How to use DCON_Utility Pro to configure modules on Linux PAC platform?

The main execution platform of DCON Utility Pro is Windows series platform, please refer to the following list https://www.icpdas.com/tw/download/index.php?root=&model=&kw=DCON%20Utility

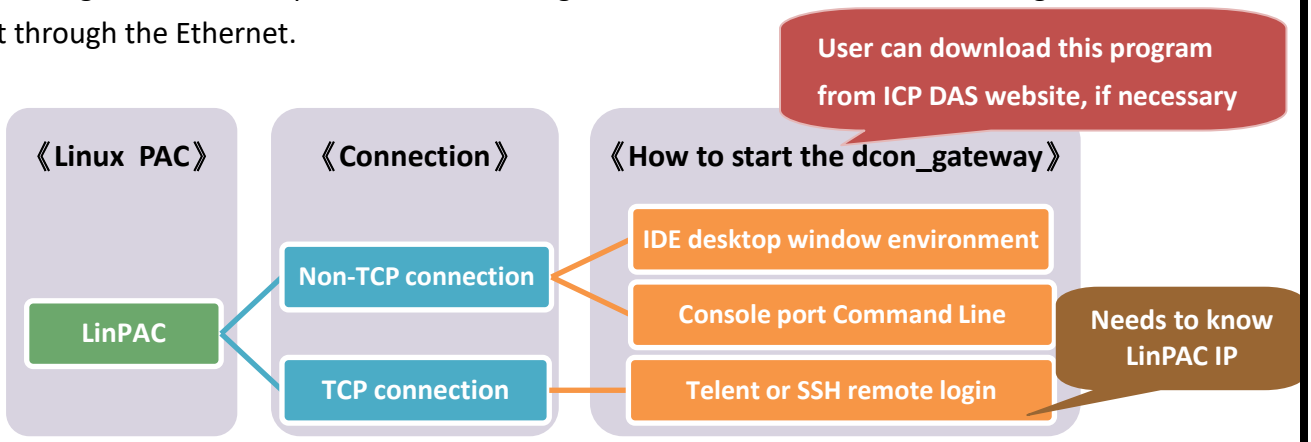
Filename	Description
DCON Utility Pro PC version	For Windows XP/7/8/10 PC and WES PAC
DCON Utility Pro WinCE5.0 version	For WinCE 5.0 PAC
DCON Utility Pro WinCE 7.0 version	For WinCE 7.0 PAC
DCON Utility Pro WinCE6.0 version	For WinCE 6.0 PAC

This section will consisting of four parts, which are described below:

Linux PAC platform support method

From V4.0.0.2, DCON Utility Pro provides the DCON_Gateway program to be executed on the Linux platform, and then the PC can configure the module through the specified COM Port via the Ethernet connection. The operation method is as follows.

1. Start the DCON_Gateway program on the Linux PAC host first. This part can be executed by connecting to the console port of LinPAC through the RS-232 of the PC or connecting to the telnet port through the Ethernet.

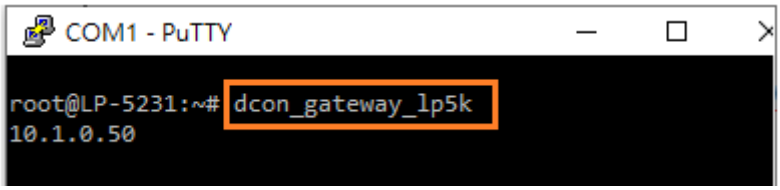


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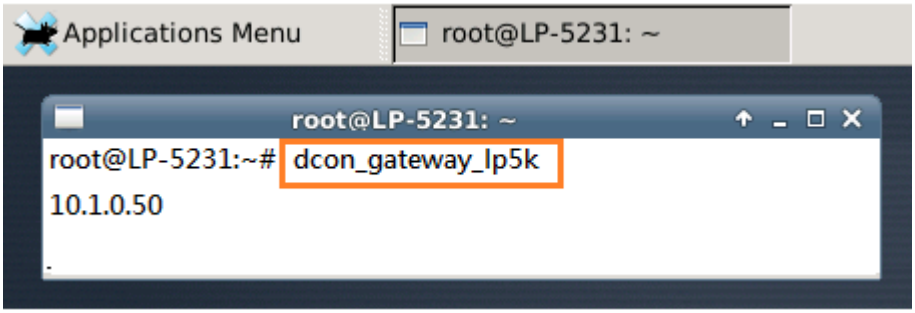
There are two ways to start the DCON_Gateway program. The following is an example of LP-5231:

A) Connect the Console port of LinPAC to the RS-232 of the PC, and execute the program directly on the LinPAC host

Method 1: After logging in through the terminal software (for example: HyperTerminal), then enter: **dcon_gateway_lp5k**



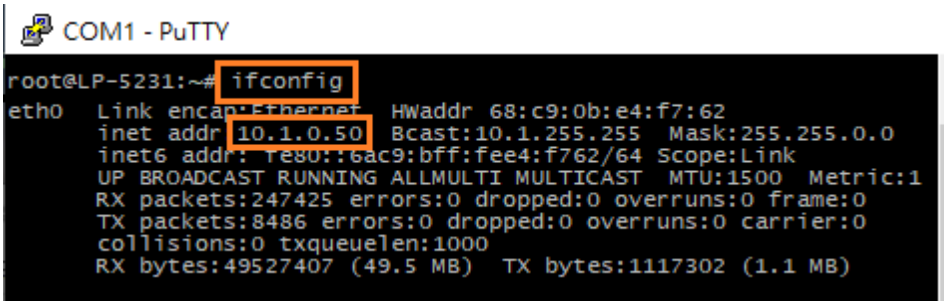
Method 2: Connect the screen, keyboard and mouse, after logging in, through the text window on the desktop, enter: **dcon_gateway_lp5k**



