



Data Transmission Series

User Manual

Model : RS007

RS232/RS485/RS422 to Ethernet (TCP/IP) Converter



Introduction

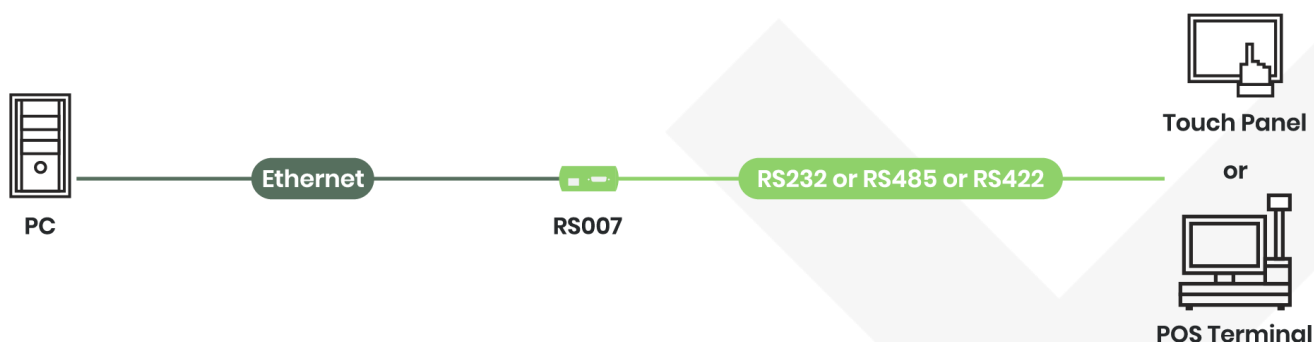
RS007 is a data converter that converts RS232, RS422 or RS485 to TCP/ IP signal. The converter can setup up to one client and 4 servers and easily configure the parameters via a PC software or a web browser..

Features

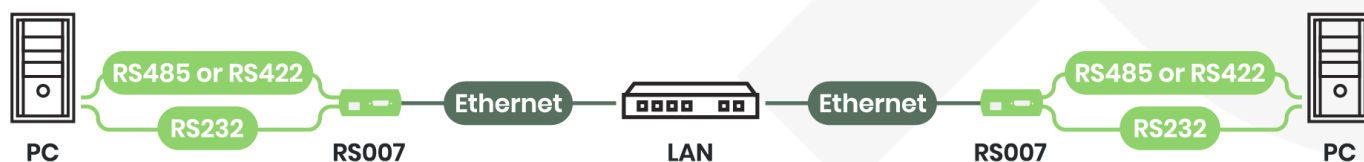
- Converts RS232, RS485, or RS422 to IP signal or the other way around.
- Supports network bandwidth at 10/100 Mbps.
- Supports data baud rate at 1200 to 115200 bps.
- Supports TCP Server, TCP Client, UDP Mode.
- Supports full duplex transmission.
- Supports virtual COM port.
- Supports auto MDI / MDIX.
- Managed via PC software, and WebGUI.

