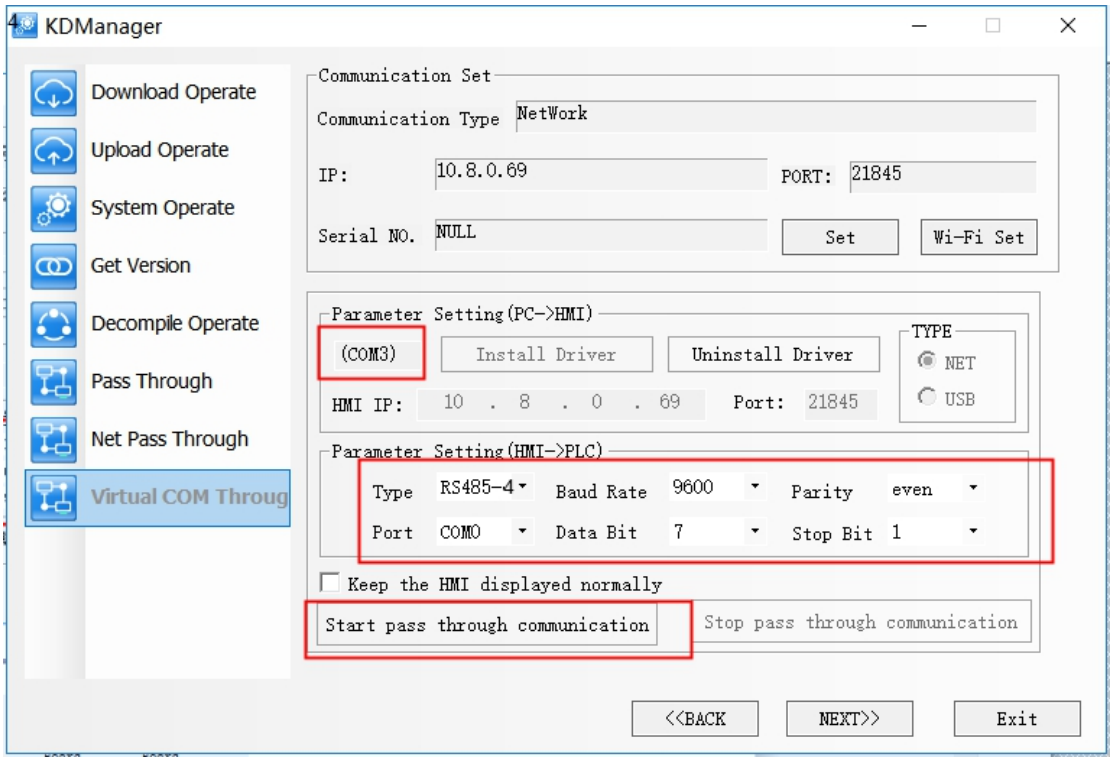
KDmanager Settings:

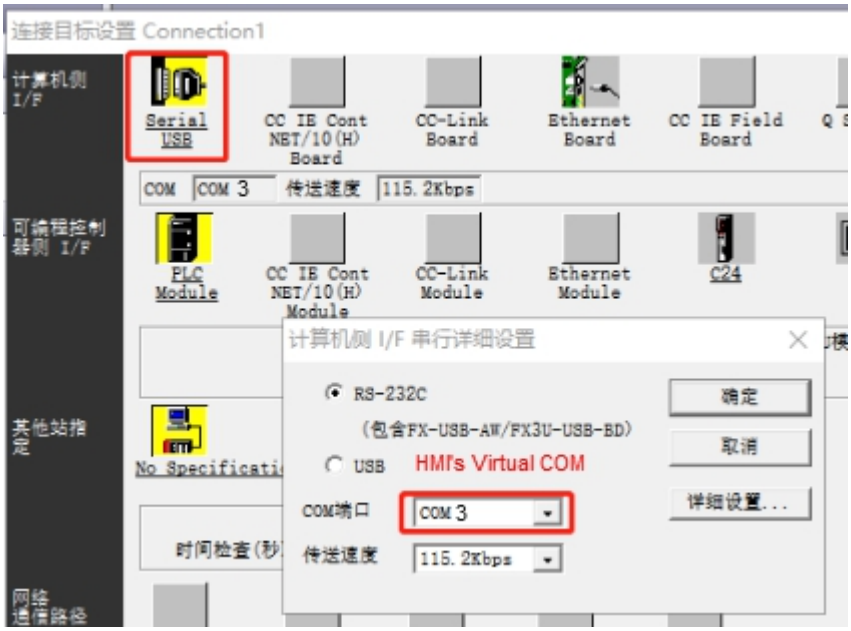


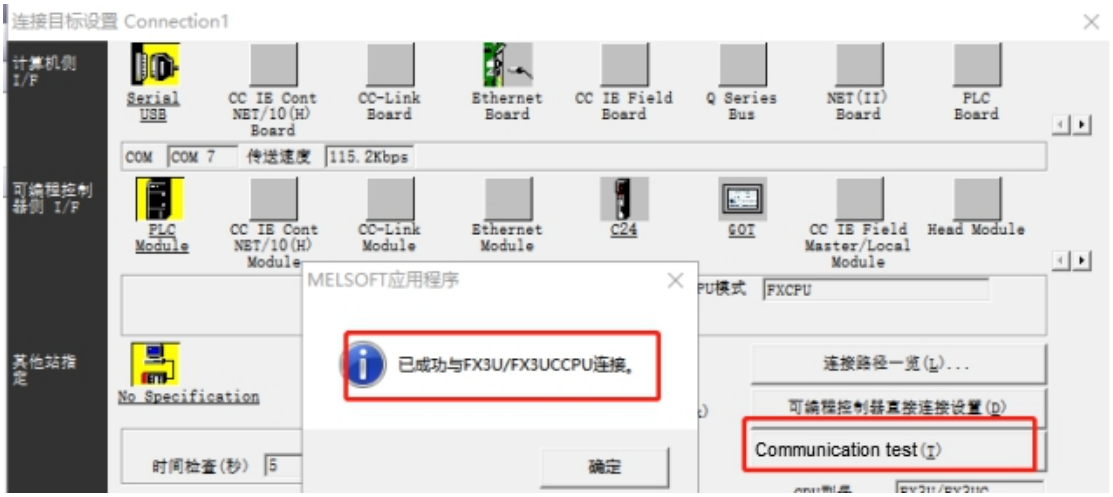
PLC Settings



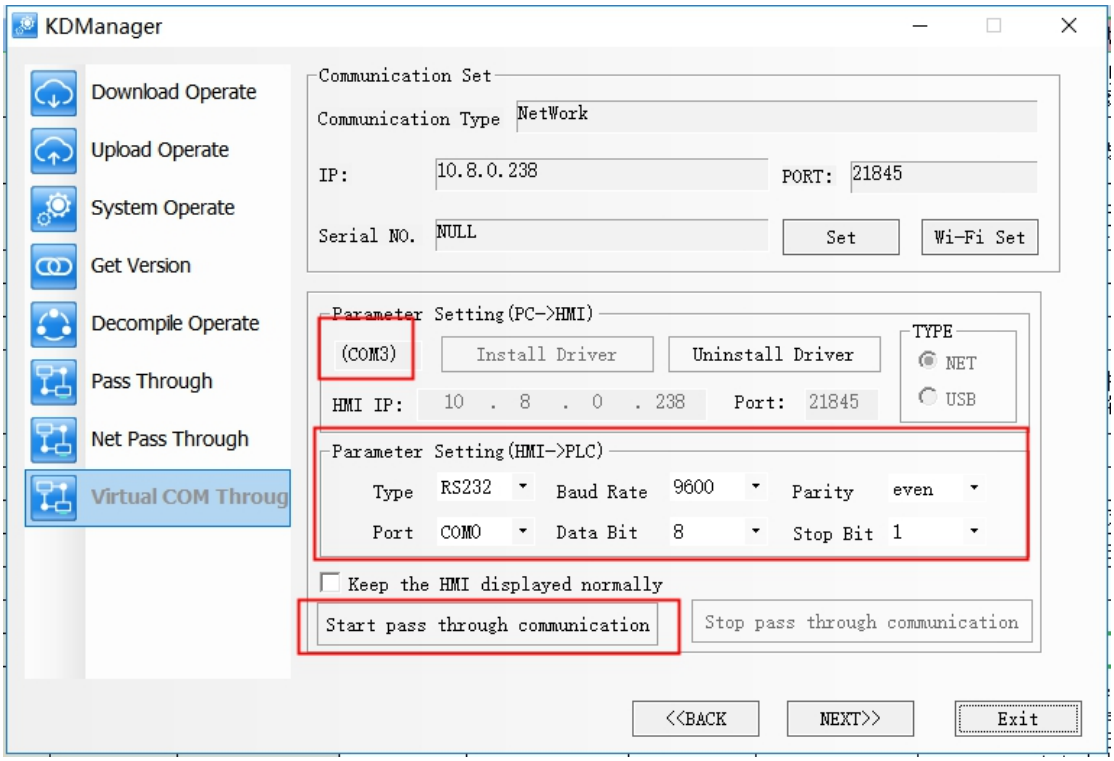
2.3.7 Mitsubish FXPLC

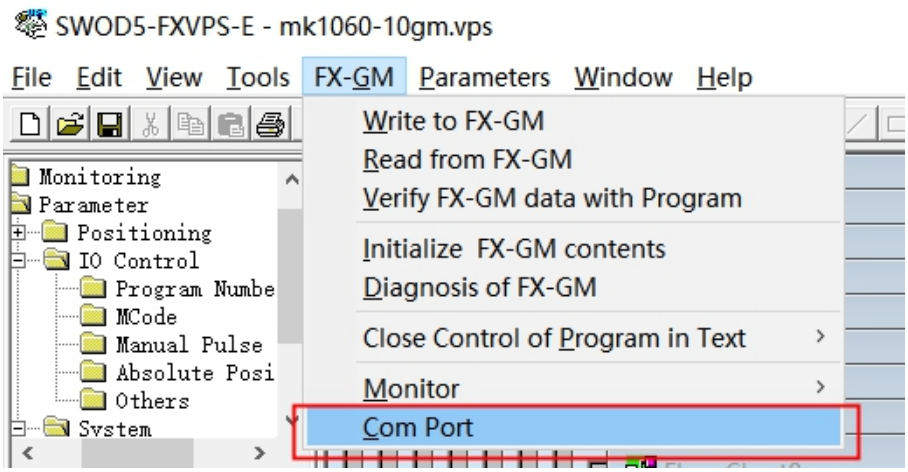


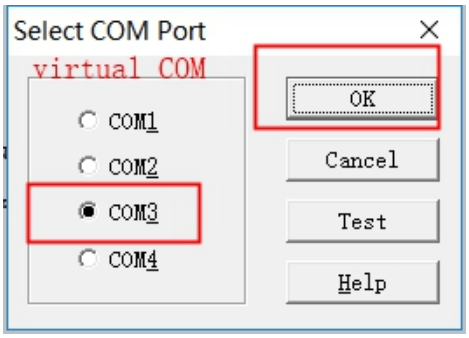




2.3.8 Mitsubishi FX2N-10\20 GM PLC

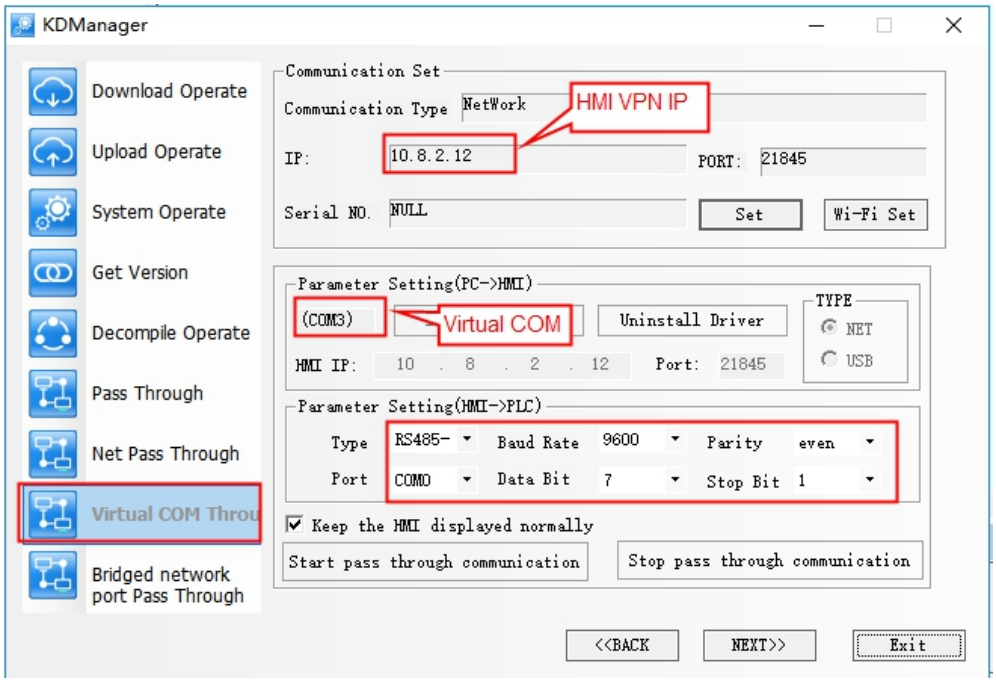




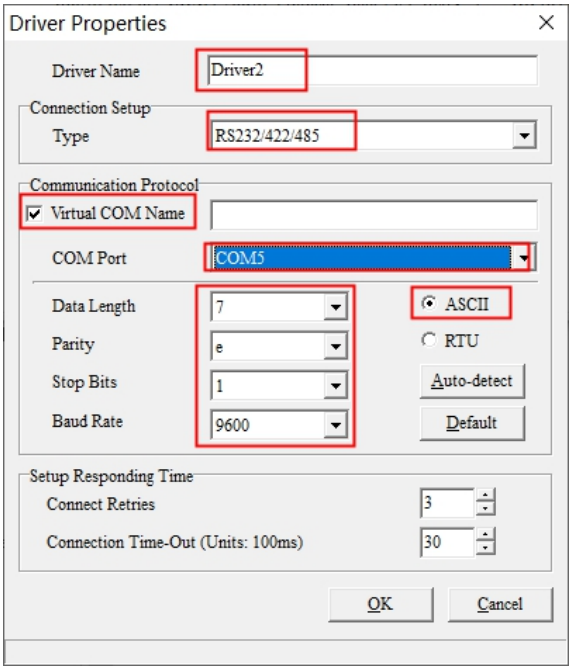


2.3.9 Delta AS PLC

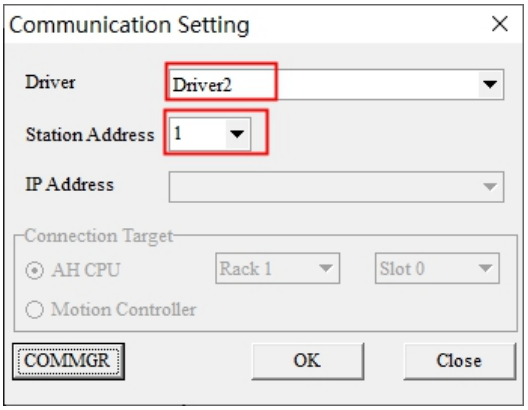
KDManager setting



COMMGER Setting：

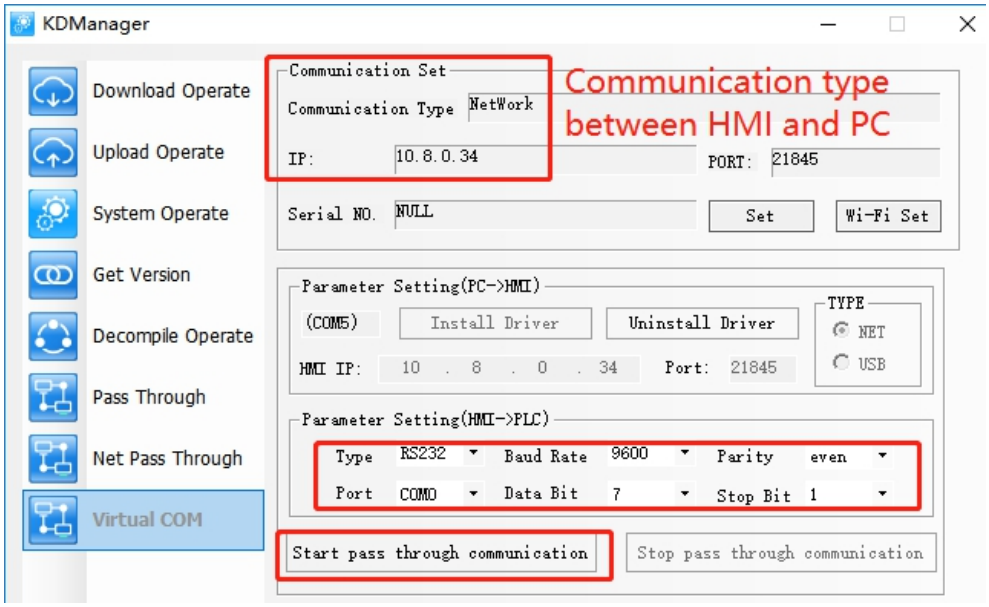


ISPSoft Communication Setting



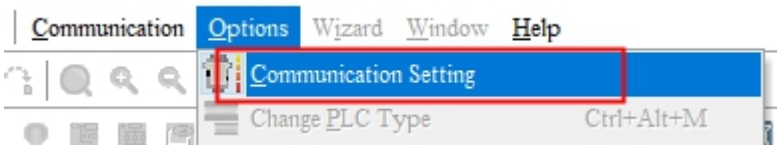
2.3.10 Delta DVP PLC

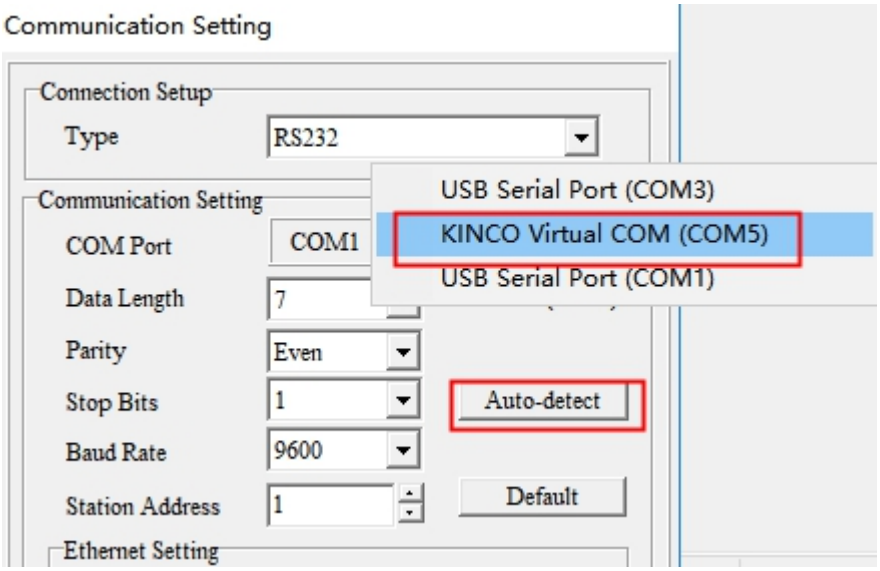
KDmanager setting

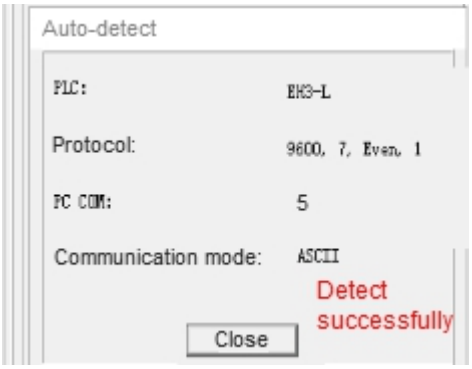


PLC programming software set virtual serial port to upload and download programs

Open Delta WPLSoft programming software ， Option-Communication setting， COM port chose Virtual COM5

