



TCP/IP TO RS232/RS485/RS422

Three-in-one serial server instructions

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Chapter 1 Overview

1、 Introduction

Serial port server for communication equipment interface data conversion completed between TCP/IP to RS232/RS485/RS422, are widely used in industrial automation control system, access control system, attendance system, card system, POS system, building automation system, power system, monitoring system, data acquisition system and bank self service system etc.. RTOS real-time operating system embedded and TCP/IP complete communication protocol stack can make the serial port server provides reliable operation, but also can make the original automation systems quickly via the Internet remote network management.

2、 Main function

①TCP/UDP Server/Client

Serial port server provides four kinds of on-line mode: TCP Server /UDP Server/TCP Client/UDP Client, can be used according to the requirements of network function, cooperate with other devices, select and set one model.

②DHCP(Dynamic Host Configuration Protocol)

This function can make the serial port server through the DHCP Server to get its dynamic distribution of IP Address, can avoid the intranet segment of the IP address conflict.

③PPP Over Ethernet

The PPPoE protocol can make the serial port server is directly connected to

the ADSL Modem, after dialing connection to Internet.

④Dynamic DNS

Through the serial port server built-in DNS function, the user can apply to Internet agency, has a fixed domain and its corresponding to any dynamic IP address, the monitoring terminal through the Internet management can be directly without any fixed IP.

⑤Auto 10/100Mbps

Serial port server can automatically detect the actual environment of the network, without the need for manual switching.

⑥Built in network management system

This function allows user to the network on the serial port server settings or system software upgrade, backup through the IE browser, without the need to install the driver or management software.

⑦Data backup and restore settings

This feature allows administrators to conduct the system settings, data backup and restore, in which the data is encrypted, to ensure the security of data.

Chapter 2 Hardware definition and initialization

1、RS232 Interface definition

SN (DB9 pin)	Definition	The direction of data
PIN1	DCD	IN
PIN2	RXD	IN
PIN3	TXD	OUT
PIN4	DTR	OUT
PIN5	GND	
PIN6	DSR	IN
PIN7	RTS	OUT
PIN8	CTS	IN
PIN9	RI	IN

2、RS485/RS422 pin definition

Terminal from left to right	1	2	3	4
RS485	T/R+	T/R-	-	-
RS422	T/R+	T/R-	RXD+	RXD-

3、Diagram of Ethernet connection

Serial server connect to Switch Ethernet port adopts the mode of connection of one to one, Figure 1

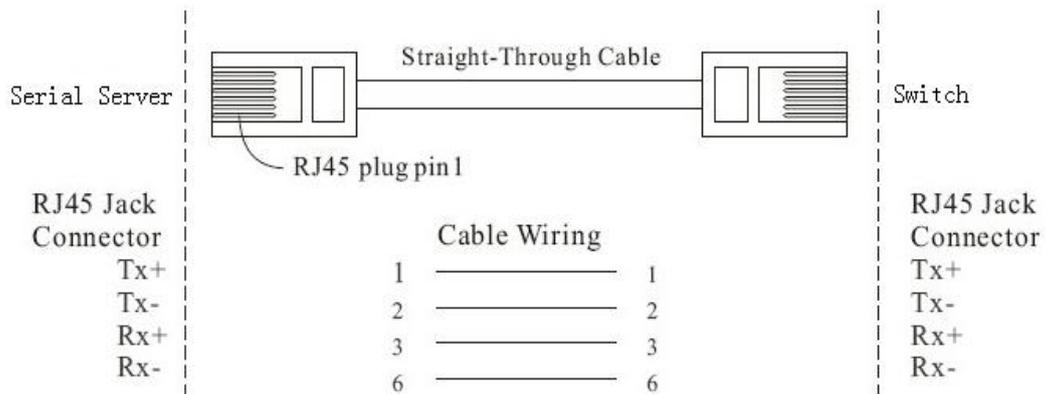


图1

Serial server Ethernet port connected PC network card when using the cross connecting line, as shown in Figure 2