Application Diagram

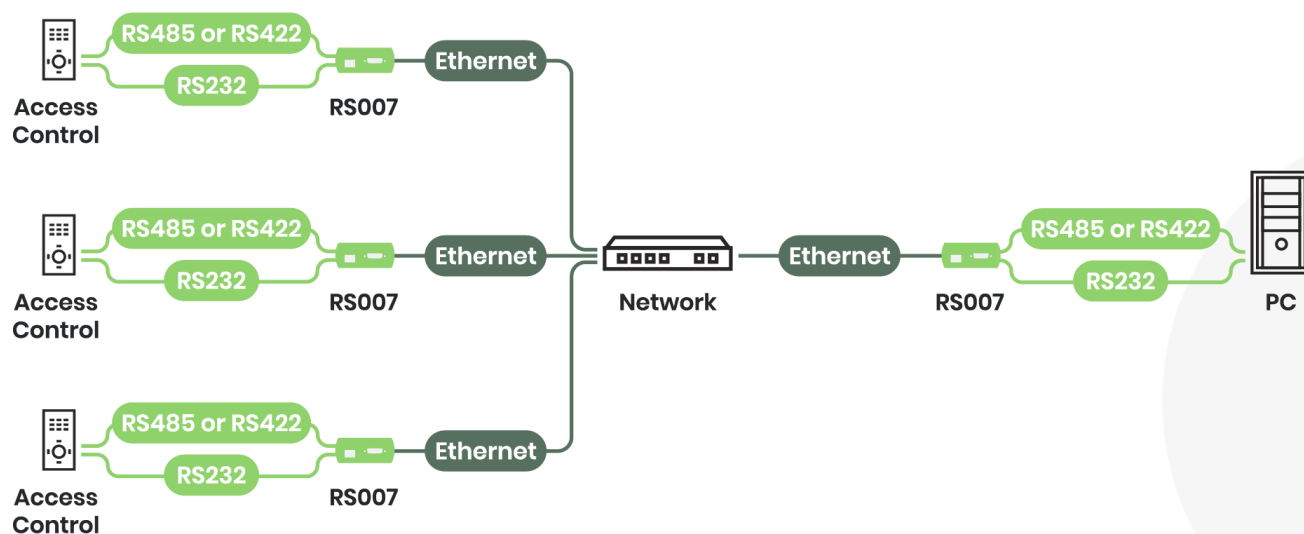
(1) TCP/IP to RS422/RS485/RS232 Conversion



(2) Point to point connection



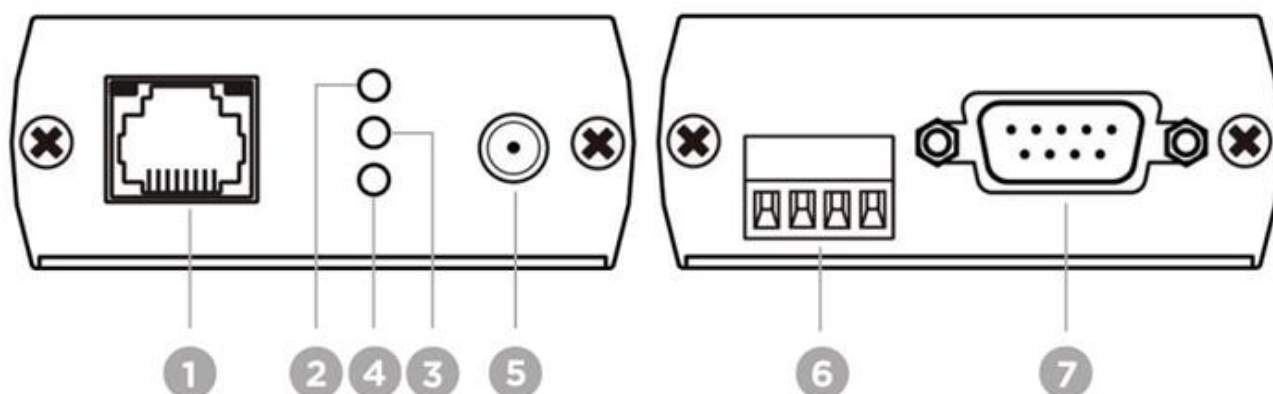
(3)Multi-mode



To activate the Multi-Mode, please scan the QR code in the left, or type in the URL: <https://bit.ly/2sKXICC> to update the firmware.



Panel View



No.	Interface	Functionality
1	RJ45 Connector	To use network cable to connect RS007 with PC (Refer to Description 1).
2	Power LED Indication	To indicate the power status (Refer to Description 2).
3	Rx LED Indication	To indicate Rx connection status (Refer to Description 3).
4	Tx LED Indication	To indicate Tx connection status (Refer to Description 3).
5	Power Jack	To connect DC 5V 1A adapter
6	4 Pin Terminal	To connect to a RS485/ RS422 device (Refer to Description 4).
7	RS232 Port	To use RS232 cable to connect RS007 with PC (Refer to Description 5).

