

PL-SNet Serial Port / Ethernet Converter

PRODUCTS INFORMATION

A. Introduction

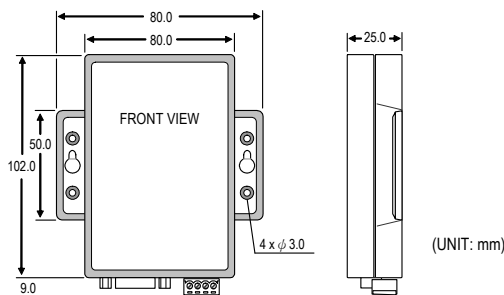
PL-SNet Serial port to Ethernet converter is an ideal product to connect any RS 232/422/485 device to an existing Ethernet network. With PL-SNet and its related products, the controlling and monitoring of serial devices can be easily accomplished.

B. Features

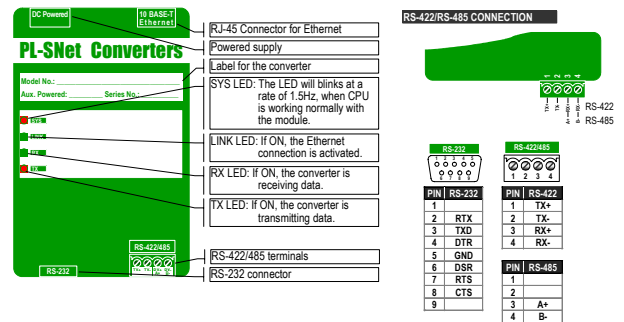
- Allows RS-232/422/485 serial devices to be connected to Ethernet network via transparent data conversion and operates as an Ethernet node. Serial communication speed is up to 115.2 kbps.
- Supports ARP, ICMP, TCP, UDP, IP, DHCP, HTTP, Modbus/TCP, and 10Base-T Ethernet standard
- Supports Web Based interface for fast configuration without special software, also command mode for parameters setting by application software.
- Supports Client/Server applications
- Supports Winsock networking programming and optional "Virtual serial ports" driver for windows application program



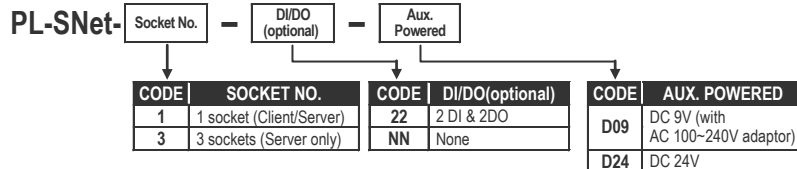
DIMENSIONS



FRONT PANEL & CONNECTION DIAGRAM

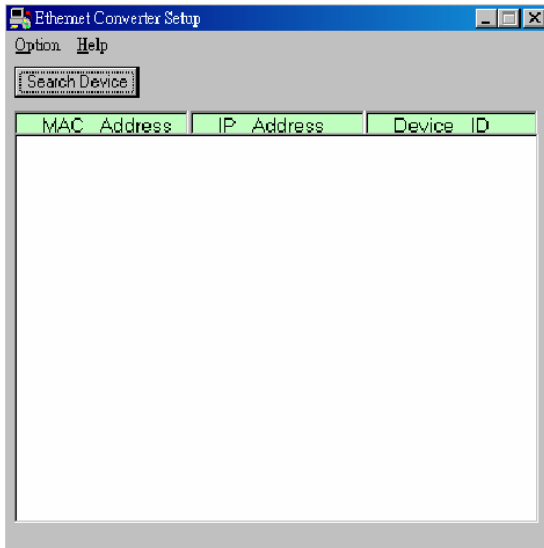


ORDER INFORMATIONS:

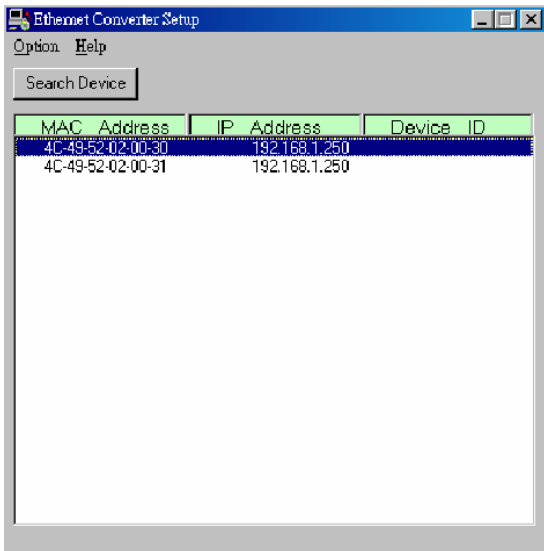


CONFIGURING

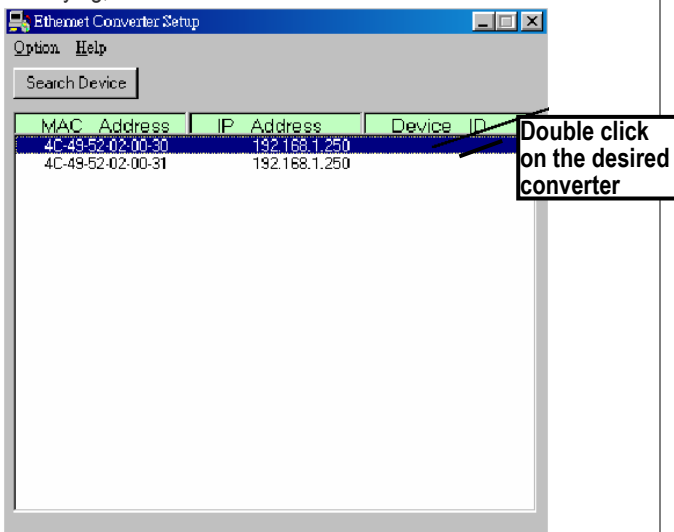
1. To start PL-SNet setup program **G-01-PL-SNet-Setup.exe**. The window is shown as below.



2. Click on the **Search Device** button to search all the **PL-SNet** converters in the same subnet using the UDP broadcast protocol. When the search is finished, the information about all **PL-SNet** found will be listed in the text box as shown below.



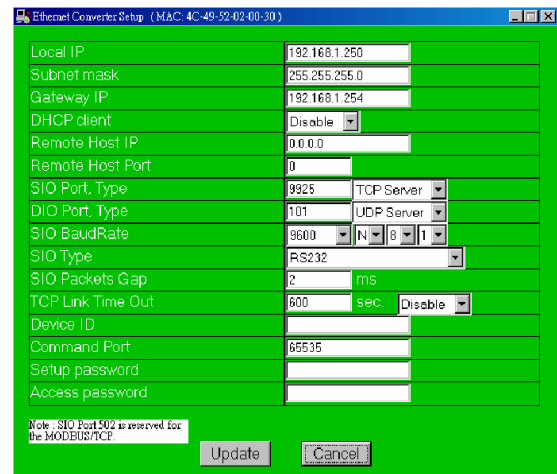
3. Double click on the desired converter whose configuration is to be modifying, as shown below.



4. The following window is displayed after double click on the desired converter, which allow user to modify the configuration of selected

FRONT PANEL & CONNECTION DIAGRAM

PL-SNet.



Please refer to the following description for setting up the parameters of **PL-SNet** converter.

Local IP :

The IP address of the **PL-SNet** converter on TCP/IP network. The default Local IP address is **192.168.1.250** . This address should be unique. Ask your network administrator for assistance, if in doubt.

Subnet mask :

Identifying the network class which the **PL-SNet** converter belong to. The default Subnet mask is **255.255.255.0** . Ask your network administrator for assistance, if in doubt.

Gateway IP :

The IP address of router. The default Gateway IP address is **192.168.1.254** . Ask your network administrator for assistance, if in doubt.

DHCP client :

If this option is enabled, that means the IP address, Subnet mask and Gateway IP address of the **PL-SNet** converter are set dynamically by the DHCP Server. If the setting can not be got from the DHCP server successfully; the **PL-SNet** converter will use the last setup parameters for its configuration. The possible reason of this case is that the DHCP server is shutdown or not available. Ask your network administrator for assistance, if in doubt.