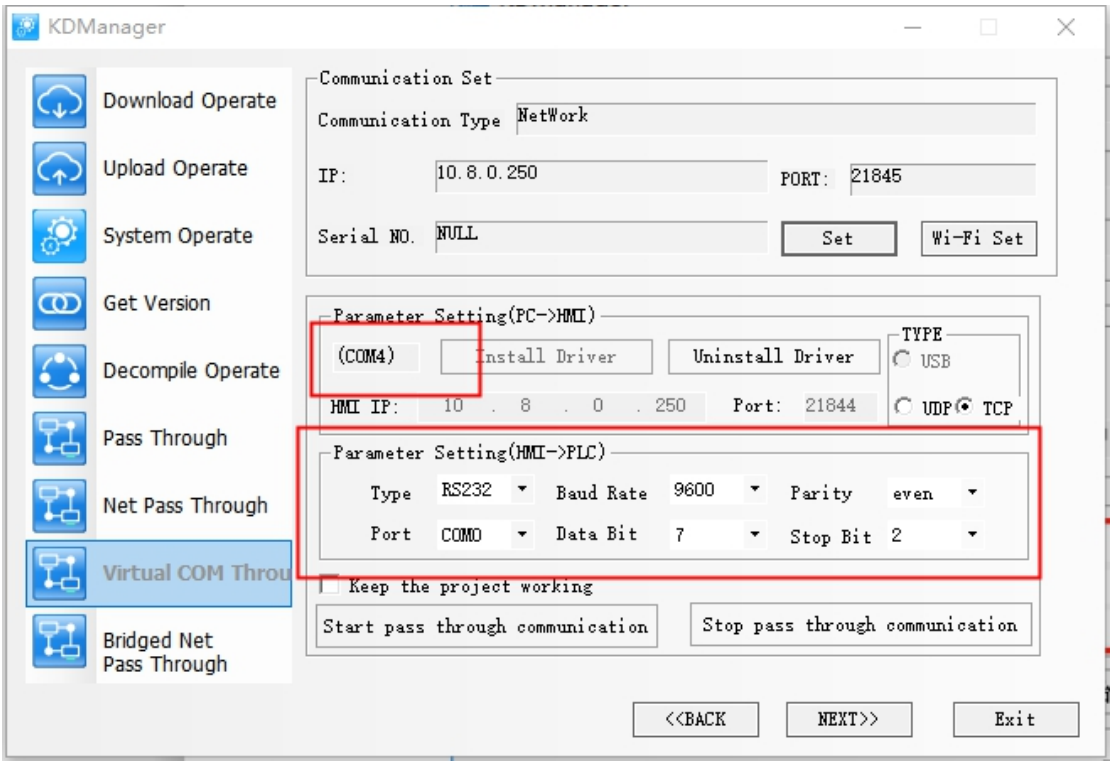






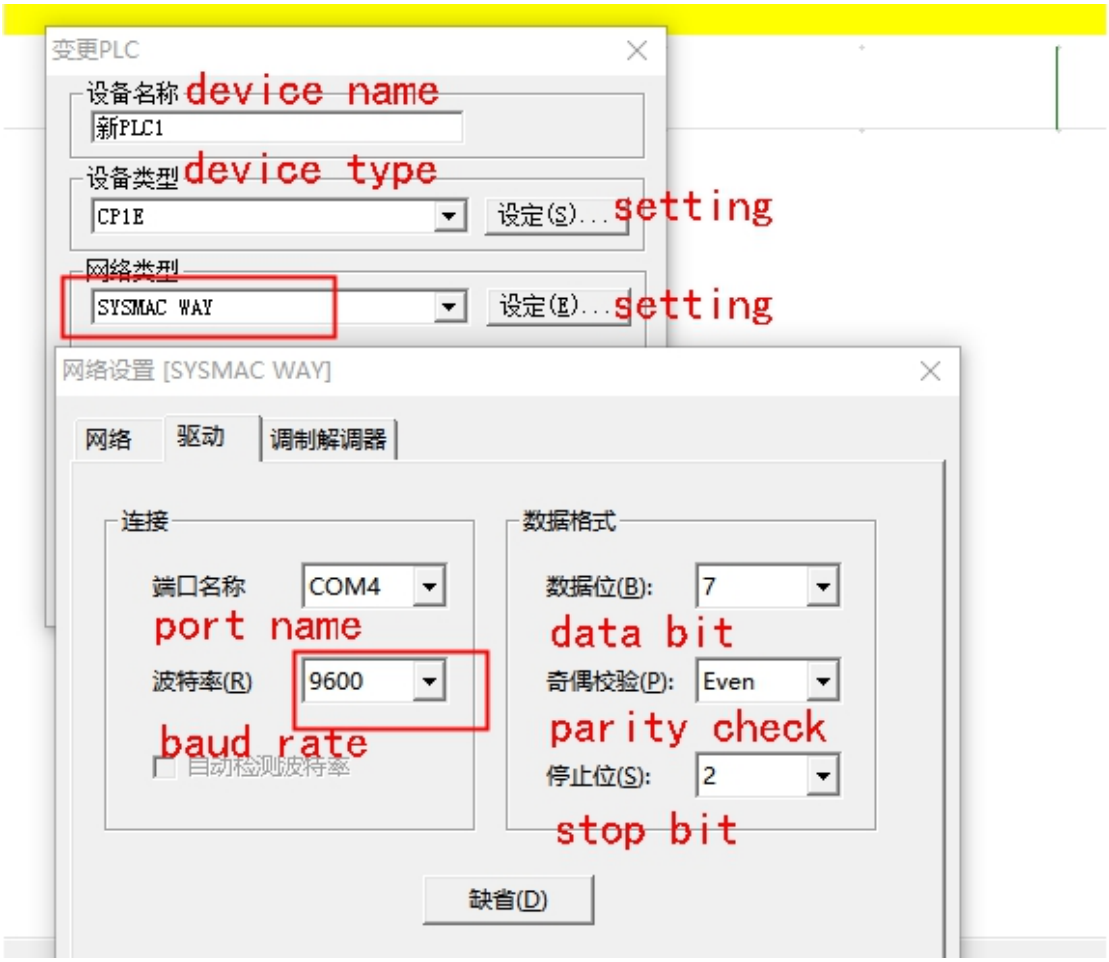
2.3.11 Omron CP PLC

KDmanager settings: Note that regardless of the communication baud rate between the screen and the PLC, the Omron CP serial port transparent transmission baud rate can only be 9600, otherwise the transparent transmission will not succeed.



PLC software setting: Take Omron CP1E model as an example

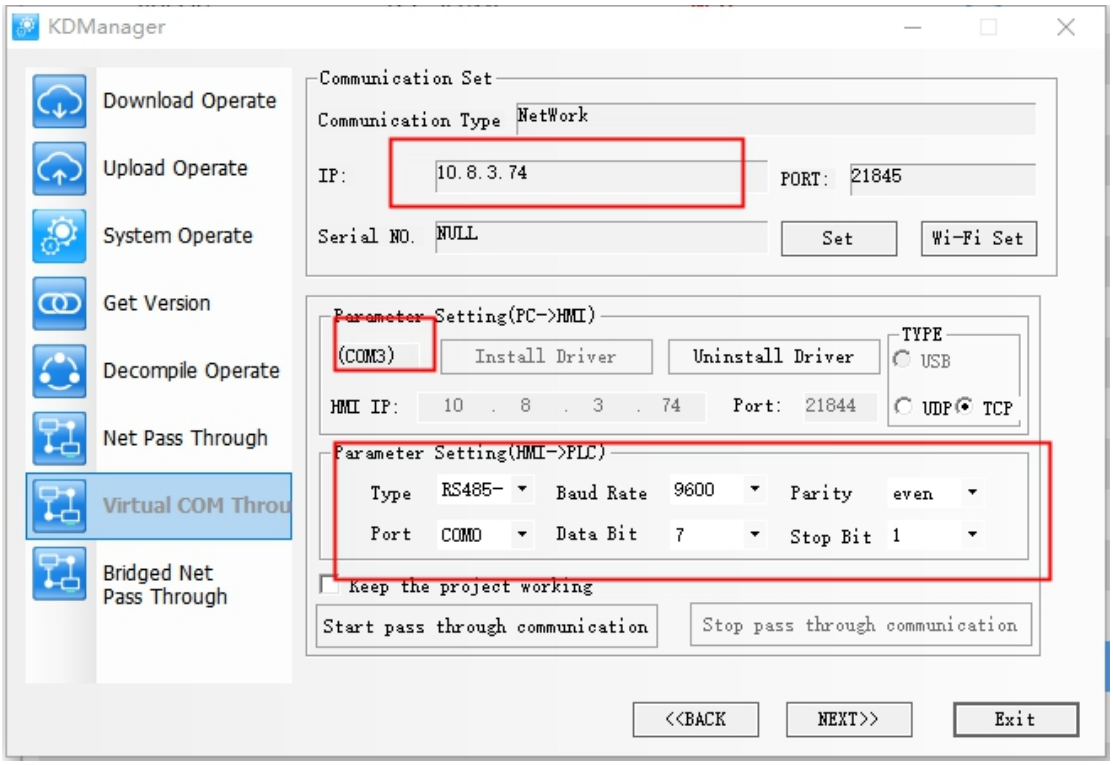
Open the software network settings and modify it to SYSMAC WAY, set the port number and modify it to the virtual serial port number



CPM2AH settings are the same as CP series

2.3.12 Inovance H2U

KDmanager settings:

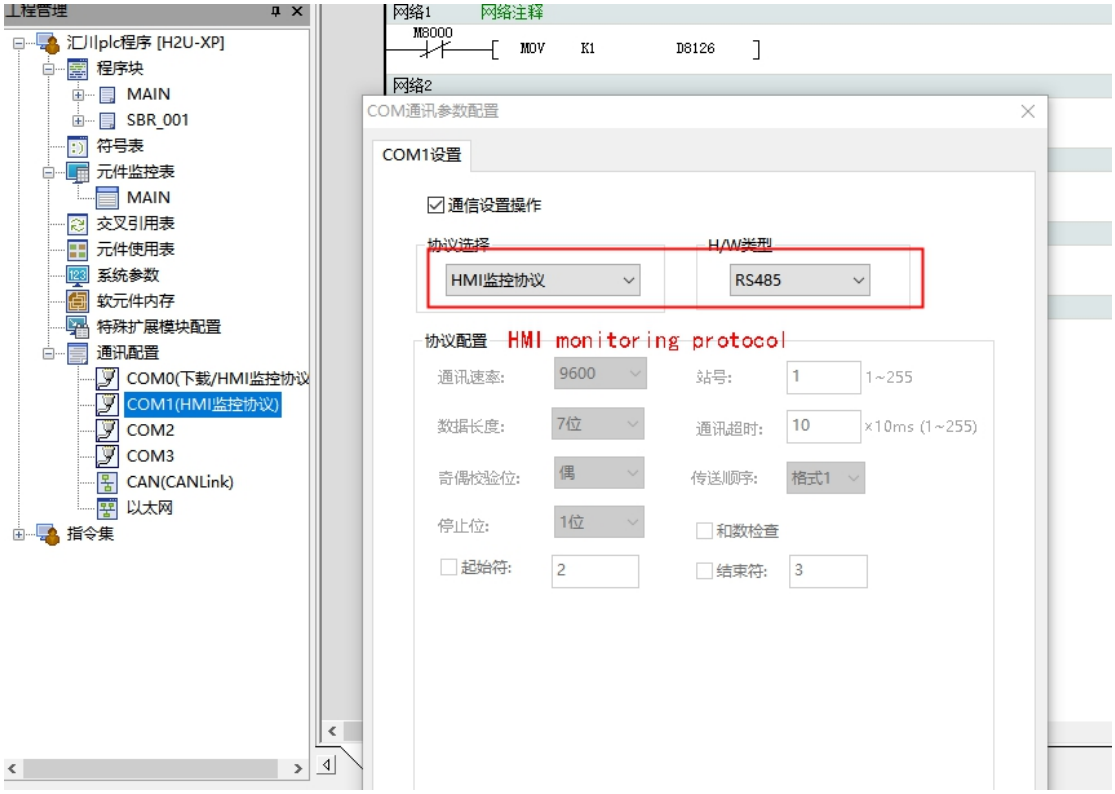


`

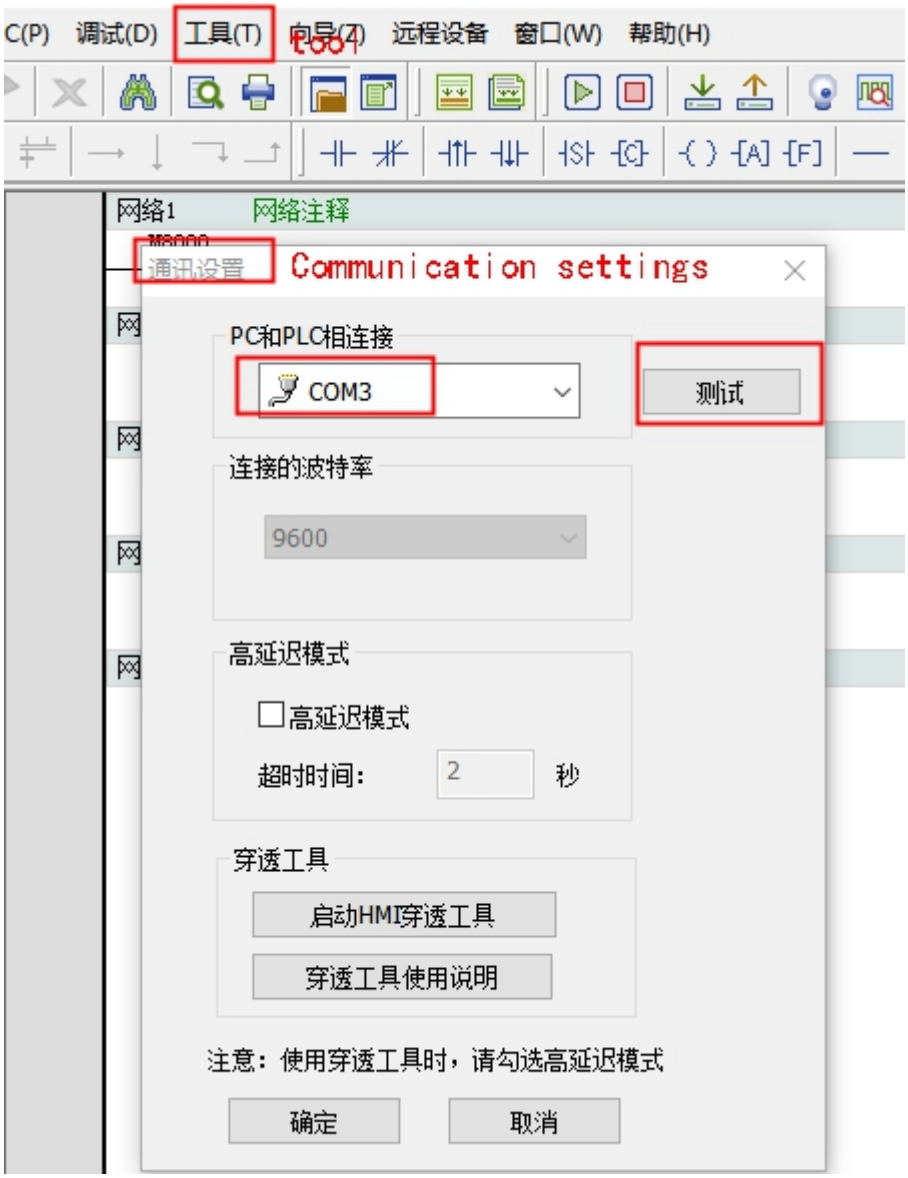
PLC software settings:

Note: AtuoShop version must be after V3.02. The previous virtual serial port connection was unsuccessful.