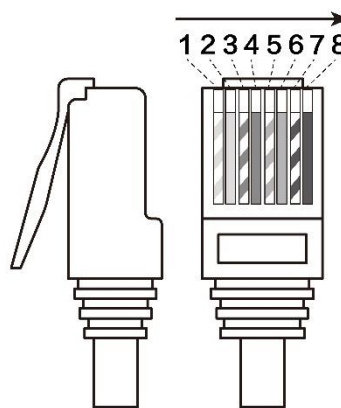
Description

1. RJ45 LED

Data Rate	Disable	Enable	Data Transferring
100Mbps	Yellow Off	Yellow On	LED Blinking
10Mbps	Green Off	Green On	LED Blinking

RJ45 Pin out (TIA/EIA-568-B)

(PIN TIA/EIA-568B)	
PIN	Wire Color
1	Orange-white
2	Orange
3	Green-white
4	Blue
5	Blue-white
6	Green
7	Brown-white
8	Brown



High quality CAT.5e 、 CAT.6 、 CAT.6a 、 CAT.7 UTP / STP and RS232/RS485/RS422 cable are highly recommended, since bad quality cables may cause unstable connection.

2. Power LED Indication

Green On	Green Off
Power On	Power Off

3. Rx/Tx LED Indication

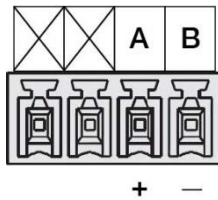
Interface	Unlinked	Linked	Data Transferring
Rx	Blue Off	Blue On	LED Blinking
Tx	Blue Off	Blue On	LED Blinking

4. 4 Pin Terminal

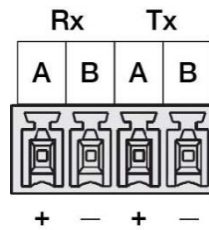
4.1 Be aware of the connection of the positive and the negative electrode.

4.2 RS485 & RS422 Wiring

RS485 Wiring



RS422 Wiring

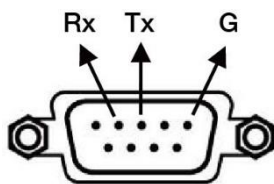


5. RS232 Port

5.1 Among RS232, RS485, and RS422, only one signal can be transferring at once.

5.2 To transfer RS232 signal with PC, please use the RS232 Female to Female Serial Null Modem Cable to connect the devices.

5.3 RS232 Pin Wiring



Setting via WebGUI

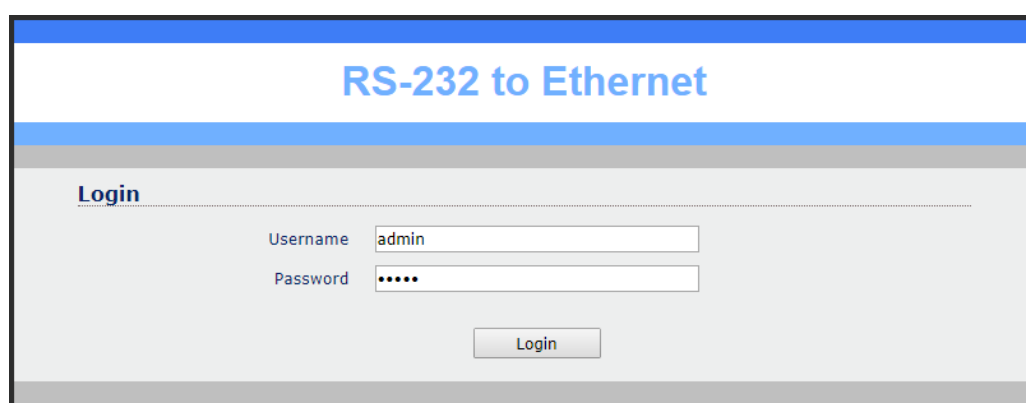
RS007 setup can be accomplished via IE and other browsers



Scan the QR code in the left to follow the instructions
Or type in the URL: <https://youtu.be/1XcjLKQRle4>

You can also refer to the diagram below to set up the device.

1. Type in IP address **192.168.0.3** to enter user interface
2. Type in Username/Password: **admin**

A screenshot of a web browser displaying the 'RS-232 to Ethernet' login page. The page has a blue header with the title 'RS-232 to Ethernet'. Below the header, there is a 'Login' section with a dotted line separator. It contains two input fields: 'Username' with the text 'admin' and 'Password' with masked characters '.....'. A 'Login' button is positioned below the password field.