Remote Host IP :

If the **PL-SNet** converter is used in TCP client mode or UDP client mode, the Remote Host IP address must be specified to establish the connection with the designated HOST (server) only.

Remote Host Port :

If the **PL-SNet** converter is used in TCP client mode or UDP client mode, the Host Port No must be specified. This is the port which the Remote Host IP listens for incoming data.

SIO Port Type :

The local port number of the **PL-SNet** converter to be contacted by other devices. The default value is **9925** . And user needs to choose one communication mode for the **PL-SNet** converter. There are four different communication modes can be selected. They are TCP Server, TCP Client, UDP Server and UDP Client.

TCP Server - The **PL-SNet** converter will operate at the Passive or the TCP listen mode to receive TCP connection requests from the remote client device.

TCP Client - The **PL-SNet** converter will operate at the Active or the TCP Active mode to request establishing a TCP connection with the remote server device.

UDP Server - The **PL-SNet** converter will operate at the UDP server mode to send and receive UDP datagrams to/from the remote device.

UDP Client – The **PL-SNet** converter will operate at the UDP Client mode to send and receive UDP datagrams to/from the remote device specified in Remote Host IP address and Remote Host Port.

Note SIO port number 502 is reserved for the Modbus/TCP Protocol. When user connects the serial Modbus device running in Modbus/RTU Slave mode, the **PL-SNET** converter can receive connection requests from Modbus/TCP Master device. Also when user connects the serial Modbus device running in Modbus/RTU Master mode, the **PL-SNET** converter can connect to Modbus/TCP Slave device.

DIO Port, Type :

Reserved

SIO Baud Rate :

The serial parameter settings :

Baud Rate: 300 bps to 115200

Parity : None, Even, or odd

Data Bits : 7, or 8

Stop Bit : 1, or 2

SIO Type :

The serial interface types:

RS232

RS232 with RTS/CTS control

RS232 with RTS/CTS/DSR/DTR control

RS485 half duplex mode

RS422 full duplex mode

SIO Packets Gap:

In some cases, for example, if the Modbus/RTU serial protocol is used, the completion of the message packet in the input buffer is determined by a character-to-character timeout. The SIO Packets Gap of **PL-SNet** defines this timeout period.

TCP Link Time Out:

When this option is enabled, the TCP communication will be disconnected by the **PL-SNet** converter if there is no further TCP activity within the given timeout value.

Command Port:

The **PL-SNet** converter supports the command mode, which user can use to setup the parameters or get the information of the converter with UDP protocol from the remote host. The default Command Port number is **65535**. The command port of the **PL-SNet** converter should be set correctly while using the command mode. Please refer to appendix 1 for further information.

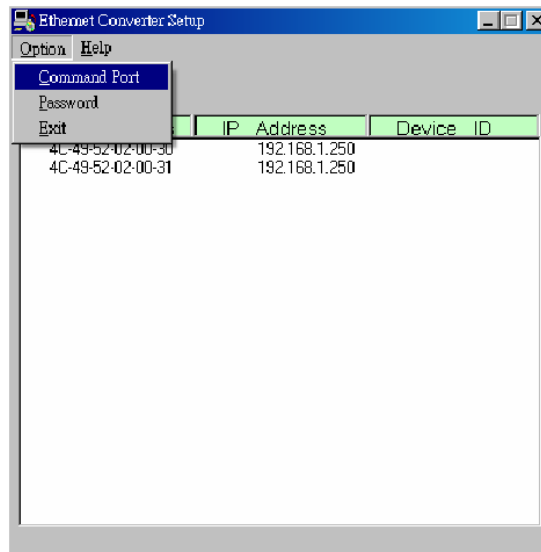
setup password :

This password protects the Setup window of the **PL-SNet** converter from unauthorized entry. To erase an existing password, just leave the Setup password text box blank.