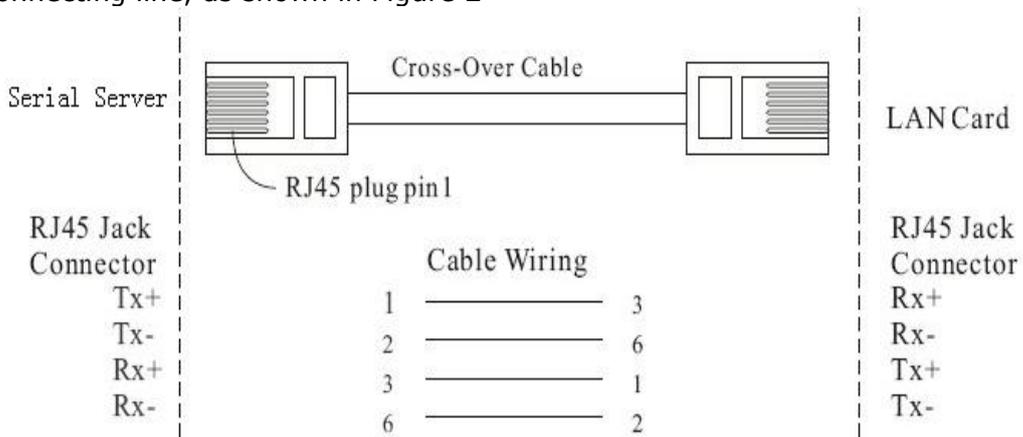
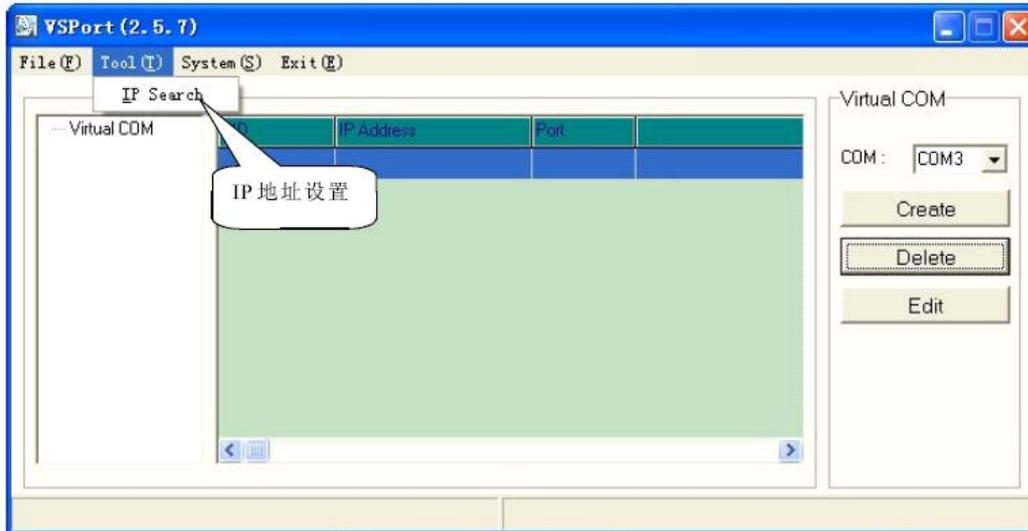