RS-232 to Ethernet

Login

Username

Password

Basic

The screenshot shows a web browser window with the address bar displaying '192.168.0.4/bscsetting.htm'. The page has a blue header with 'Basic', 'Advance', and 'Security' tabs, and a 'Logout' link. The 'Basic' tab is selected, showing two sections: 'Serial Settings' and 'Network Settings'.

Serial Settings:

- Data Baud Rate: 115200
- Data Bits: 8
- Data Parity: None
- Stop Bits: 1
- Flow Control: None
- Rs485: Sleep

Network Settings:

- DHCP Client: Enable
- Static IP Address: 192.168.0.4
- Static Subnet Mask: 255.255.255.0
- Static Default Gateway: 192.168.0.1
- Static DNS Server: 168.95.1.1
- Connection Type: TCP
- Transmit Timer: 100
Please enter an integer between 10~65535 ms
- Server/Client Mode: Server
- Server Listening Port: 5000
Please enter an integer between 1024~65535
- Client Destination Host Name/IP: 192.168.0.2
Please enter host name or IP address(e.g. asix.com.tw or 10.4.1.100)
- Client Destination Port: 5000
Please enter an integer between 1024~65535

At the bottom, there are four buttons: 'Apply', 'Cancel', 'Restore default', and 'Reboot'.

Serial Settings

Data Baud Rate: 1200~115200bps

Data Bits: 5, 6, 7, 8

Data Parity: None, Even, Odd

Stop Bits: 1 or 2

Flow Control: None, Hardware, Xon/Xoff

RS485: Sleep, Single Twisted Pair HD, Double Twisted Pair FD (Slave), Double Twisted Pair FD (Master)

Network Settings

DHCP Client:

If DHCP is enabled, there will be a DHCP server automatically shown on the network. If DHCP is disabled, [IP address], [Subnet mask], and [Default Gateway] should be manually assigned.

Static IP Address

The IP address of the RS007 is consist of 4 set of numbers separated by “.” (Dot symbol).
Use distinctive IP address for different networking devices or they may conflict with each other's
If DHCP client mode is enabled, there will be a DHCP server on the network, this field will be assigned by DHCP server automatically.

Static Subnet Mas

Subnet mask set as “255.255.255.0” is usually used for small network, “255.255.0.0” for larger network, 4 sets of numbers separated by ‘.’ (Dot symbol)
If your IP address is provided by an ISP or the internal network administrator, please inquire of them that information and type it correctly.

If DHCP client mode is enabled and there's a DHCP server on the network, this field will be assigned by DHCP server automatically.

Static Default Gateway

Gateway or Router IP address. 'Gateway' is a device which connects local network to external network. If you need to communicate with other networks or your device owns a real IP address on the internet, please enter it correctly. If there's no gateway on the network, just leave it as “0.0.0.0”.
If DHCP client mode is enabled and there's a DHCP server on the network, this field will be assigned by DHCP server automatically.

Static DNS Server

IP address of DNS server to translates memorized domain names to the numerical IP addresses.
Connection Type: TCP or UDP

Transmitter:

Server/Client Mode

TCP Server: TCP protocol, passive open, to be connected from the TCP clients.

TCP Client: TCP protocol, active open, connect to the TCP server.

UDP Mode: UDP protocol, connectionless

Server Listening Port:

The server listening port would be connected in TCP Client and UDP Client mode for a certain serial port.

Client Destination Host Name/IP:

The IP address or host name of the client.

Client Destination Port:

The client destination port would be connected in TCP Server and UDP Server mode for a certain serial port.

Advance

Basic Advance Security Logout

Firmware Upgrade Settings

TFTP Server IP

File Name

Apply Cancel FirmwareUpgrade

E-mail Settings

E-mail Server Address/IP
Please enter host name or IP address(e.g. asix.com.tw or 10.4.1.100)

From E-mail Address

To E-mail Address 1

To E-mail Address 2

To E-mail Address 3

Auto Warning Report Settings

Cold Start

Authentication Failure

Local IP Address Changed

Password Changed

Apply Cancel

Firmware Upgrade Settings

TFTP Server IP

Enter IP address in TFTP server box to update firmware.

File Name

File name of firmware in TFTP server.

E-mail Server Address

IP address or host name of SMTP server to send E-mail.

From E-mail address

E-mail address of sender.