The serial port is set to HMI monitoring protocol, H/W is set to RS485



Open the AutoShop programming software, Tools-Communication Configuration, select the virtual serial port COM3 for the communication port, click the test successfully, you can upload and download the monitoring PLC.



3. Bridged network port Pass Through

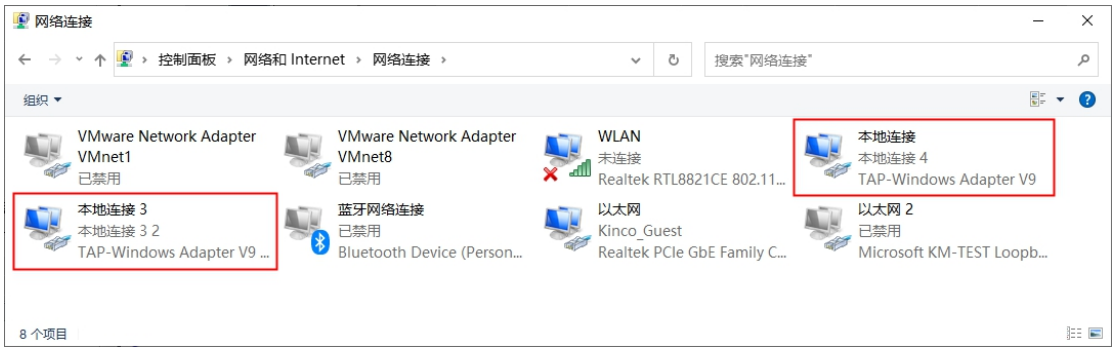
Note 1： Bridged network port pass through only supports 4G/WIFI, and dual network screen to connect VPN.

Note 2： The file system of the screen or box must be >=18628, if the version lower than this version ,will not support Bridged network port pass through

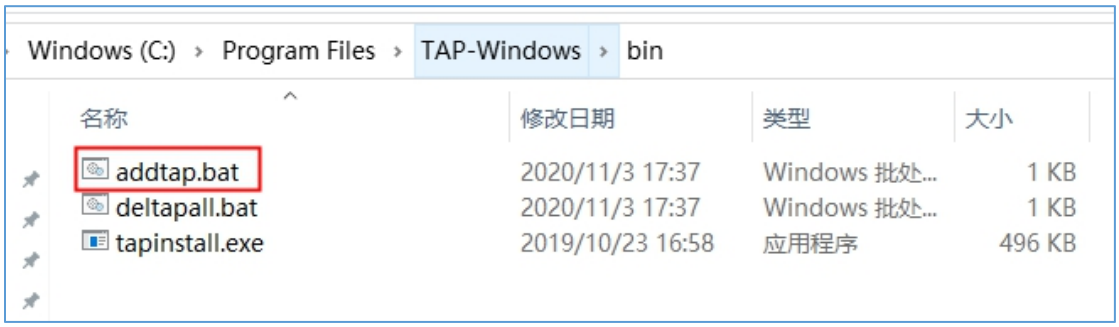
Note 3： When start bridged network pass through,the local network segment of the computer cannot be set to the same network segment as the PLC! Otherwise, the network segment of the computer network card driver and the bridged network card driver may conflict to make pass through fail

Note 4： If the PLC IP cannot be pinged after pass through , please check if at least two TAP-9 virtual network cards in computer.

Note 5： When using WIFI to connect to VPN for bridge network port Pass Through, the LAN IP network segment cannot conflict with the WIFI network segment

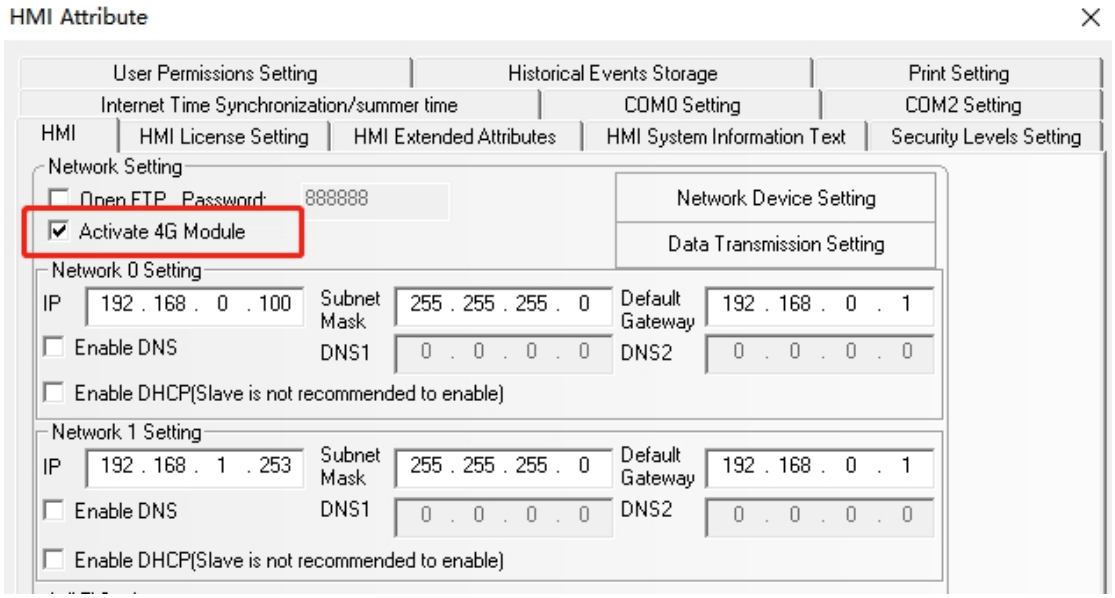


After installing EdgeAccessViewer application, you need to execute "addtap.bat" as administrator at "C:\Program Files\TAP-Windows"



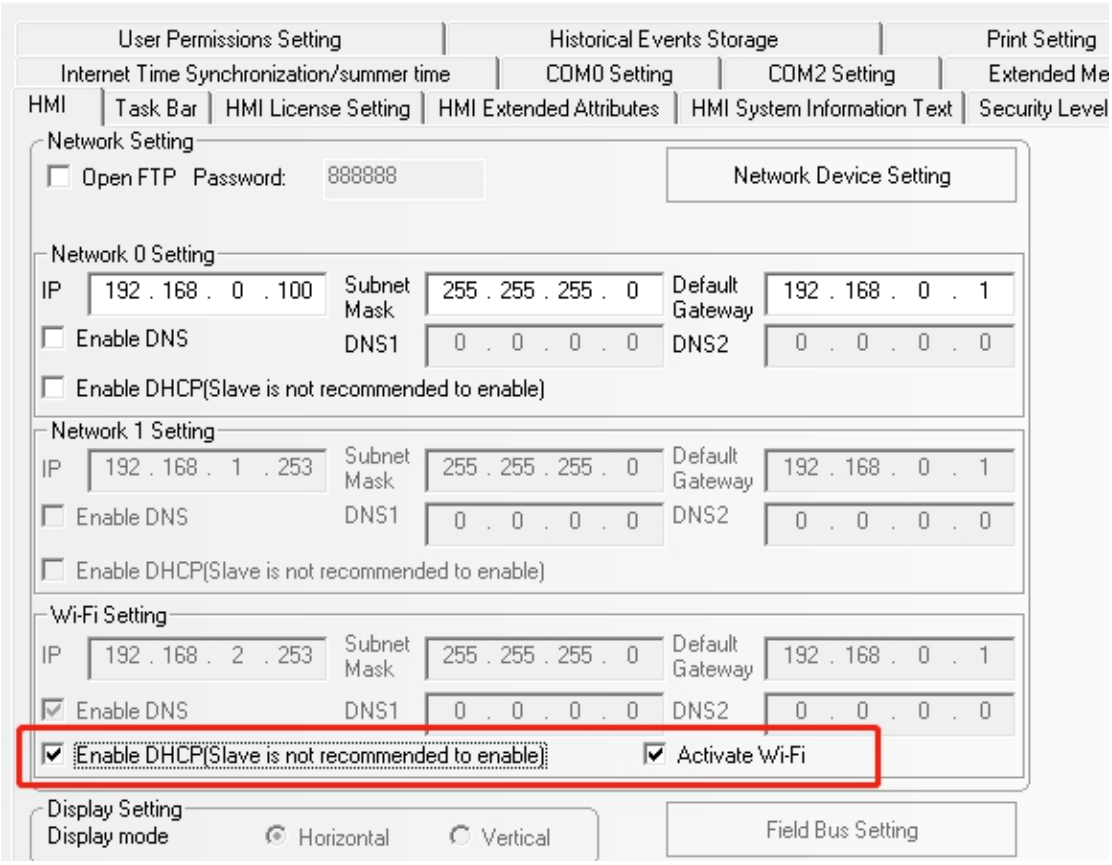
3.1 How to set VPN network for Bridged network pass through

1. 4G screen ： Active 4G module in HMI attribute to connect VPN network



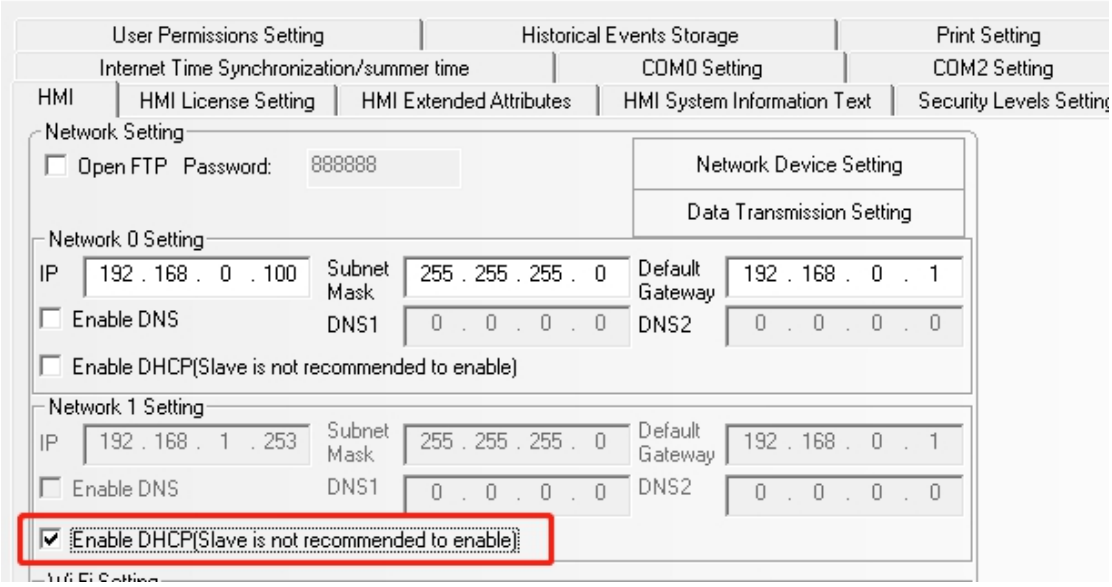
1. WIFI screen： Enable DHCP， or set static DNS to connect VPN network

HMI Attribute



2. Dual network screen：One of the network ports is used to communicate with the PLC, and the other one is connected to the external network to connect to the VPN network by checking DHCP or setting static DNS