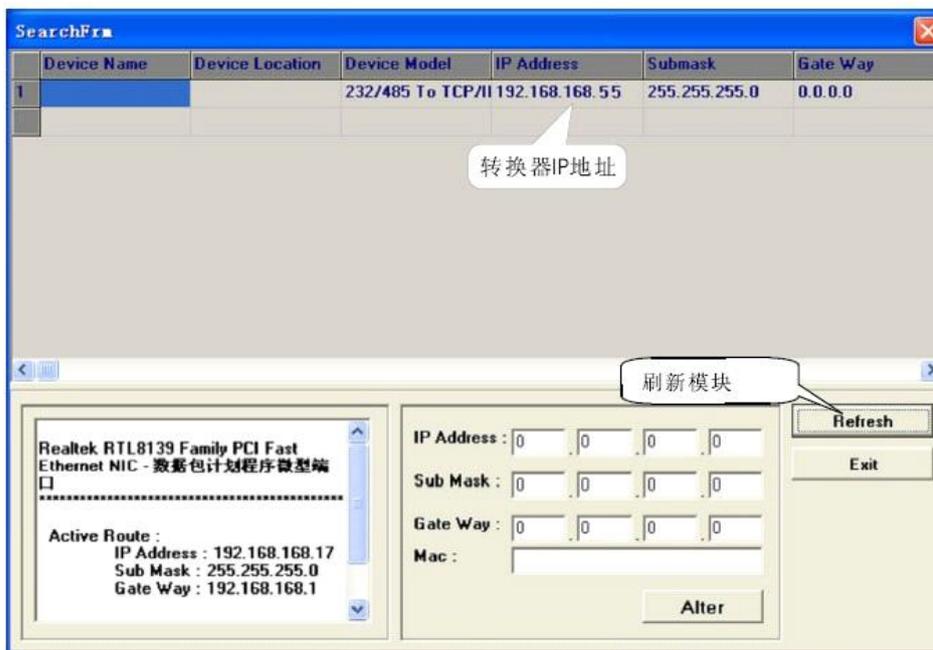
图2

Chapter 3 Virtual software introduction

1、 In the main program menu select Tool--IP-SEARCH, enter the IP address setting subprogram as shown below of a SearchFrm window, and then click the refresh button, serial server will be automatically search by program, and displayed in the list box, default value: 192.168.168.55, subnet mask: 255.255.255.0, the port number is: 50000, the username and password are: admin



2、 SearchFrm Windows



3、 The mouse to click to set the address list, single click the address list to modify the IP address, subnet mask, gateway, press the Alter button to complete the setup. Double click address list directly into the IE browser for parameter setting mode, press the EXIT button to end the program.



Chapter 4 Logon Webpage settings

The following figure shows the success of logon the serial server settings Webpage , the factory default user name and password is: admin, are the lowercase letters, type and press the Enter key.



1、Quickly configuration serial server

User can quickly configure parameters by using One Page Quick setup page.



2. Set the serial server system

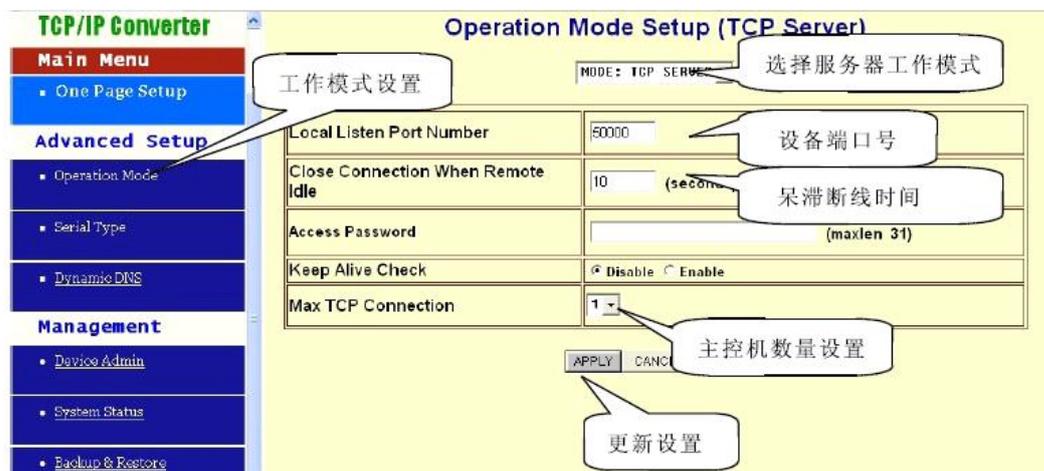
Operation Mode Setup (TCP Server), The working mode and port settings, there are 4 ways of working: TCP SERVER、TCP CLIENT、UDP CLIENT and UDP SERVER。"Data port" input listening port number for this item, and then click "APPLE" button.