B) Connect to the Internet route, connect to LinPAC remotely, and execute the program

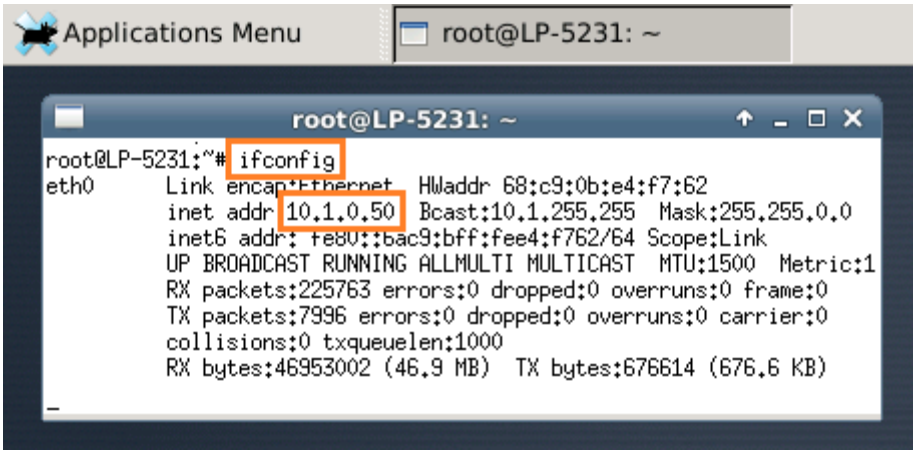
Step 1: Query LP-8421 IP

Method 1: Connect the console port of LinPAC to the PC (after logging in through the terminal program, enter: **ifconfig**)

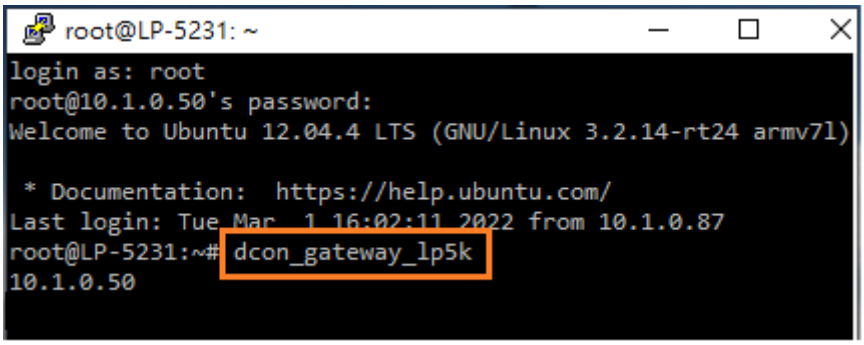


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Method 2: Run the program directly on the LinPAC host (Terminal Emulator, input: **ifconfig**)

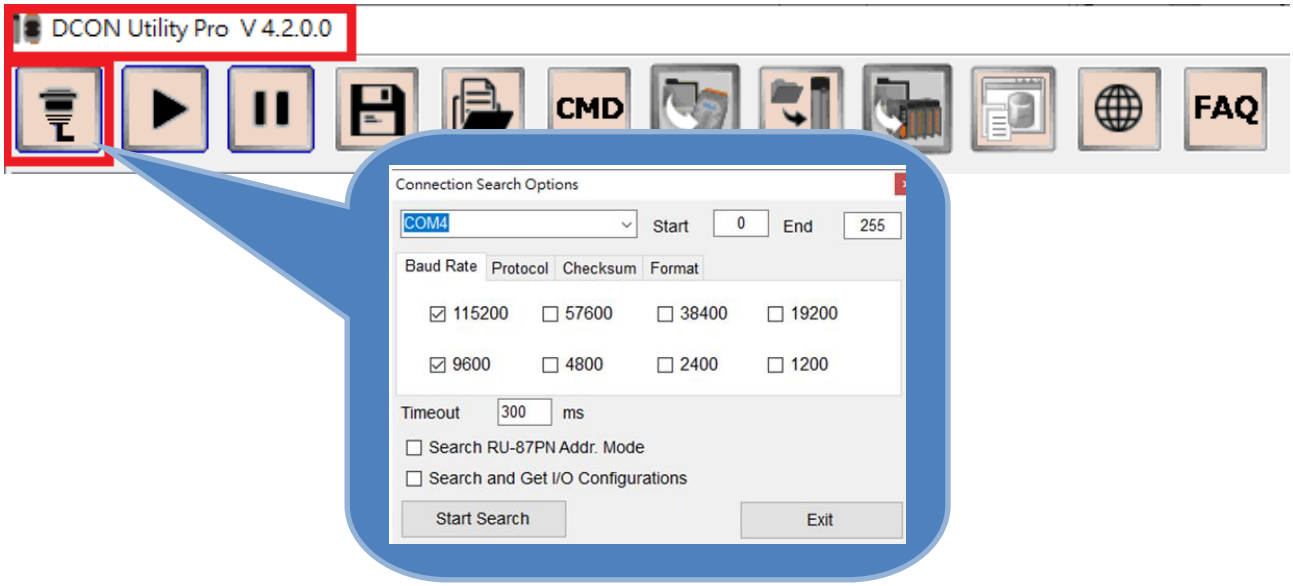


Step 2: Use Telnet or SSH tool to log in to LinPAC remotely, enter the command: **dcon_gateway_lp5k**