HMI Attribute

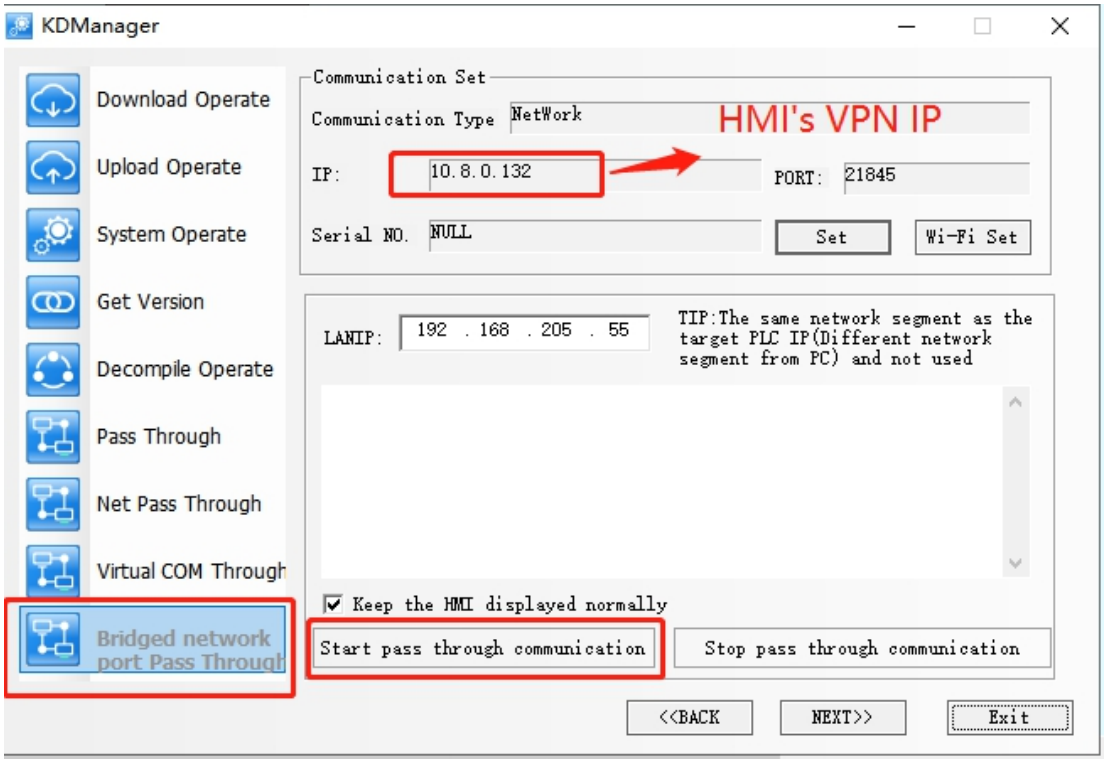


KDmanager Settings：

Open KDManager， Select the Bridged network port pass through , and input an IP that is the same network segment as the PLC and does not conflict, (for example, the PLC ’ s IP is 192.168.205.113, and the LAN IP is set to 192.168.205.55). Click to start pass through

communication. After pass through successfully, your computer can ping the PLC's IP successfully, and then the PLC software can download the project to the PLC.

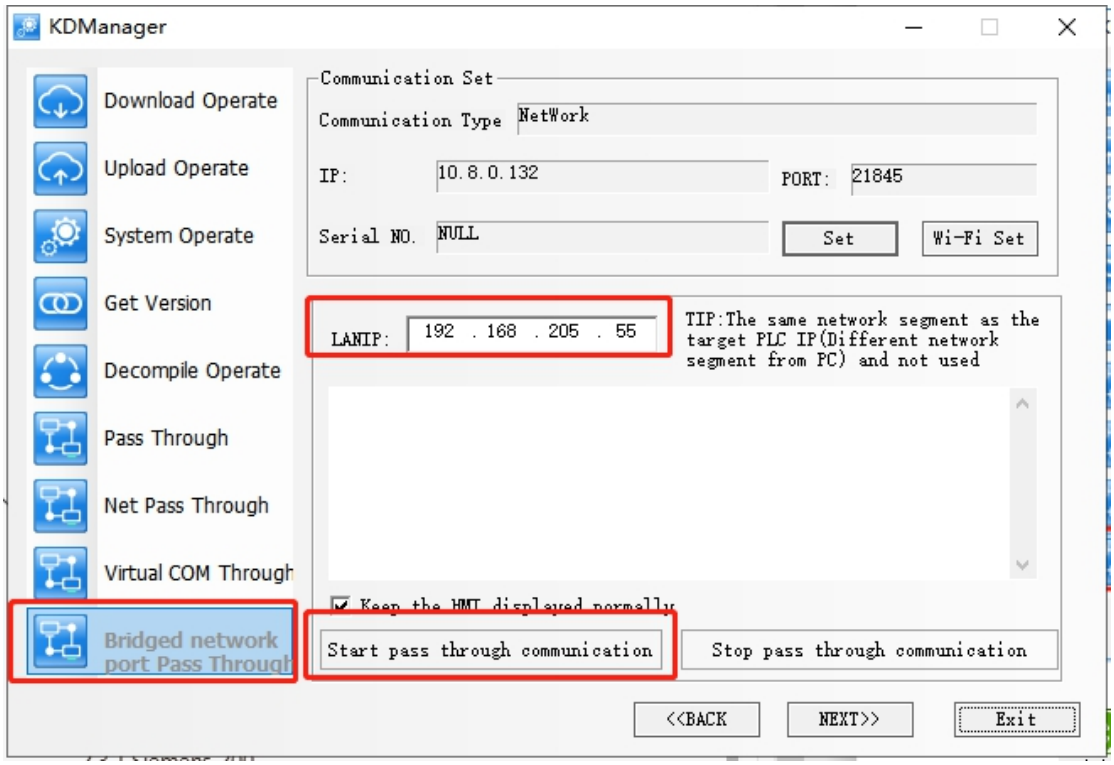
Note： When start bridged network pass through,the local network segment of the computer cannot be set to the same network segment as the PLC! Otherwise, the network segment of the computer network card driver and the bridged network card driver may conflict to make pass through fail



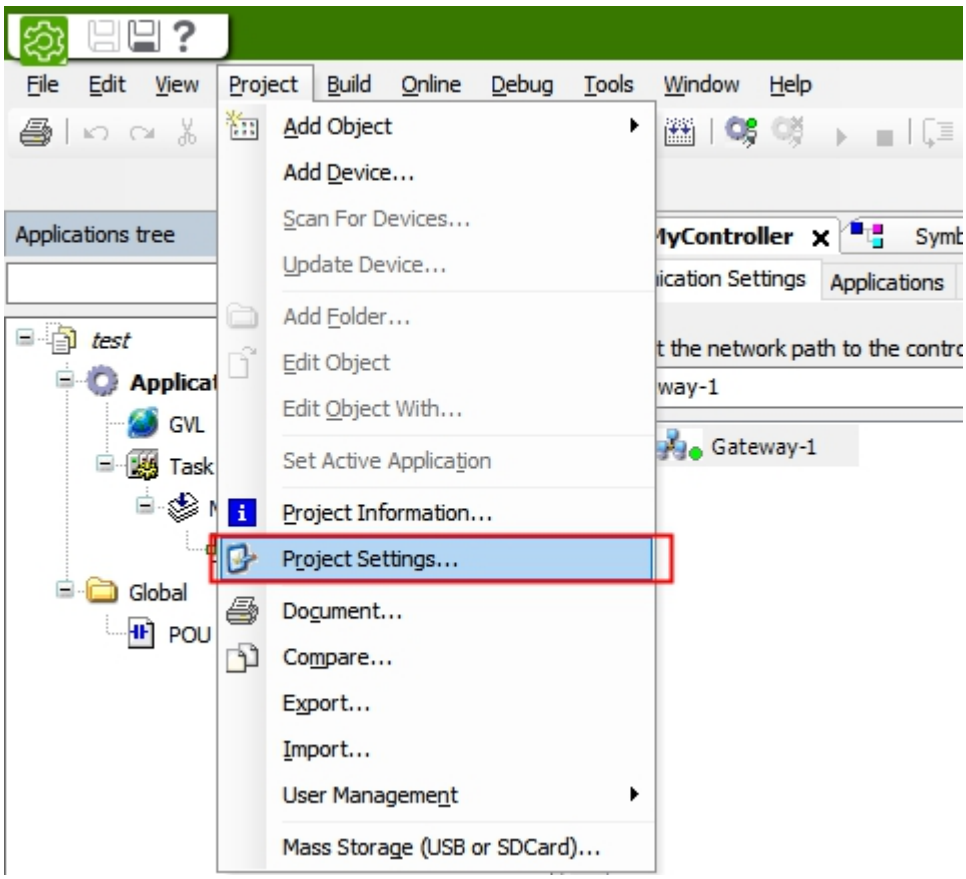
3.2.1 Schneider M258

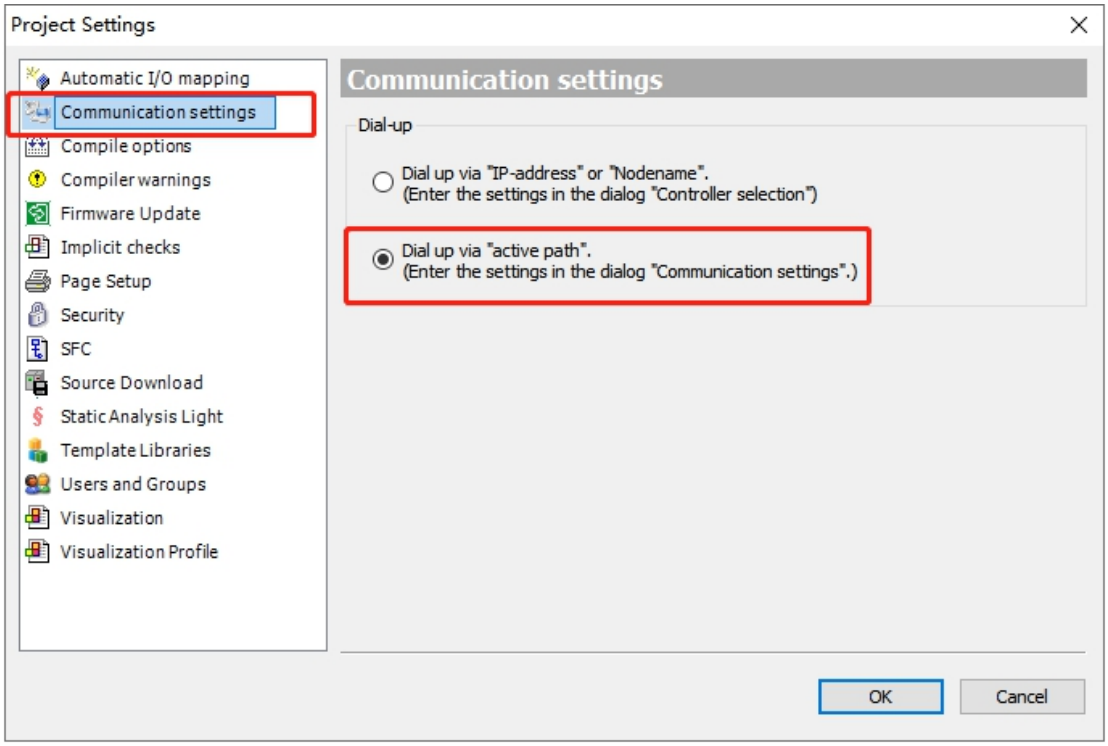
For example,M258 PLC's IP is 192.168.205.113， and your computer's local network IP is not the same network segment

KDmanager Settings: Input a LAN IP, to the same network segment as the PLC and this IP is not occupied by other devices