TCP Server

① Listen Port Number: default 50000, Range:0 to 65535

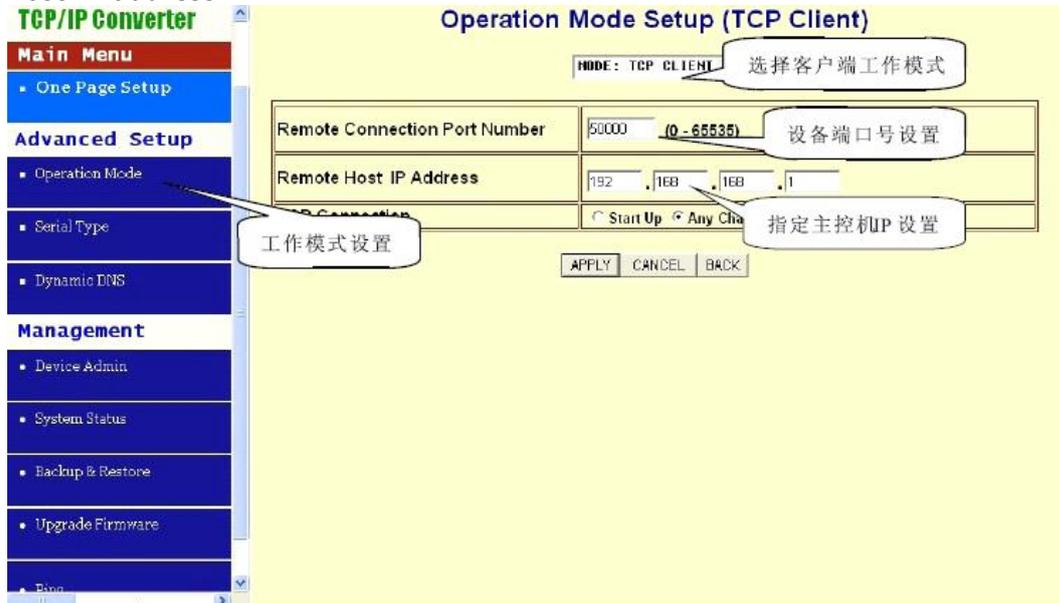
If the device uses the TCP/IP protocol through the remote command driven, then data transmission, it must be set before the serial server for "TCP SERVER" mode, "LISTER PORT NUMBER" and you have to monitor the end of the same numerical value.

Dull end time (seconds): the default value is 100, ranging from "0" to "32768" When you want to keep the ends of the line, you must use this number is: "0", or when the line without data transmission time exceeds the set, the system will automatically cut off the line. To ensure data security, the user can set a password for supervision, when to enter the correct password before data transfer, obtain permission after the subsequent steps to.



② TCP Client

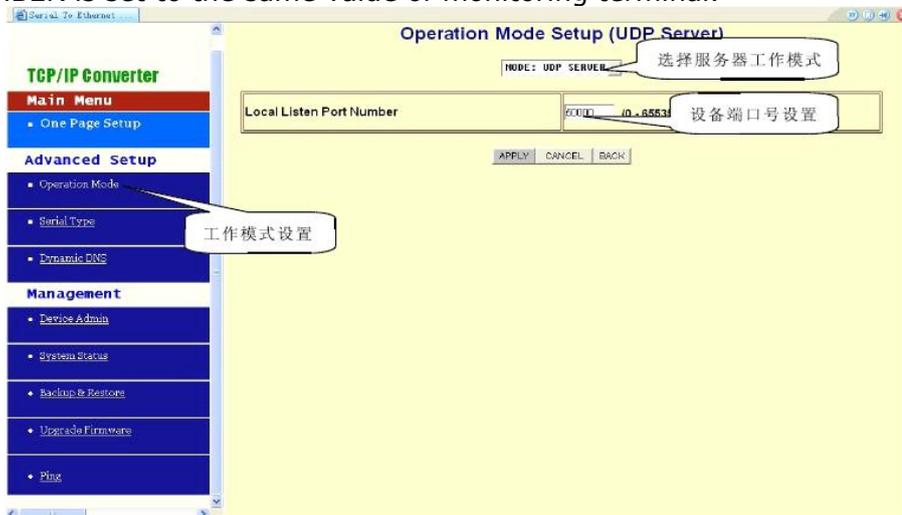
The remote connection port, the default value is 50000, the range is 0 to 65535, the remote host IP Address: the default value of 0.0.0.0 If the device is using the TCP/IP protocol to the real time status report to the PC, you'll have a serial server settings for TCP CLIENT and must ensure that the port is arranged at the two ends of the same value, at the same time to correctly fill in the remote host IP address.