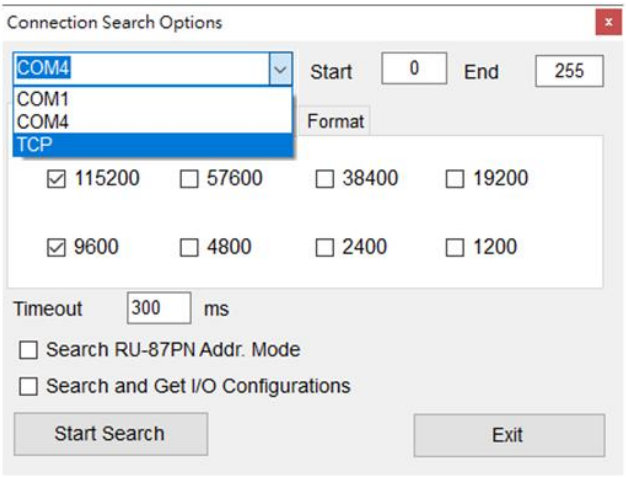


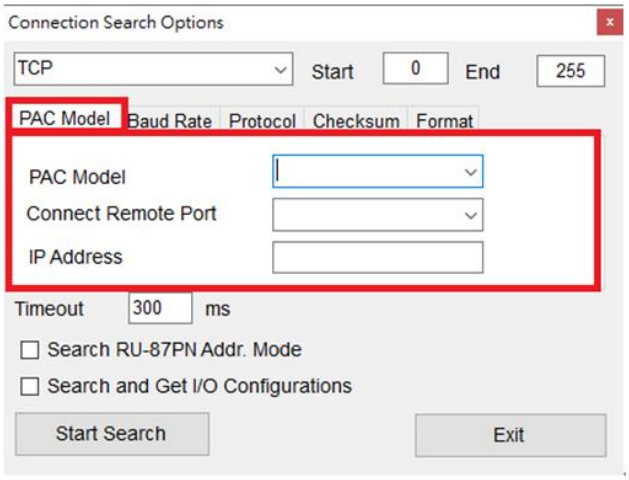
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2. Run the version after DCON_Utility_Pro V4.2.0.0 on the PC side, select the “Connection Options” option, the new connection option has a TCP interface in addition to the COM Port interface of the PC system itself.



After selecting the TCP connection, the original connection parameter option will have an additional PAC Model tab

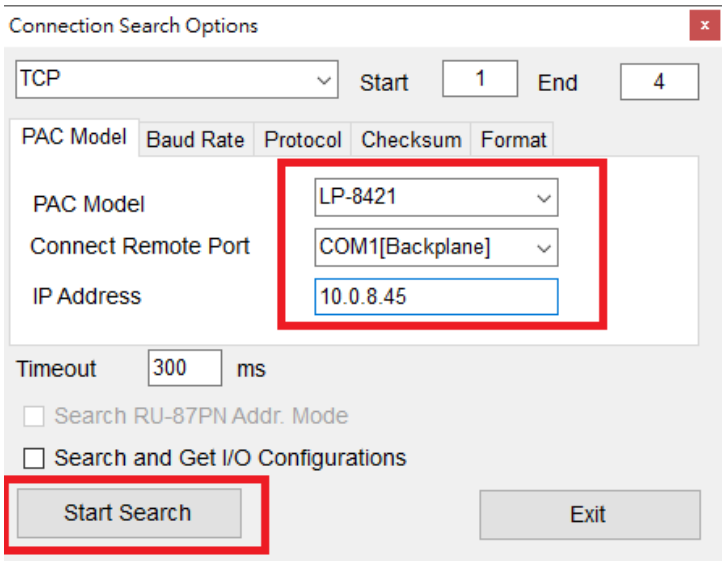




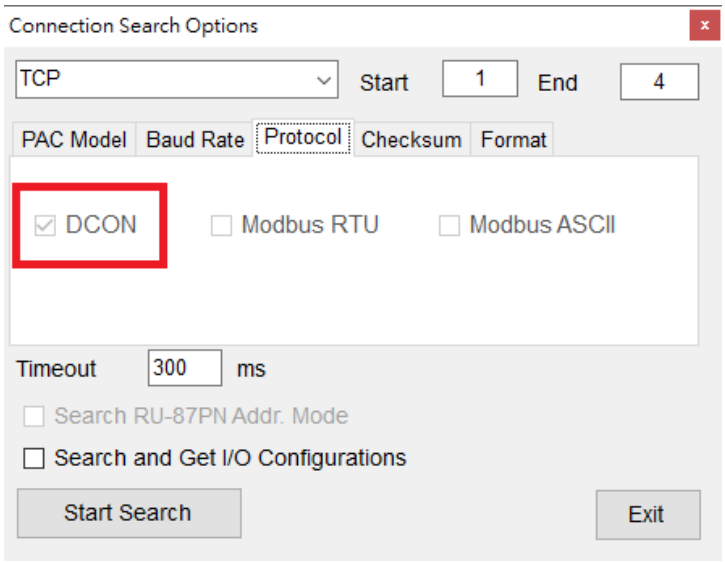
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Search backplane I-87K module

Select the connected Linux host model and the corresponding COM Port, and enter the IP address of the host. Now we demonstrate the connection to search for the I-87K modules on LP-8421 backplane.