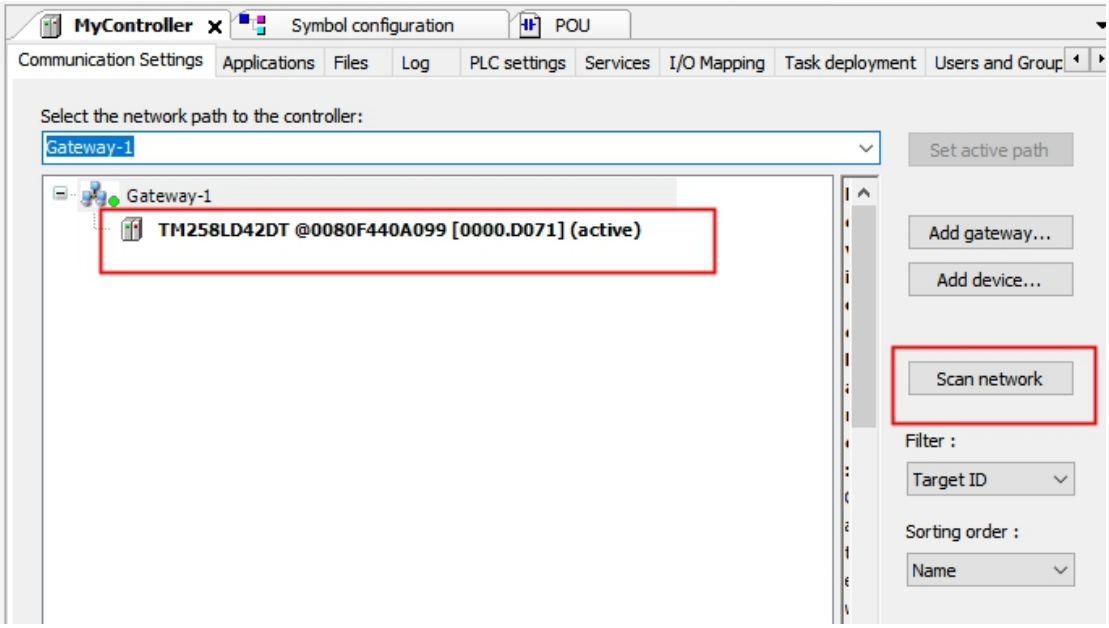


Open PLC software， Set online mode to active path





Scan network

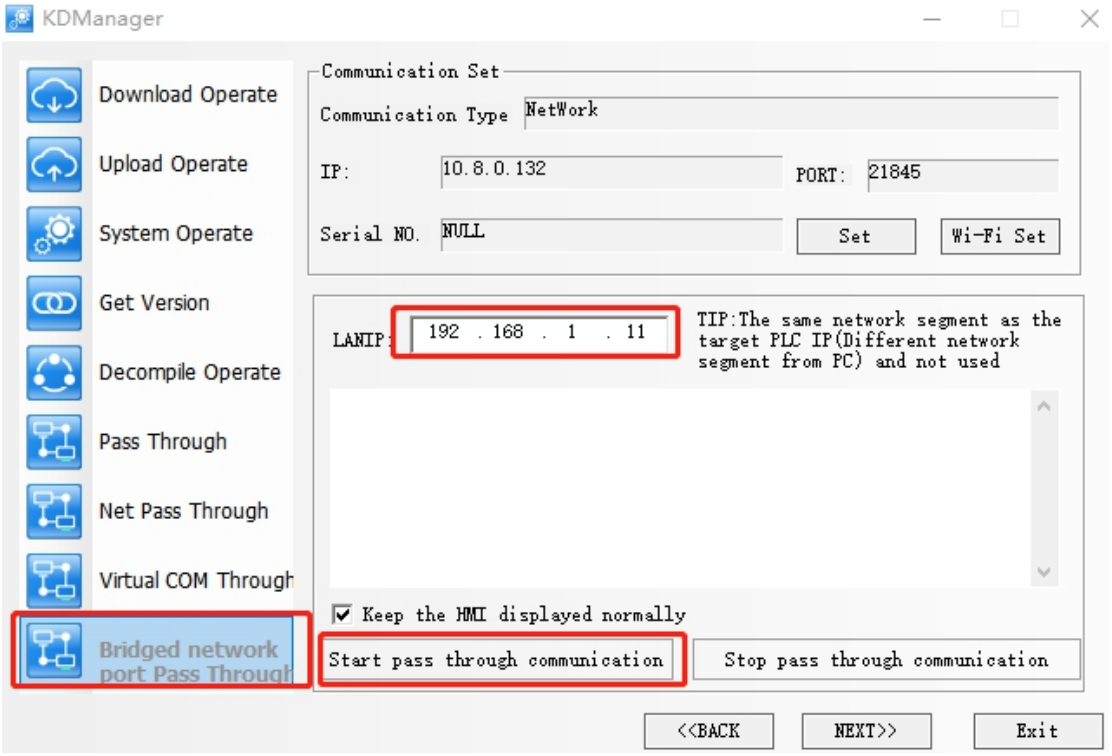


3.2.2 Schneider M200

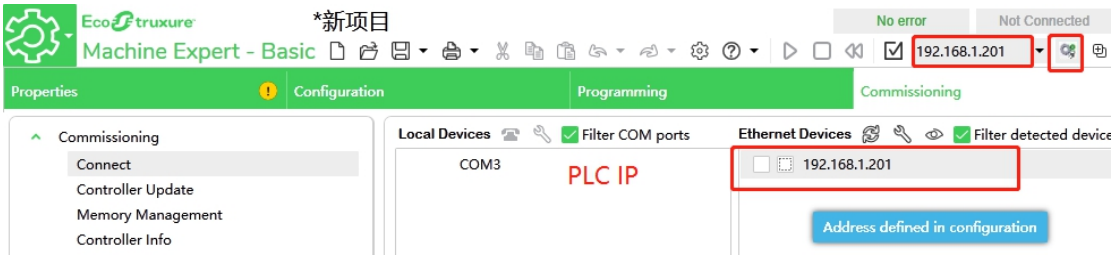
KDmanager settings

For example,M258 PLC's IP is 192.168.1.201， and your computer's local network IP is not the same network segment

KDmanager Settings: Input a LAN IP, to the same network segment as the PLC and this IP is not occupied by other devices



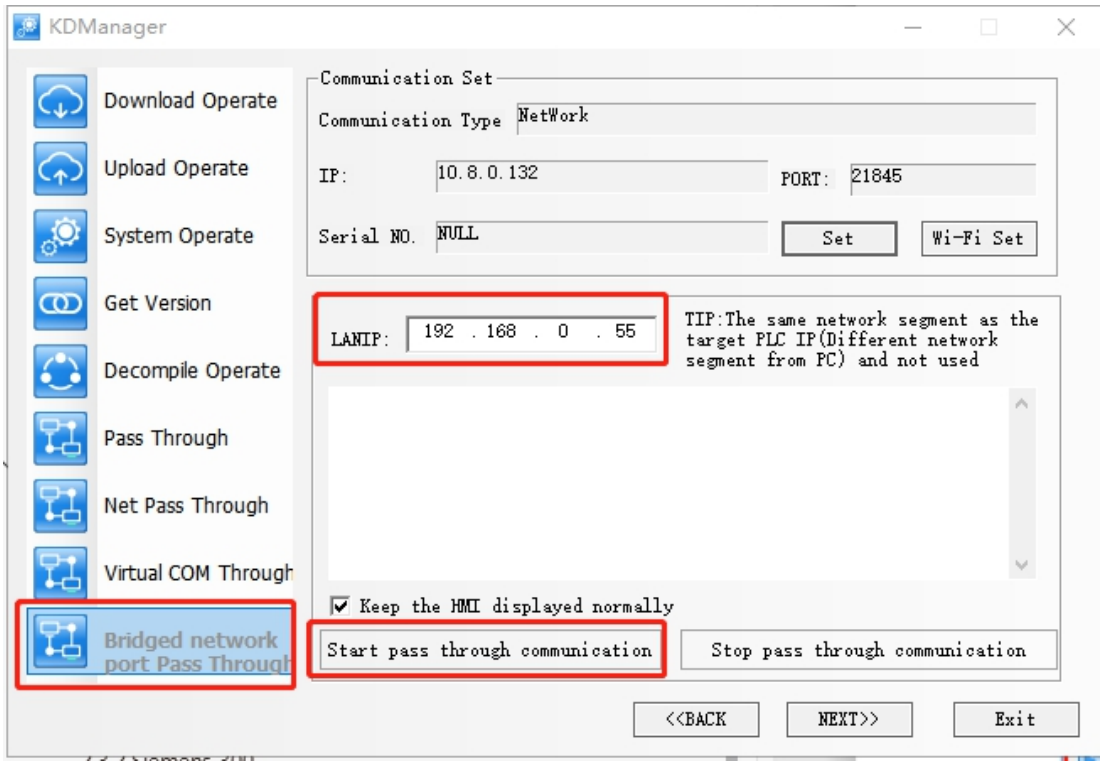
PLC settings



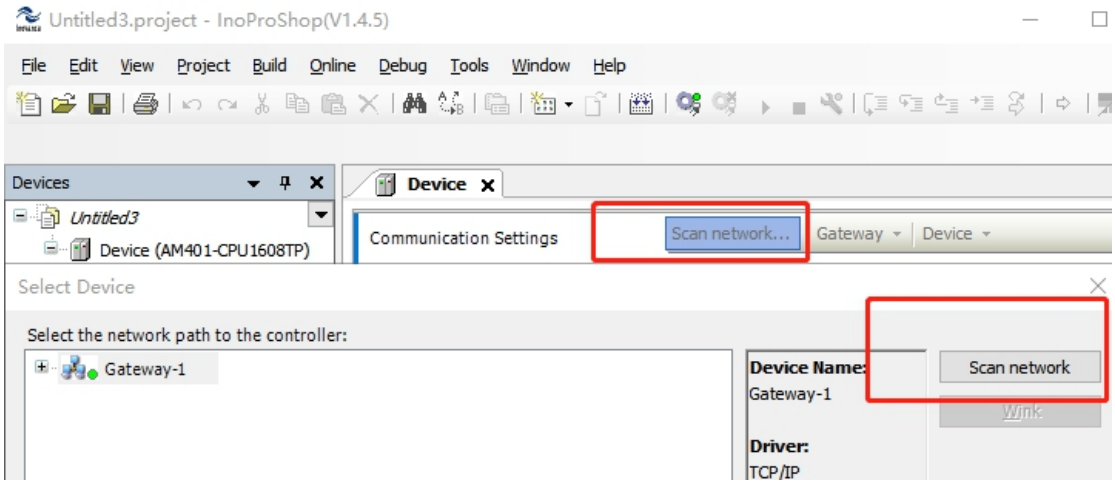
3.2.3 Inovance AM600

For example,M258 PLC's IP is 192.168.0.52，and your computer's local network IP is not the same network segment

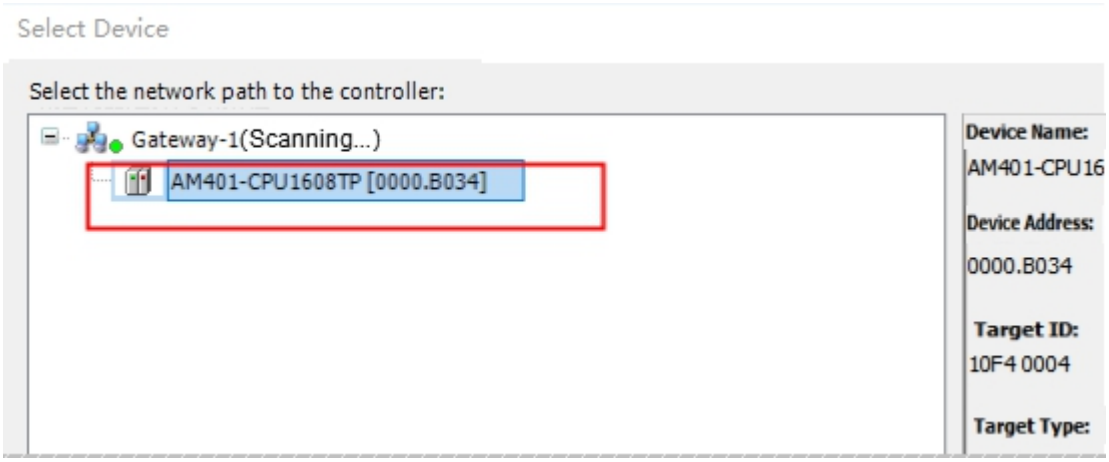
KDmanager Settings: Input a LAN IP, to the same network segment as the PLC and this IP is not occupied by other devices