③ UDP Server

Listen Port Number, default: 50000, range 0 to 65535.

If the device is using UDP protocol through the remote instruction driven data re transmission, the serial port server is set to UDPSERVER, and LISTER PORT NUMBER is set to the same value of monitoring terminal.

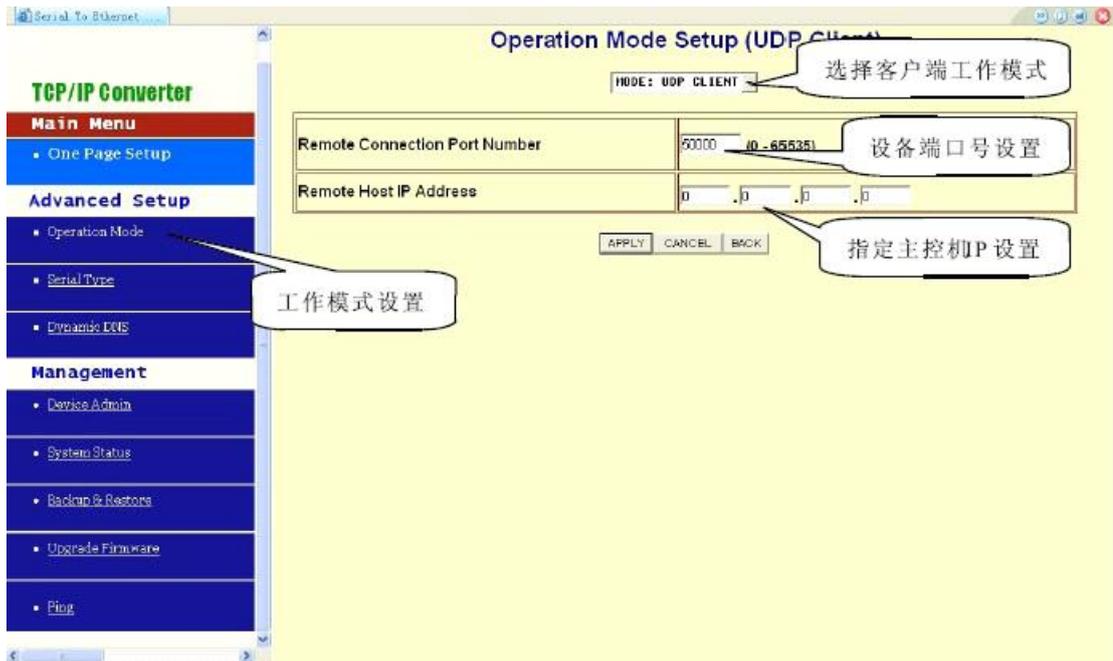


④ UDP CLIENT

The remote host connection port number: the default value is 50000, the range is 0-65535

The remote host IP ADDRESS 0.0.0.0

If you need the equipment using the UDP protocol, the real-time data reporting to the PC, it must be the serial port server settings into TCP CLIENT, and must confirm that are arranged at both ends of the same port number and correct input to the remote host IP address.



Chapter 5 IP configuration

Serial server provides 3 kinds of IP networking mode: fixed IP, DHCP and PPPOE, in the drop-down menu, can according to the use of the selected suitable work mode, when selected, below the field will need to enter the IP address of the list box will appear automatically.



Serial port server network communication IP address setting:

IP ADDRESS: DEFAULT 192.168.168.55

SUBNET MASK:DEFAULT 255.255.255.0

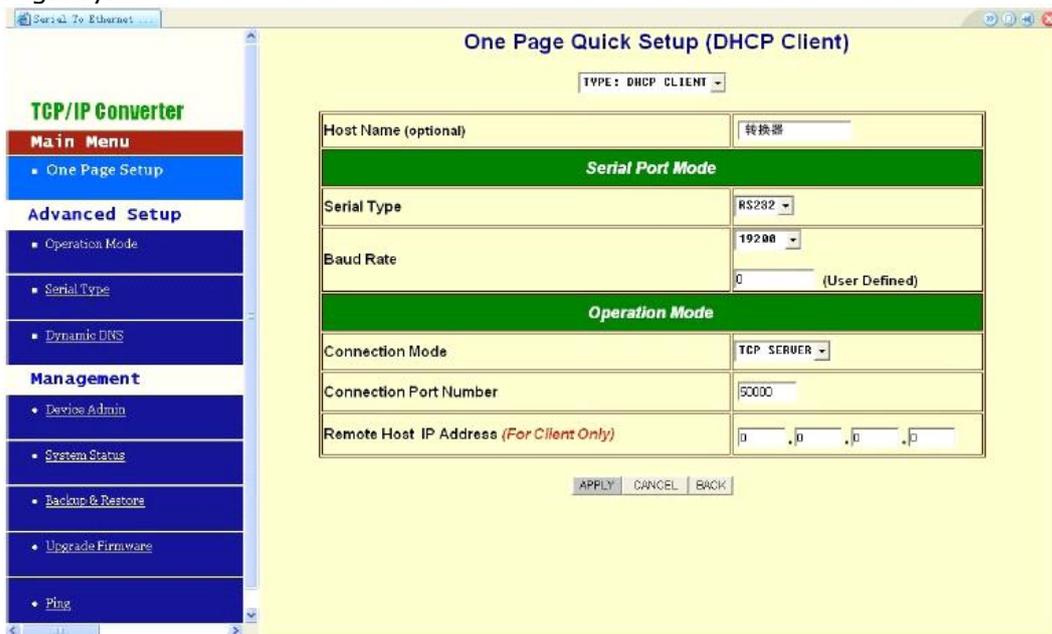
GAREWAY:DEFAULT 0.0.0.0

PRIMARY DNS:DEFAULT 168.95.1.1

If the above numerical input is finished, click the window directly below the "Apply" button

①DHCP

The host name OPTIONAL: is the default default, maximum 15 characters can be entered, if the network environment DHCP host or you use is the CABLE ADSL service, you must enter the DHCP host name, and by the responsible for the allocation of dynamic IP. If you use the CABLE ADSL service, you must change the serial port server MAC ADDRESS, so that its value is the same as the system registry.



②PPPOE

User name: maximum 47 characters can be entered

Password: you can enter up to 35 characters

Server name: maximum 47 characters can be entered

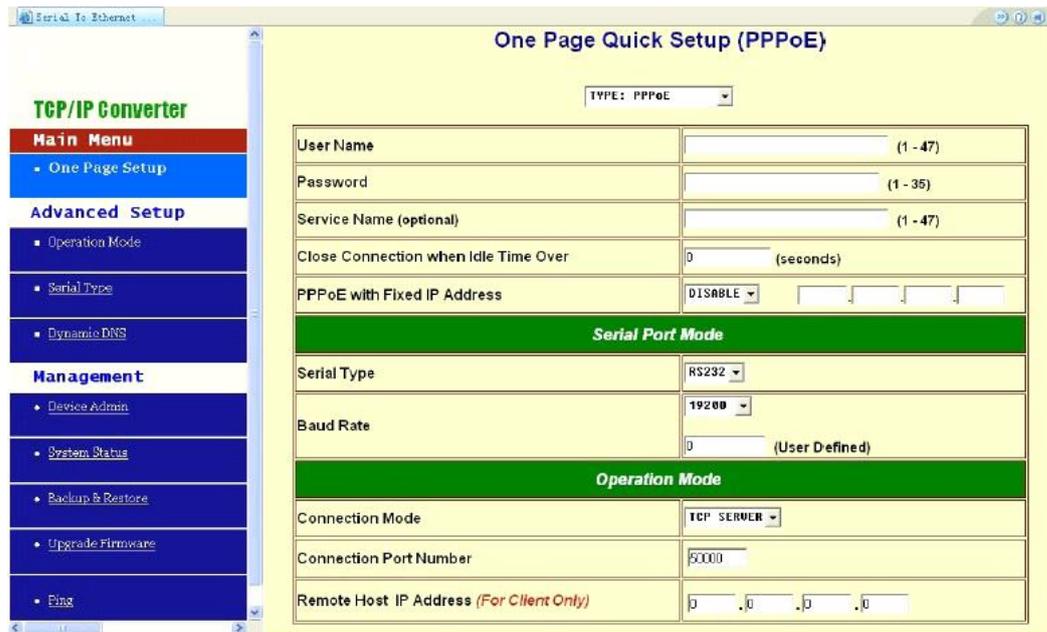
Idle disconnect time (in seconds): the default value of 0, range 0-6000

PPPOE (fixed IP): the default value of DISABLE

If using ADSL online, you need to input the ISP provides commercial users name and password (some telecom also need to provide the name of the server or IP)

If you want to keep the dial up access, must be idle disconnect time set to "0", otherwise, but the line without data transfer time exceeds the set value, the serial port server will automatically stop dial online.