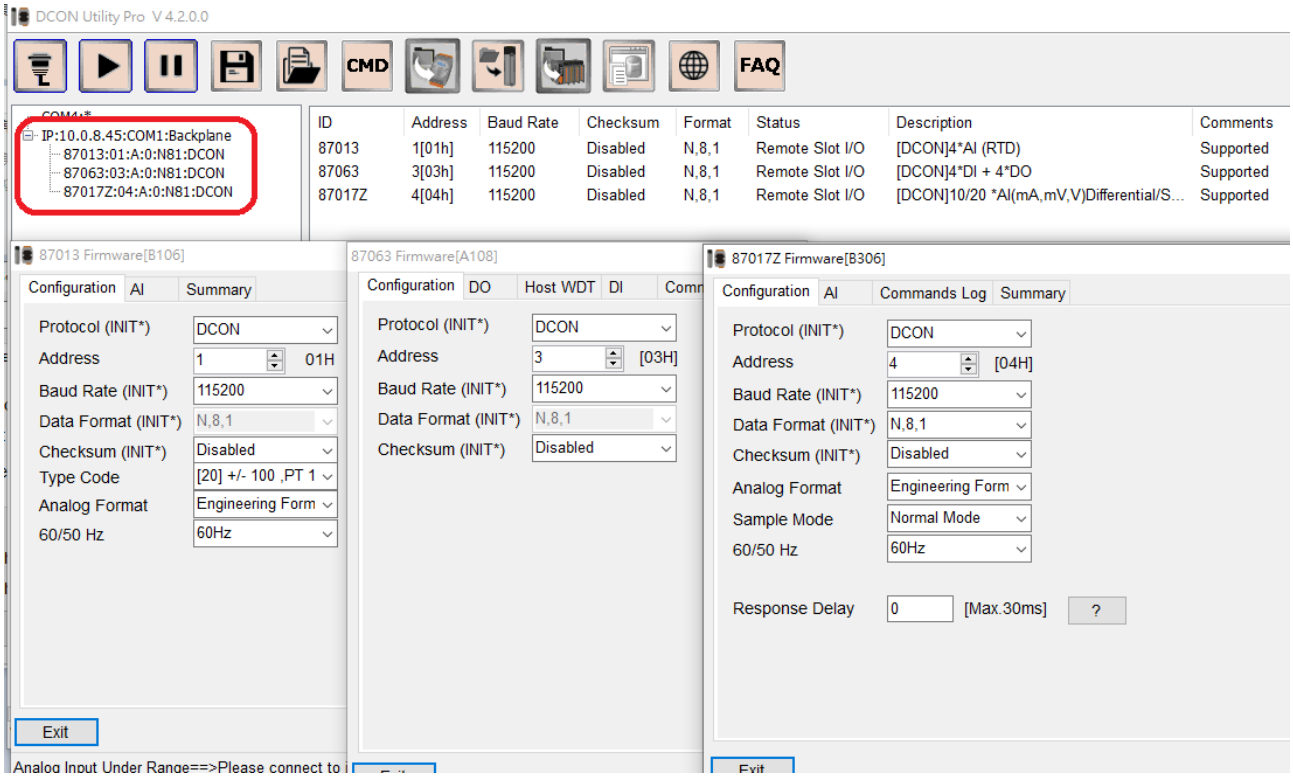
Remarks 1. The backplane COM1 Port only supports the setting of I-87K/I-97K series DCON modules. Other I-8K/I-9K modules are directly controlled by API (SDK), not set by communication commands.



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Remark 2. Based on the protocol operation of DCON_Gateway, the communication station number (Address) of the I-87K module on the backplane represents the slot position where the module is located. In fact, the communication parameters of the I-87K module on the backplane are operated by the program on the Linux host.
The address number is 0, Baud rate 115200, Checksum disable, N,8,1 format, Open_Slot(slot) function must be used when controlling I-87K module; ChangeToSlot(slot); then the next control command and finally Close_Slot(slot);

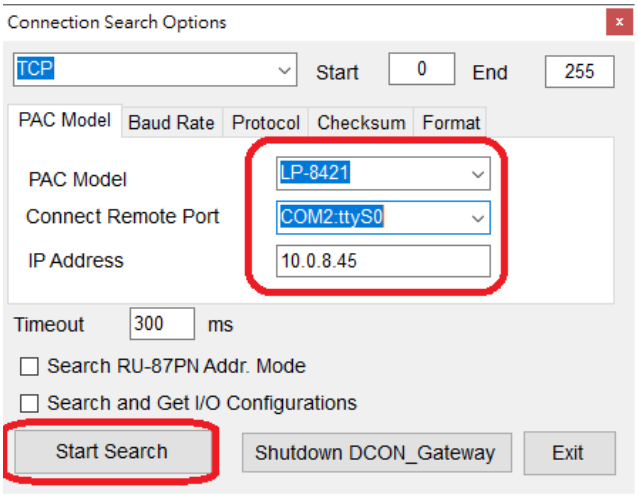
The search results and related setting screens are as follows.

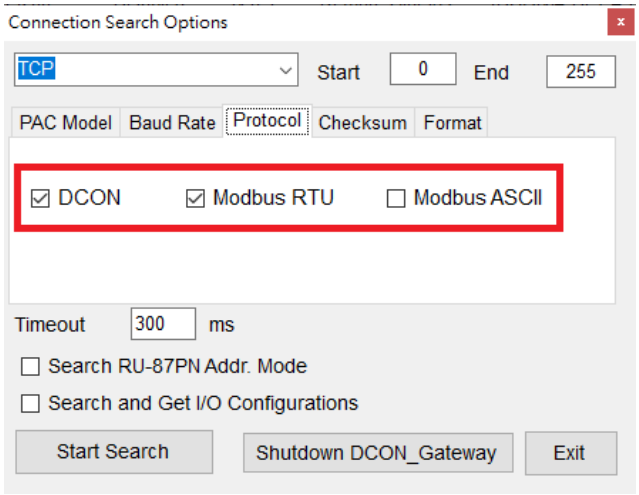


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Search Remote COM Port I/O modules