Open PLC software



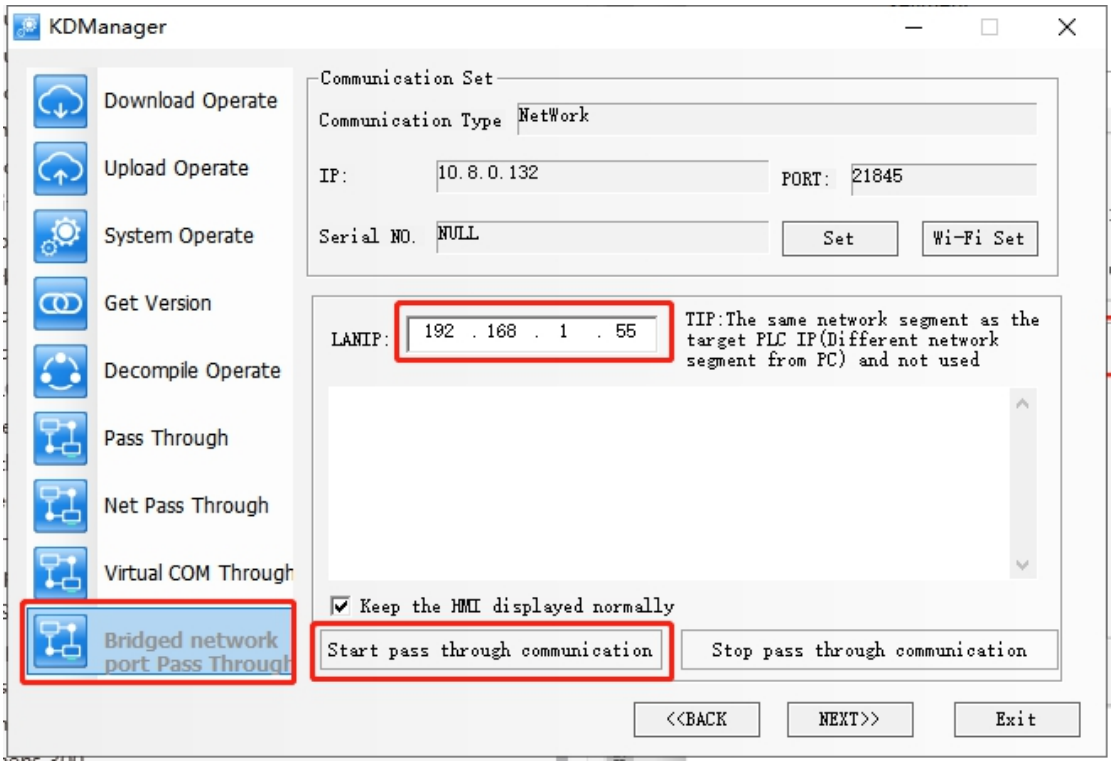
Scan network



3.2.6 Rockwell compactlogix 1769

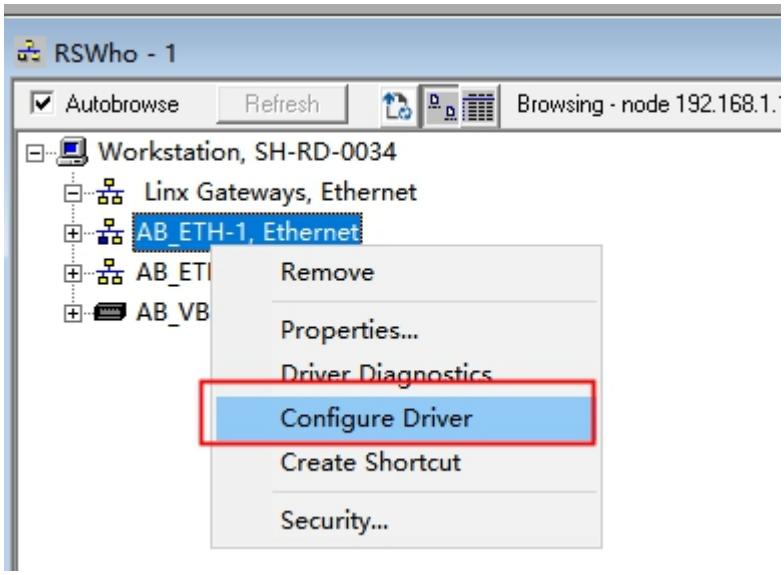
PLC's IP: 192.168.1.10，and make sure your computer's local network IP is not the same network segment