If the application is a fixed IP dial-up business, must have the PPPOE WITH FIX UIP ADDRESS set to ENABLE, and enter the service provider IP address.



Chapter 6 RS232/RS422/RS485interface configure

Serial server supports three types of serial communications: RS232, RS485, RS422, in the drop-down menu, in accordance with selected for transmission mode of operation, after the field selected below will automatically appear several formats require input (the system default is fixed RS485)1、RS232、RS422

BaudRate: 115200 default, range: 1200-230.4kbps

DataBits: 8 default, 5,6,7

StopBits:1 default,2

FlowControl: None default. CTS/RTS,XON/XOFF

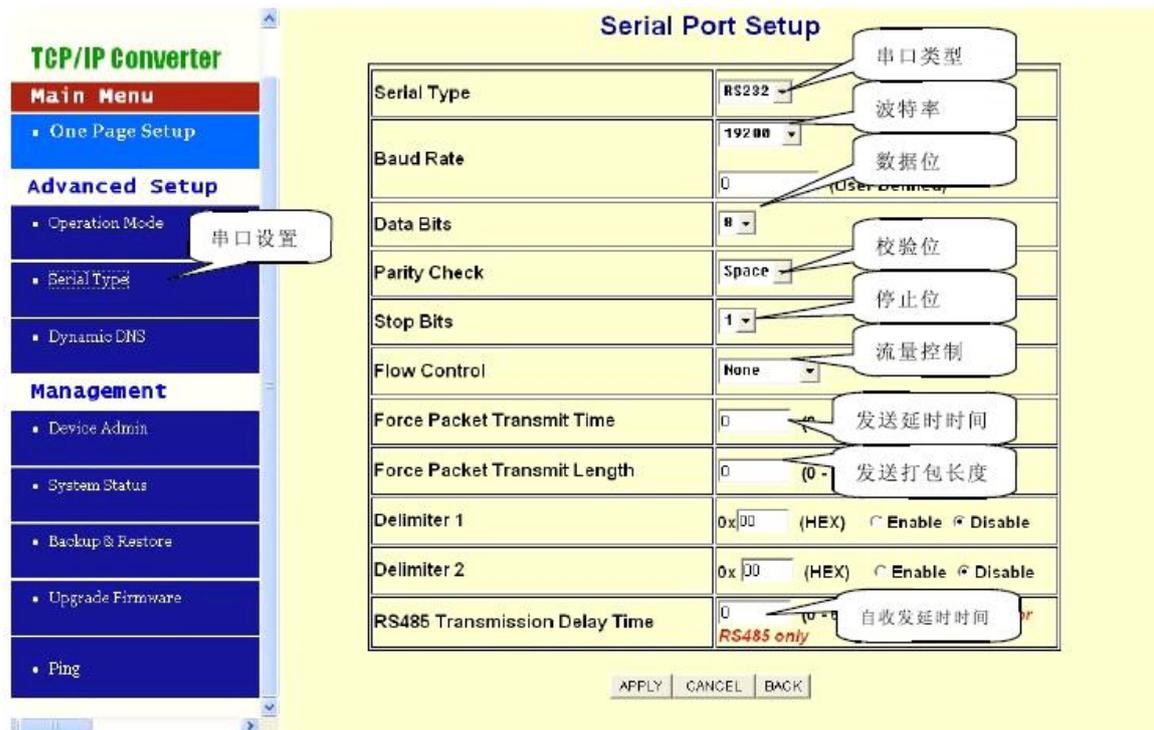
Force Packet Transmit Time(ms):100 default ,range: 20-65535

(The timing of transmitting an Ethernet packet, in order to get the whole data in on packet, you can turn this setting value to fit data length of your device per transmission .The more small value be set will get more less data in one packet.)