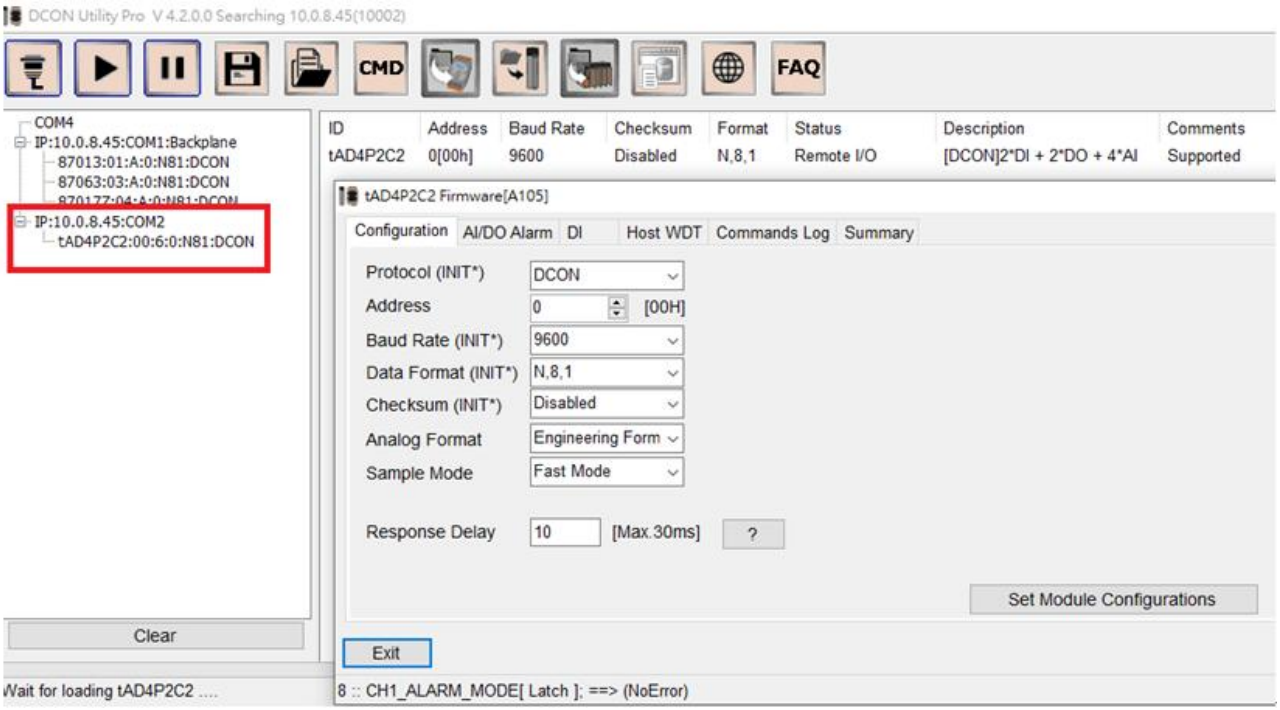
Then demonstrate searching for LP-8421 Remote COM2:ttyS0(RS-485 Port) which can support DCON/Modbus RTU/Modbus ASCII and other communication protocols.





Remark 3. Some definitions of COM Port on the Linux PAC host platform use names such as ttyS. For details, please refer to Appendix A.

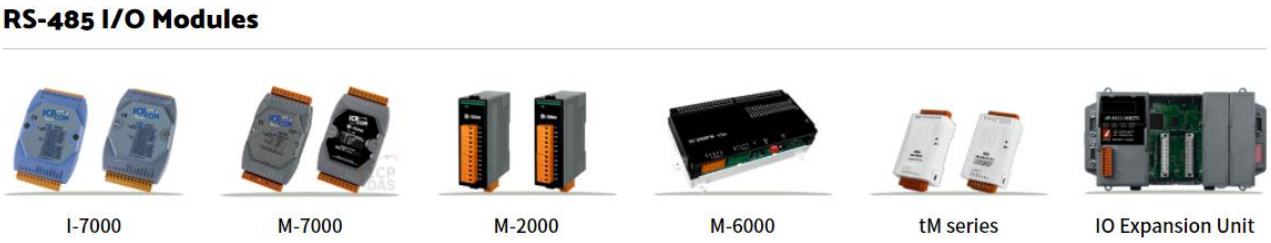
The search results are as follows.



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Remark 4. Other COM2, COM3, COM4, COM5, COM36 can be connected to the remote I/O module of RS-485 interface and the I/O sensor module of RS-485 interface.

- Remote I/O module: https://www.icpdas.com/en/product/p02.php?root=537



- I/O Sensor modules: https://www.icpdas.com/en/product/p02.php?root=298&kind=367

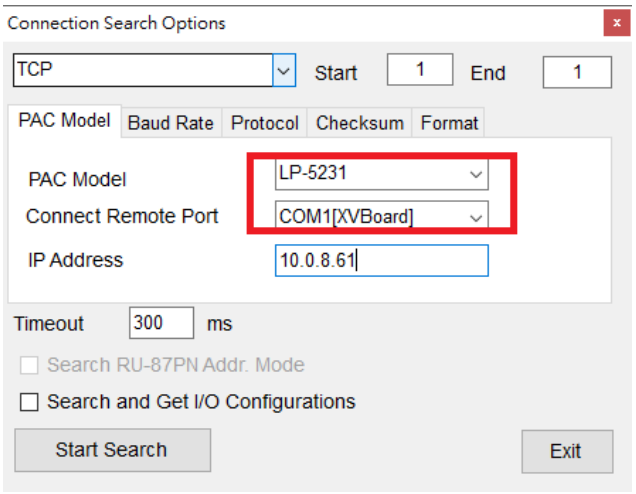


If the specified COM Port itself is an RS-485 Port, it can directly connect to the RS-485 series modules. If it is RS-232 Port, you can connect RS-485 series modules through I-7520 RS-232 to RS-485 (you need to pay attention to the corresponding diagram of the Pin pin of RS-232 Port to check whether jumper processing is required)