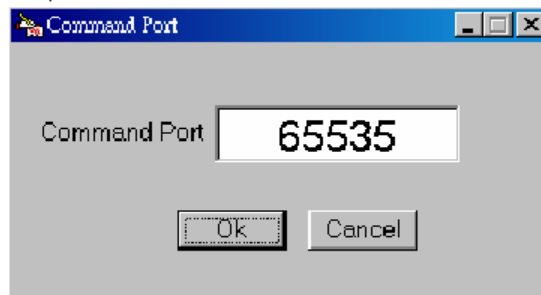
Access password :

If this password is configured, the remote host needs to send this access password one second periodically to the Check Status Port of the **PL-SNet** converter, otherwise the data transfer request will not be accepted by the **PL-SNet** converter. To erase an existing password, just leave the Access password text box blank.

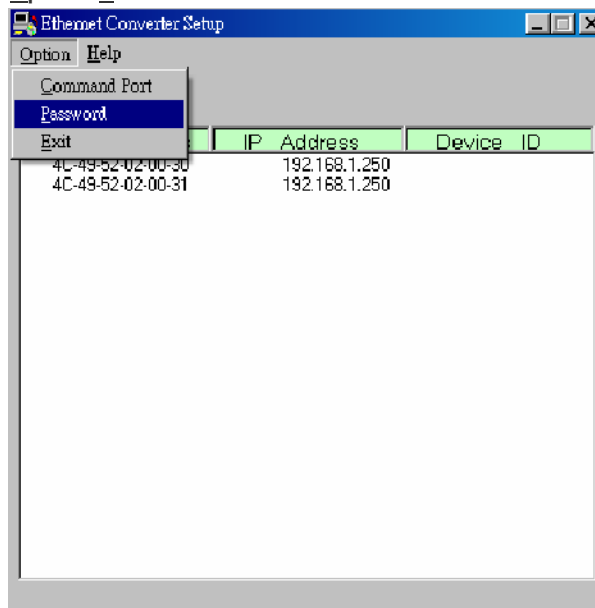
- User must ensure the command port number that the **PL-SNet** Setup program used is the same as the **Command Port** parameter which has been configured in the **PL-SNet** converter setup window. To verify this, click on **Option / Command Port** as shown below.



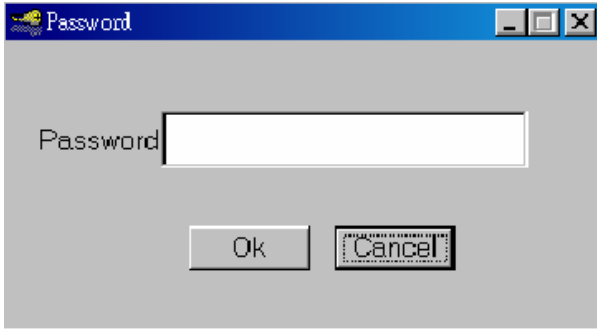
Next, when the Command Port window opens input the command port number that is the same as the one which has been set in the setup window, and then click on **OK**.



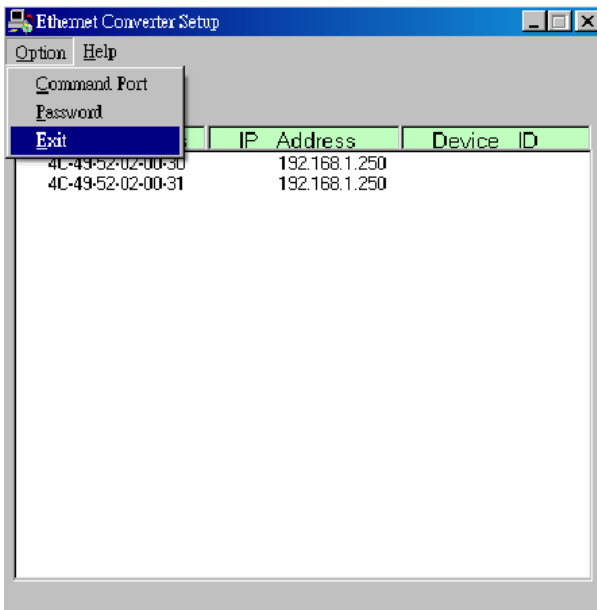
- User needs to use the right password to enter the **PL-SNet** converter setup window if password protection is enabled. Click on **Option / Password** as shown below.