To E-mail address 1~3

E-mail address of receivers.

Auto Warning Report Settings

Auto report when Cold Start, Authentication Failure, Local IP Address Changed, Password Changed if function enabled.

Security

The screenshot shows a web interface for security settings. At the top, there are tabs for 'Basic', 'Advance', and 'Security', with 'Security' being the active tab. A 'Logout' link is in the top right corner. The page is divided into three main sections:

- Change Username Setting:** Includes a text input field for 'New Username' and 'Apply'/'Cancel' buttons.
- Change Password Setting:** Includes text input fields for 'Old Password', 'New Password', and 'Confirm Password', along with 'Apply'/'Cancel' buttons.
- Accessible IP Setting:** Includes four text input fields for 'IP #1', 'IP #2', 'IP #3', and 'IP #4', each with '0.0.0.0' entered. Below these is a 'Control' dropdown menu currently set to 'Disable'. An attention note follows: 'Attention: When you change the accessible IP successful, you must reboot device to take it effect. please confirm settings before reboot device.' At the bottom are 'Apply'/'Cancel' buttons.

Change Username Setting

Enter new username and apply to change.

Change Password Setting

Enter old password, new password and confirm password to change password.

Accessible IP Setting

IP #1~4: IP address of accessible devices.

Control: Enable or disable access permission of IP addresses entered above.

Setting via PC Software

Open the software (AXR2E Configuration Utility) in the attached CD to configure your RS007.

Configuration Guide



Scan the QR code in the left to watch the tutorial video
Or type in the URL: <https://youtu.be/ohoRTzaJDn0>