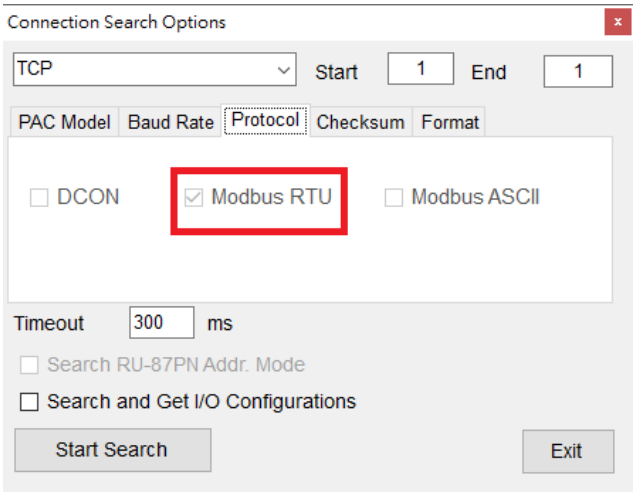
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Search XV Board

Finally demonstrate the search and setting of LP-5231 with XV Board

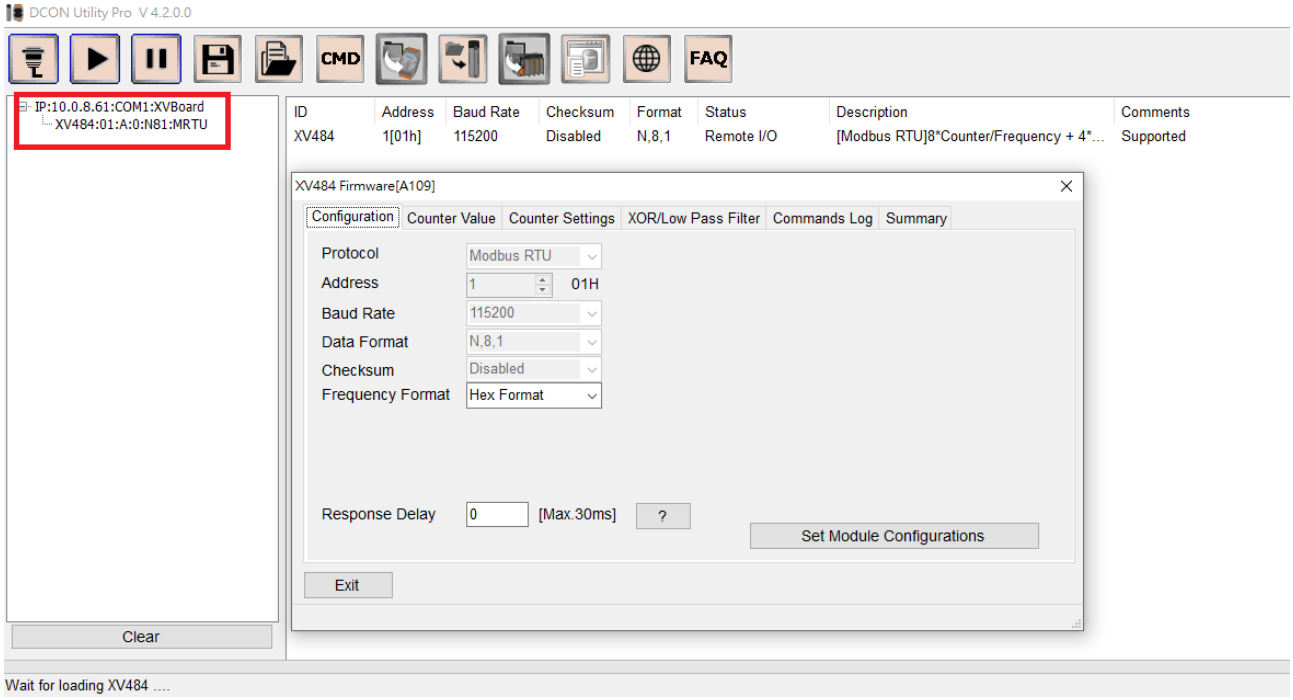


XV Board only supports Modbus RTU protocol



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The search results are as follows.