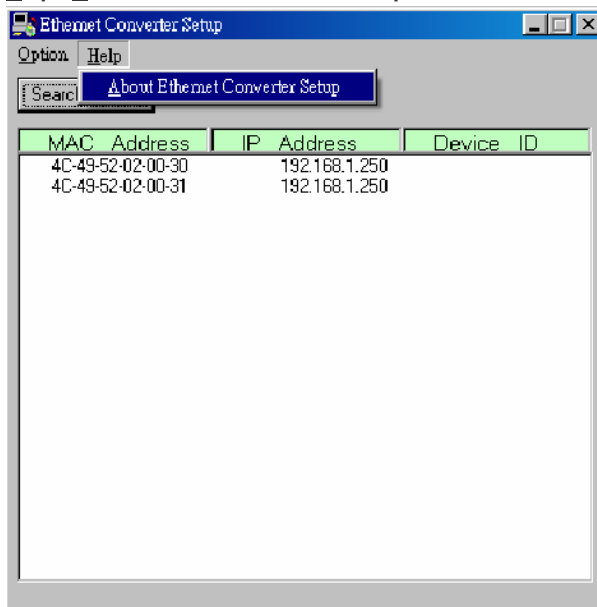
When the password window opens, input the correct that is the same as the one which has been set in the setup window, and then click on **OK**.



7. To exit the **PL-SNet Setup** program, click on **Option / Exit** as shown below.



8. To show the information about **PL-SNet Setup** program, click on **Help / About Ethernet Converter Setup** as shown below.



And the "About Ethernet Converter Setup" window opens, view the description shown on the screen, and then click on **OK**.



Apprxix 1: Command Mode Support

- Use the command mode to set up the PL-Net converter, it needs an application software to handle these actions.

Command 'X' for Broadcast

'X' or 'x' Command

- > **Syntax** : X' <magic code>; Magic code = 99.130.83.99
- > **Return** : 'AX'<MAC address> 'I' <IP address> 'I' <Device ID>
- > **Example** :
Send out : 'X 99.130.83.99'
Return : 'AX0.128.200.255.251.242/192.168.1.100/ABC'

Command 'G' for gettingStatus

'G' or 'g' Command

- > **Purpose** : Get the all parameters of the Web Server
- > **Syntax** : 'G' <MAC address> 'I' <IP> 'I' <Setup Password>
- > **Return** : All parameters of the Web Server
- > **Example** :
Send out :
'G 0.128.200.255.251.242/192.168.1.100/12345678'
Return : 'CG' for Cancel or 'AG'<All Messages>

Command 'S' for Web Server Parameters Setting

'S' or 's' Command

- > **Purpose** : Set the Parameters of the Web Server
- > **Syntax** : 'S' <MAC address> 'I' <IP> 'I' <Setup Password> 'I' <Value>
- > **Return** : 'A' for Accept or 'C' for cancel
- > **Example** :
Send out : S
Return :

Command 'R' for Web Server Parameters Setting

'R' or 'r' Command

- > **Purpose** : Restart the Web Server
- > **Syntax** : 'R' <MAC address> 'I' <IP> 'I' <Setup Password>
- > **Return** : 'AR' for Accept or 'CR' for cancel
- > **Example** :
Send out : 'R0.128.200.255.251.242/192.168.1.100/12345678'
Return : 'AR' or 'CR'

Command 'M' for MAC address Setting

'M' Command, not for the User

- > **Purpose** : Set the MAC address of the Web Server
- > **Format** : 'M'<Old MAC Address>/<New MAC Address>/<Factory Password>
- > **Return** : 'AM' for Accept or 'CM' for cancel

Command 'I' for IP Setting

'I' Command, not for the User. User should use the 'S' Command for setting IP address.

- > **Purpose** : Set the IP address by LAN broadcast
- > **Syntax** : 'I' <MAC address> 'I' <New IP> 'I' <Factory Password>
- > **Return** : 'AI' for Accept or 'CI' for cancel