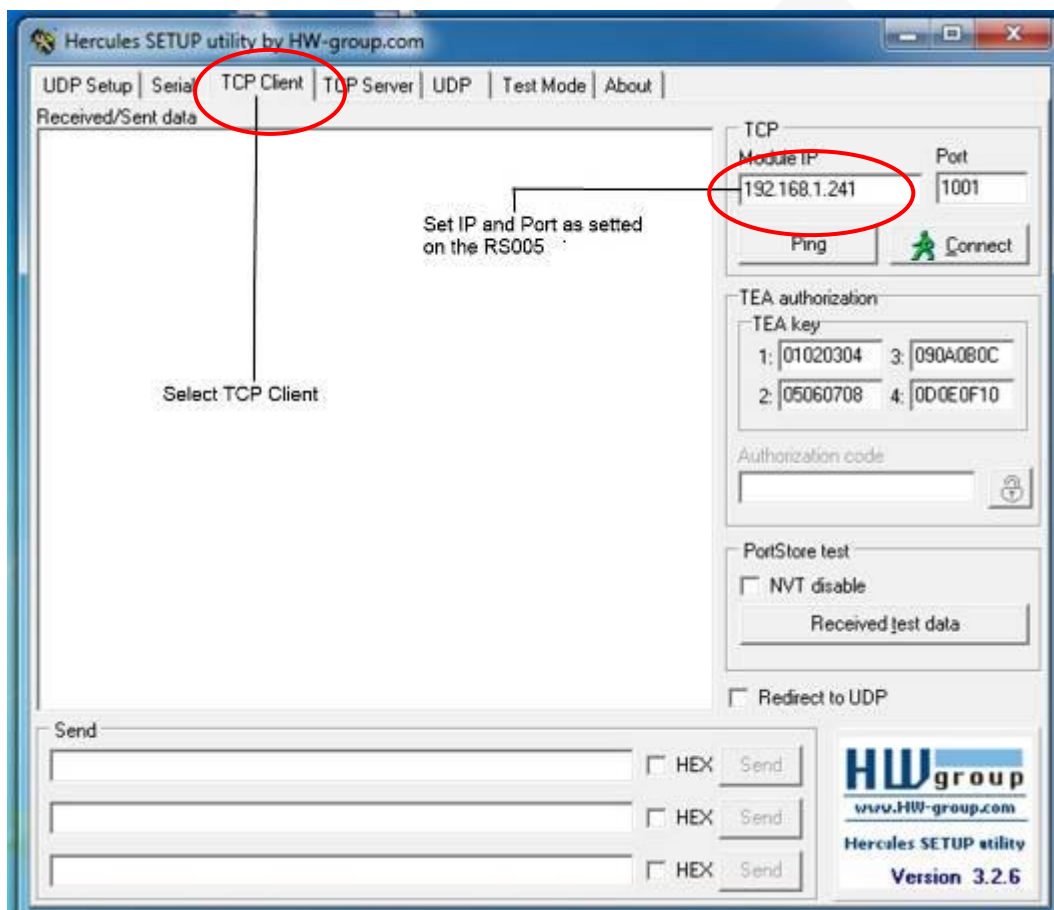
Virtual Serial Port Setting



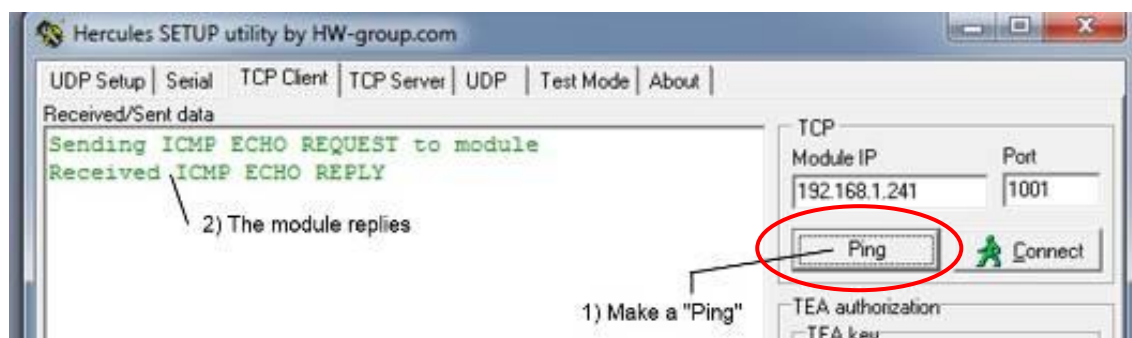
Scan the QR code in the left to follow the instructions
Or type in the URL: <https://youtu.be/TQQBosDm9Bs>

You can also download **hercules_3-2-6.exe** from <http://bit.ly/1Od8KJ> by **HW Group** to setup COM Port, DHCP Server, and TFTP Server as following.