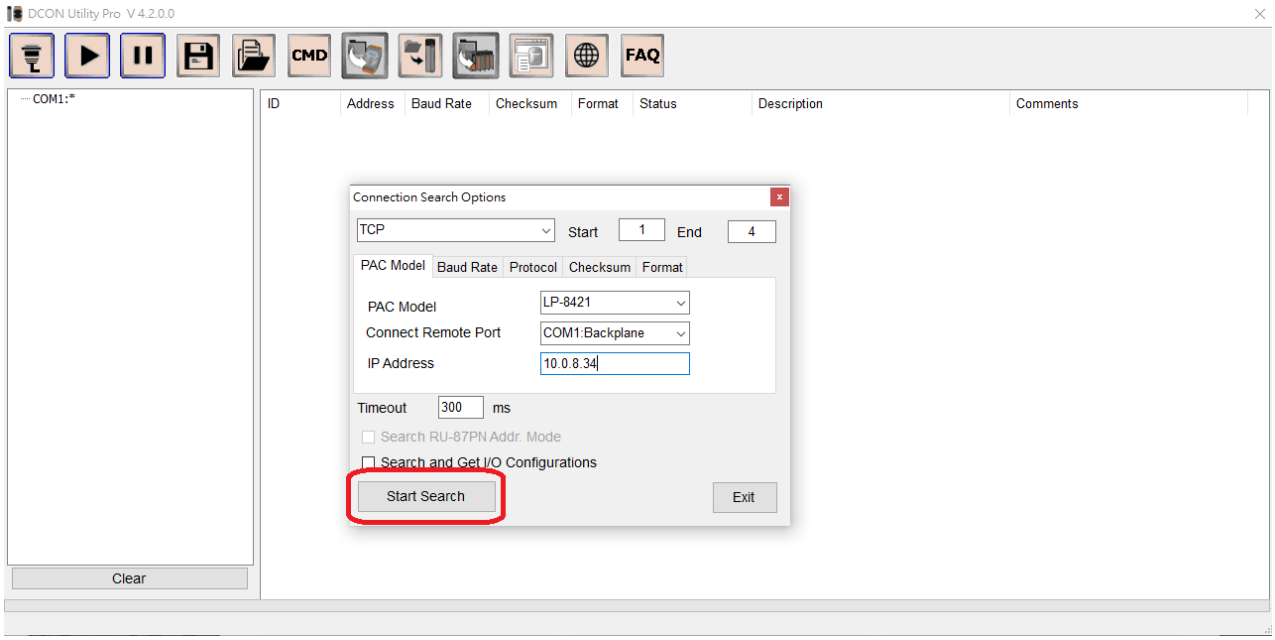


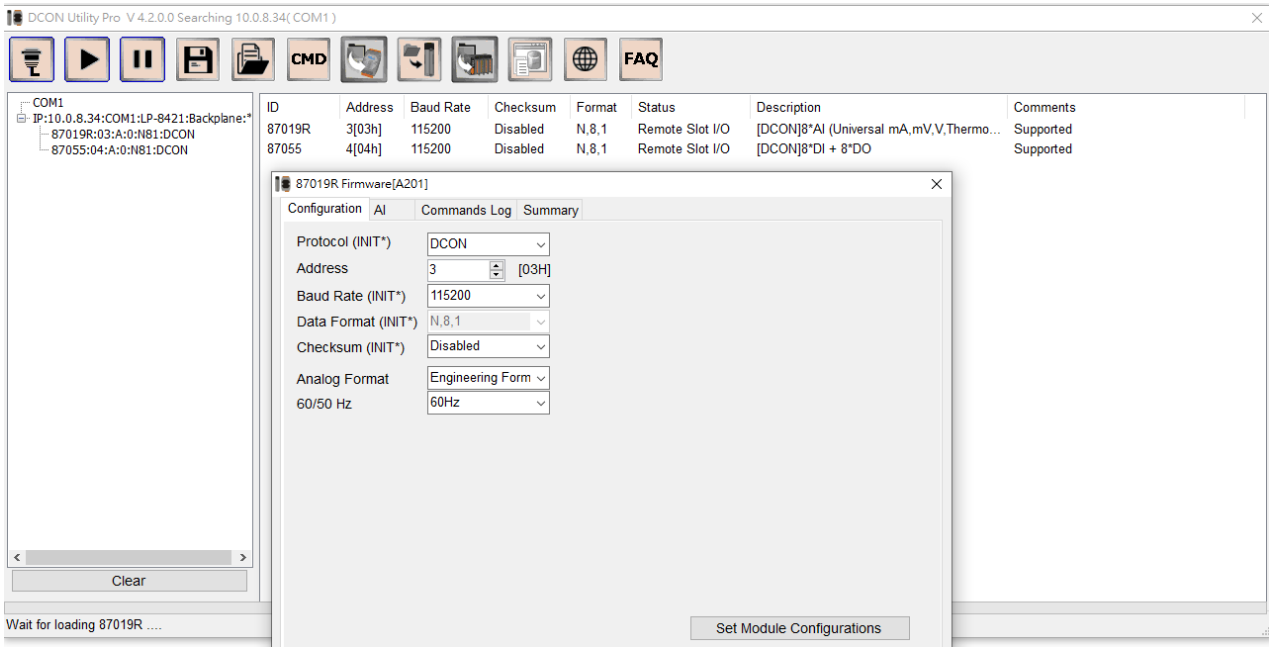
Remark 5. The LP-5231 COM1 Port only supports XV Board Modbus RTU I/O modules. Please refer to the link below for the module list.
https://www.icpdas.com/en/product/guide+Remote__I_O__Module__and__Unit+PAC__I_O__Modules+XV-board

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End the DCON_Gateway program

1. After the Linux PAC host executes DCON_Gateway, the program itself starts to count down. If there is no communication within 60 seconds after execution, the program will end automatically.
2. When the Linux PAC host executes DCON_Gateway, the PC side uses DCON Utility Pro to connect , search and module setting and other related procedures.