KDmanager Settings：

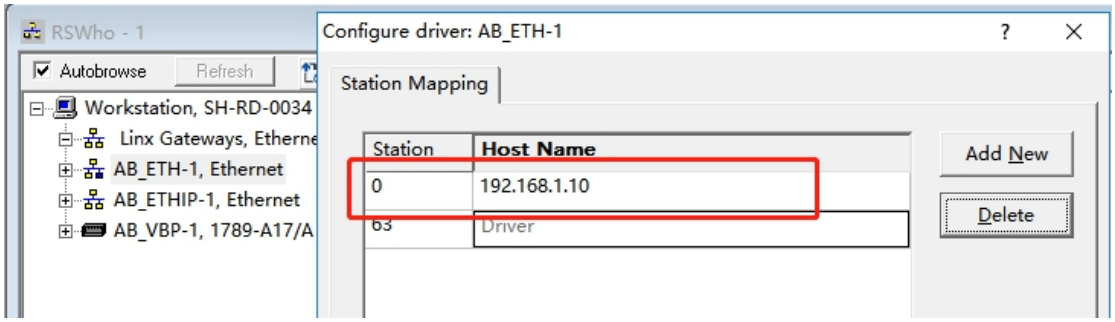


PLC Software settings：

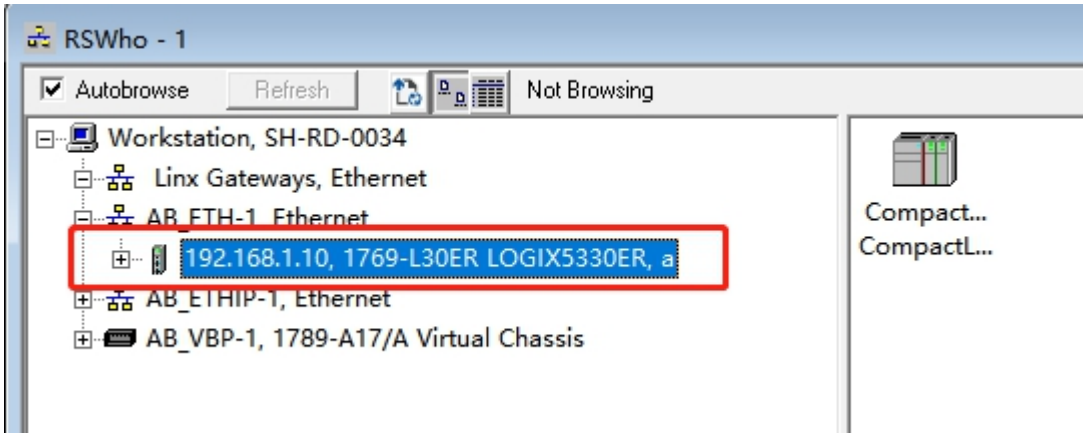
Open RSLinx Classic

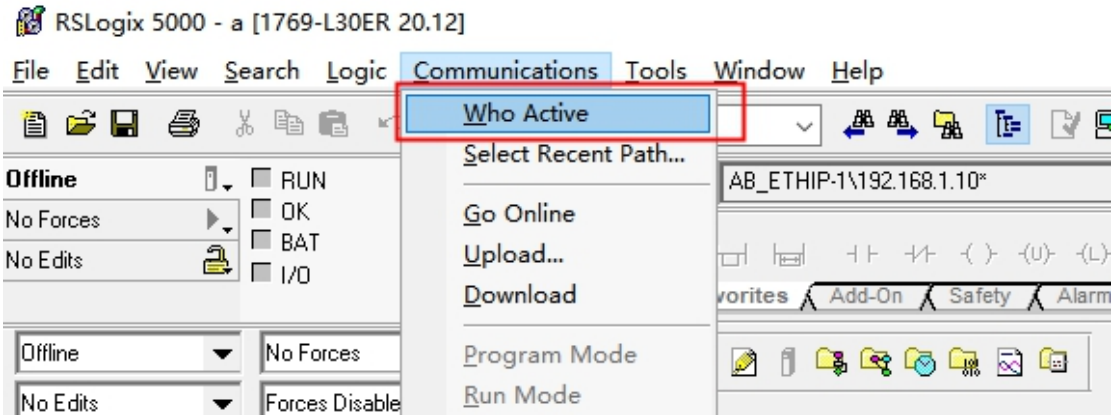


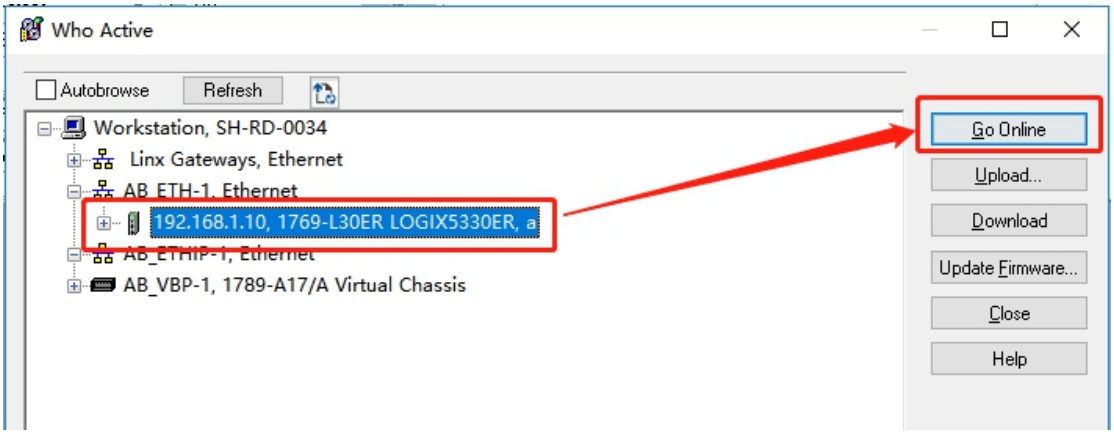
Set PLC ‘s IP for connection IP



Waiting for seconds to scan this PLC



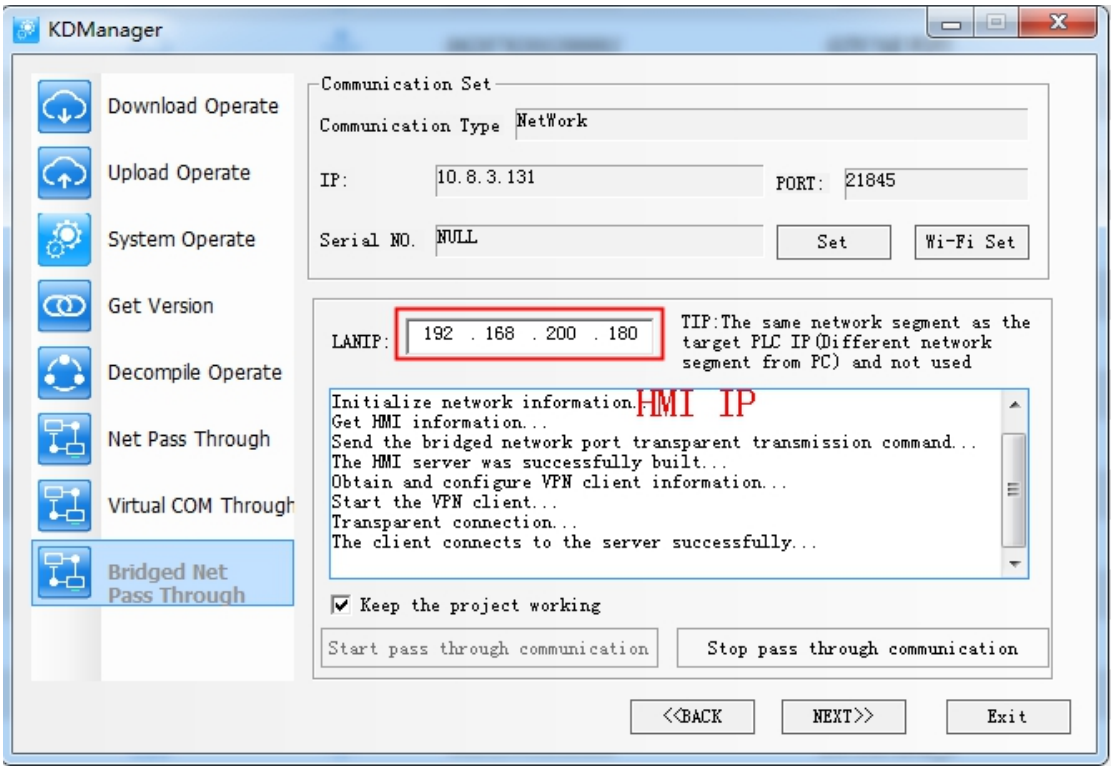




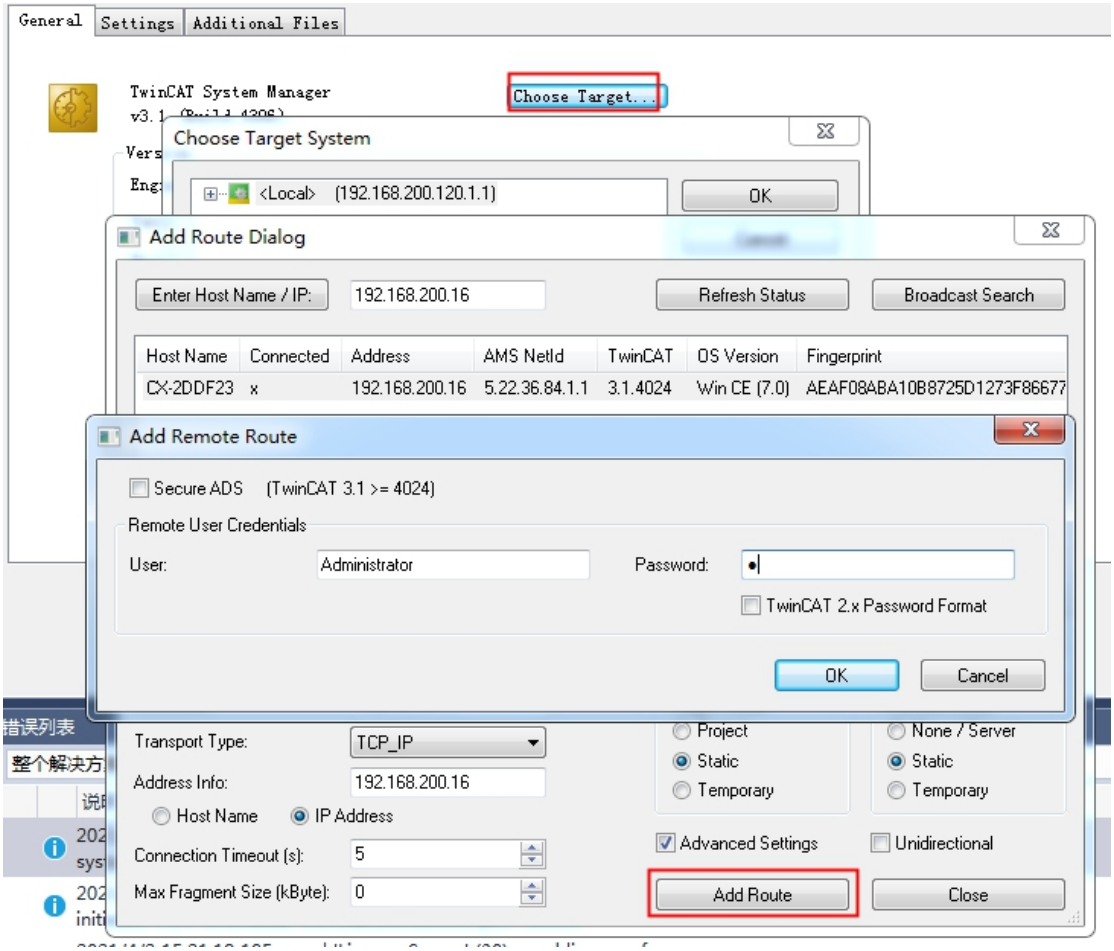
3.2.7Beckhoff

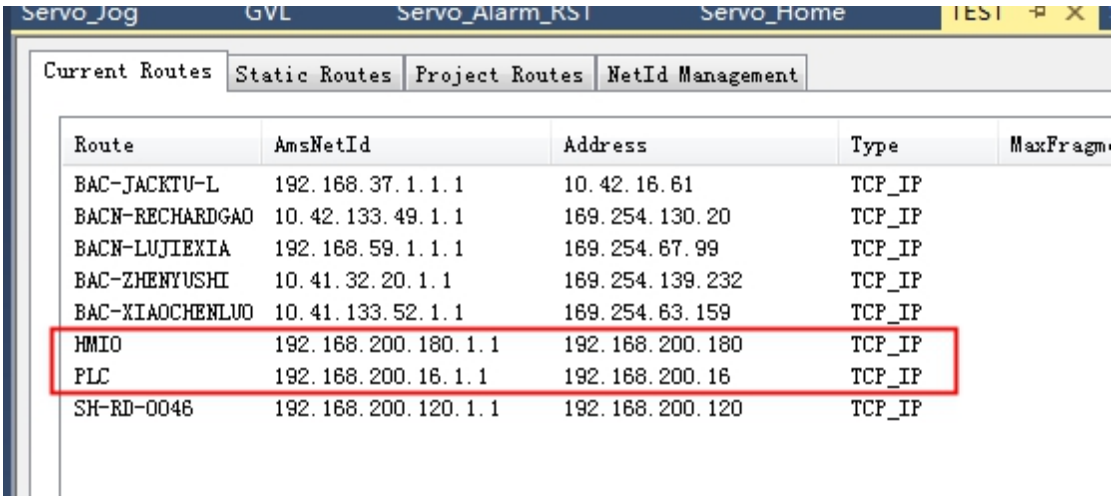
PLC（CX9020）IP:192.168.200.16, and make sure your computer's local network IP is not the same network segment, LANIP is HMI IP

KDManager Settings：

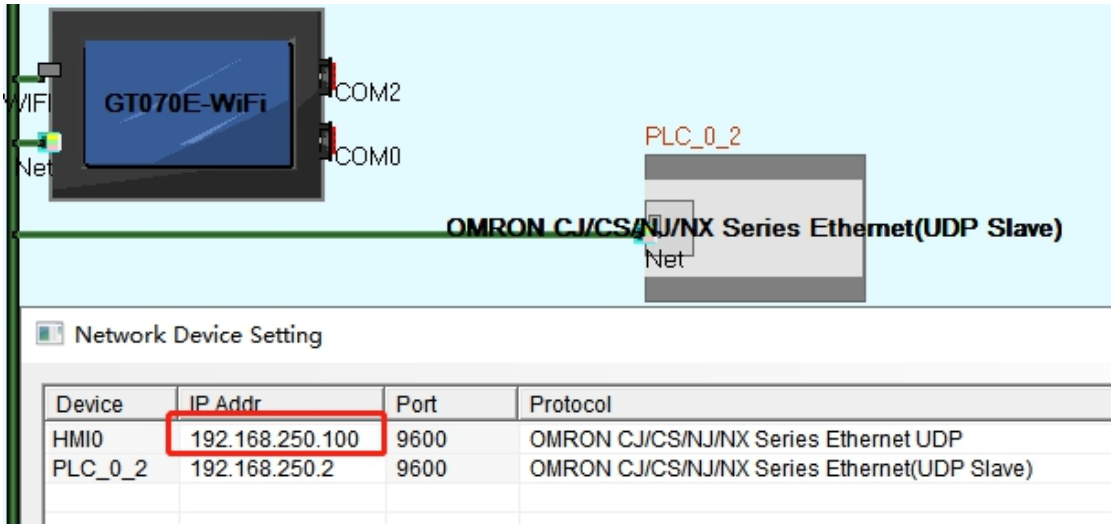
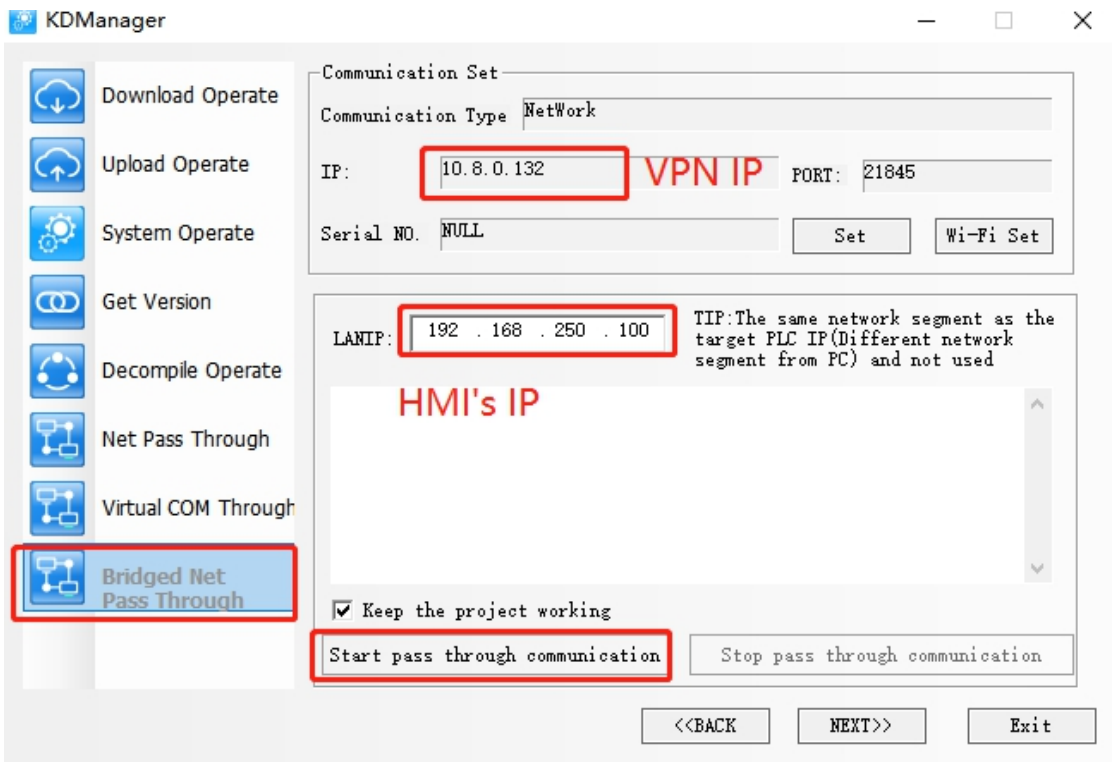


PLC Settings：





3.2.8Communicate with PLC by “UDP” protocol

For example, when communicating with a UDP network protocol like Omron, the LAN IP must be filled with the screen's wired network port IP. Otherwise, although the PLC can successfully connect with the PLC software during pass-through transmission, the communication between the screen and the PLC will be disconnected.

For example:HMI IP:192.168.250.100,PLC IP:192.168.250.2