1. Select the window **TCP Client**, and then enter Module IP and Port numbers.



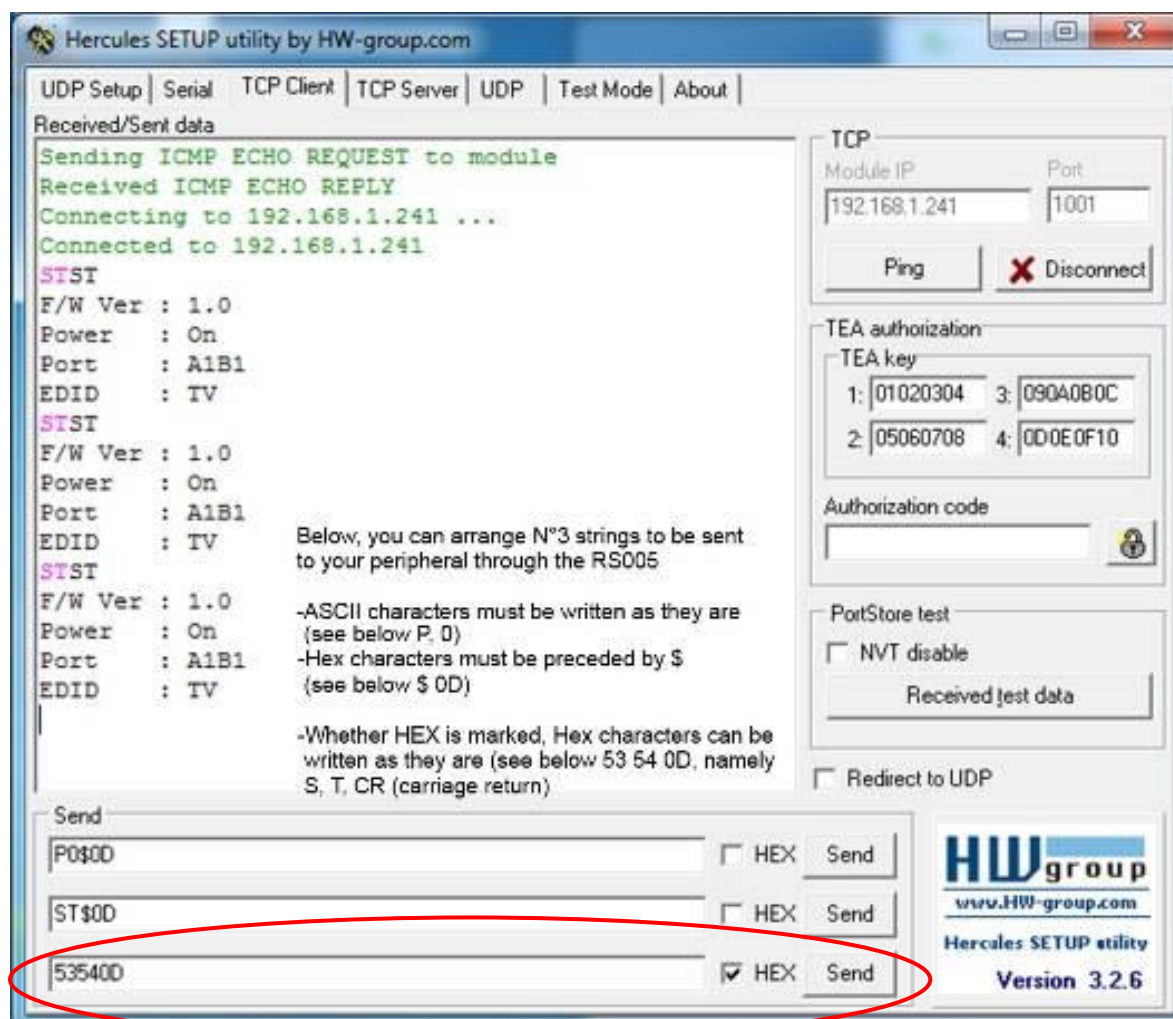
2. Make a "Ping" until the window responds the information as shown.



3. Establish a permanent connection by clicking on "Connect". The "Connect" button will turn to "X Disconnect", and then the window will show your IP address is successfully connected.



4. You have at your disposal 3 window where to edit your strings to the peripheral device through the RS007. The single string is sent only when pressing the button "Send".



5. ASCII and HEX characters can be mixed. ASCII are written as they are, HEX are preceded by \$. In the example shown, P0\$0D means that the characters sent on RS232 line will be: - ASCII "P" (HEX 50), ASCII "0" (HEX 31), ASCII "CR" (HEX 0D)
6. Whether the HEX box is marked (see third line) the HEX characters can be written as they are. In the example shown, 53 54 0D means S T CR.

Troubleshooting

Under 64bit Windows operation system:

- 1 To enable Virtual Serial Port, please right click the “AXR2E Configuration Utility” to **run as administrator** for system permission.
- 2 If still not working, please follow the steps below:
 - 2.1 Under C:\Program Files (x86)\AX110xx RS232-to-Ethernet Configuration Utility\
 - 2.2 Copy NETVSPD.inf to C:\Windows\inf\
 - 2.3 Copy NETVSPD.sys to C:\Windows\System32\drivers
- 3 When connecting to a laptop, please choose a wired network interface card before configuring the parameters.
- 4 Turn off the power after the parameters are all set, and then turn it on again to activate the setups.
- 5 RS007 **DOES NOT** support Modbus communication protocol.

Specification

ITEM NO.	RS007
Support	
Standard	RS232, RS485, RS422, Ethernet
Max. Baud Rate	1200 to 115200 bps
Network Bandwidth	10/ 100 Mbps
Communication	TCP Server, TCP Client, UDP
Max. Transmission Distance	100M over CAT5e cable
Ports & Interfaces	
Data Input/ Output	1 x DB9 Male (RS232), 1 x 4-pin Terminal Block (RS485, RS422)
Data Output/ Output	1 x RJ45
Power	
Power Supply	DC 12V 1A
Power Consumption	3W (Max)
Ambient Temperature	
Operation	0 to 70°C
Storage	-20 to 85°C
Humidity	Up to 95%
Physical Characteristics	
Dimensions	67 x 110 x 27mm
Weight	180g