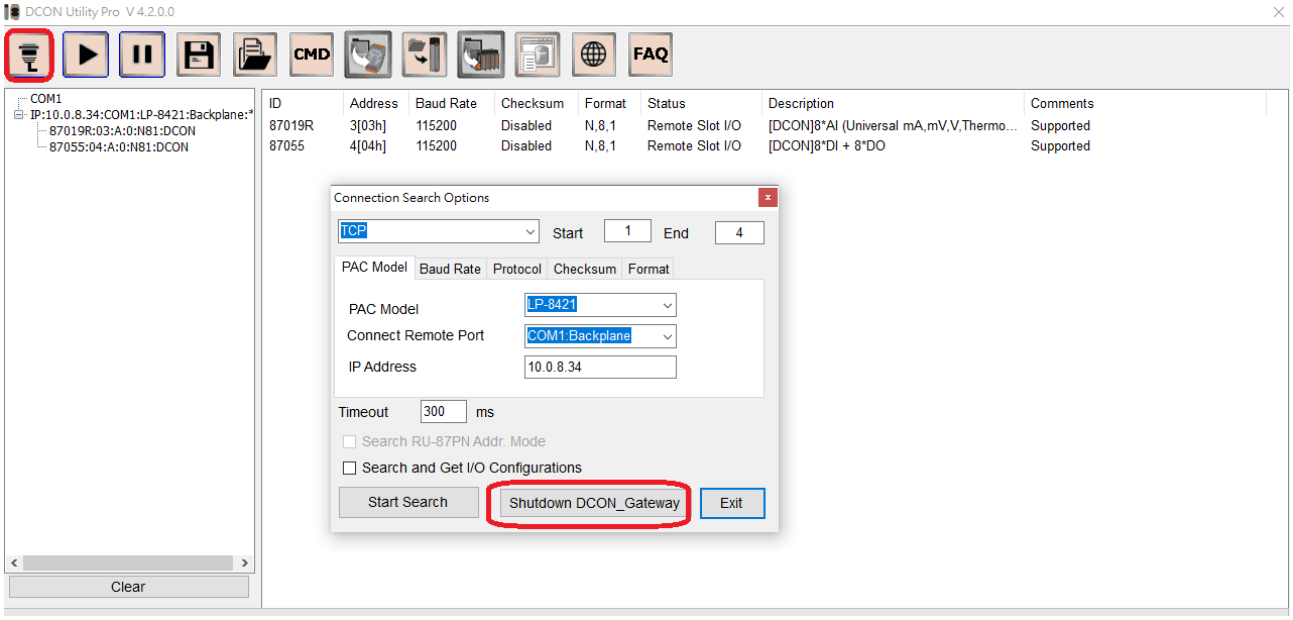




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3. After DCON Utility Pro completes the module setting, you can execute “Shutdown DCON_Gateway” through the connection setting option screen to end the DCON_Gateway program activated on the Linux PAC.

4. If the "Shutdown DCON_Gateway" program is not executed, the DCON_Gateway program which activated on the Linux PAC will end automatically after 120 seconds.



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Appendix A: Linux host models supported by DCON Utility Pro and the default connection COM Port name of each model

Linux PAC model	DCON_Gateway File name	COM Port Supported	Comments
LP-8121	dcon_gateway_lp8k	COM1, COM2 (ttyS0), COM3 (ttyS1)	COM1 backplane Port
LP-8421		COM1,ttyS0(COM2),ttyS1(COM3), COM36(ttyS34)	COM1 backplane Port
LP-8821		COM1,ttyS0(COM2),ttyS1(COM3), COM36(ttyS34)	COM1 backplane Port
LP-9221		COM1,ttyS0(COM2),ttyS1(COM3), COM36(ttyS34)	COM1 backplane Port
LP-9421		COM1,ttyS0(COM2),ttyS1(COM3), COM36(ttyS34)	COM1 backplane Port
LP-9821		COM1,ttyS0(COM2),ttyS1(COM3), COM36(ttyS34)	COM1 backplane Port
LX-8031	dcon_gateway_lx8k	COM1(ttySA0),COM2(ttyS0),COM3(ttyS1),COM36(ttyS34)	ttySA0 backplane Port
LX-8131		COM1(ttySA0),COM2(ttyS0),COM3(ttyS1),COM36(ttyS34)	ttySA0 backplane Port
LX-8331		COM1(ttySA0),COM2(ttyS0),COM3(ttyS1),COM36(ttyS34)	ttySA0 backplane Port
LX-8731		COM1(ttySA0),COM2(ttyS0),COM3(ttyS1),COM36(ttyS34)	ttySA0 backplane Port
LX-9171	dcon_gateway_lx9k	COM1(ttySA0),COM2(ttyS0),COM3(ttyS1),COM36(ttyS34)	ttySA0 backplane Port
LX-9371		COM1(ttySA0),COM2(ttyS0),COM3(ttyS1),COM36(ttyS34)	ttySA0 backplane Port
LX-9771		COM1(ttySA0),COM2(ttyS0),COM3(ttyS1),COM36(ttyS34)	ttySA0 backplane Port
LX-9181		COM1(ttySA0),COM2(ttyS0),COM3(ttyS1),COM36(ttyS34)	ttySA0 backplane Port
LX-9381		COM1(ttySA0),COM2(ttyS0),COM3(ttyS1),COM36(ttyS34)	ttySA0 backplane Port
LX-9781		COM1(ttySA0),COM2(ttyS0),COM3(ttyS1),COM36(ttyS34)	ttySA0 backplane Port
ALX-9191		COM1(ttySA0),COM2(ttyS0),COM3(ttyS1),COM36(ttyS34)	ttySA0 backplane Port
ALX-9391		COM1(ttySA0),COM2(ttyS0),COM3(ttyS1),COM36(ttyS34)	ttySA0 backplane Port
ALX-9791		COM1(ttySA0),COM2(ttyS0),COM3(ttyS1),COM36(ttyS34)	ttySA0 backplane Port
LP-5231	dcon_gateway_lp5k	COM1, COM2(ttyO2), COM4(ttyO4), COM5(ttyO5)	COM1connect to XV Board
LP-2241		COM1, COM2(ttyO2), COM4(ttyO4), COM5(ttyO5)	COM1connect to XV Board
LP-2841	dcon_gateway_lp2k	COM1, COM2(ttyO2), COM4(ttyO4), COM5(ttyO5)	COM1connect to XV Board

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