2、RS485

RS485 transmission delay time of half duplex (US): 0 default, range: 0-65535

Because of the different devices have different serial port handling capacity, so we must set this value to a serial port server reduces the processing speed to match with different response speed equipment.



Chapter 7 DNS

Serial port server provides the DDNS function of dynamic domain name system, DDNS will be a dynamic IP address corresponding to a fixed domain, this powerful functions can through the wide area network for remote control in the absence of fixed IP address condition. Prior to using this function, you must select the following two service providers in one registration completed WWW.DYNDNS.ORG and www.tzo.com, if you choose the DynDns that the drop-down menu select DynDns, if TZO, then select TZO, after the completion of the choice below the field will be automatically listed input content.

Note: to provide this service in the mainland area of only TZO, the DynDNS will not

1、Dyndns.org

User name: maximum 31 characters can be entered

Password: maximum 31 characters can be entered

Device DNS account: maximum 47 characters can be entered

Enter the user name user password name, password, and Device DNS Name equipment DNS account

Register IP ADDRESS: default state is DISABLE, if the DDNS to start immediately display register IP

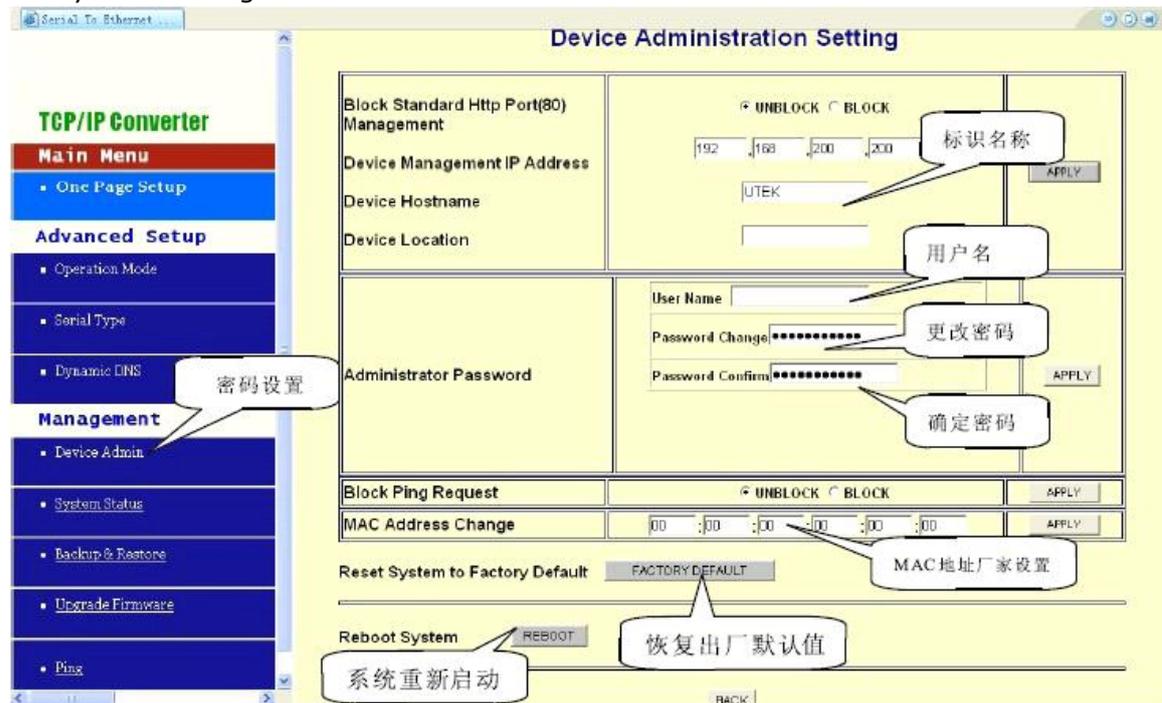
Status: display and DNS Server start-up condition

Chapter 8 Set serial server system management

This chapter introduces the system management related upgrade settings and

system software.

1、System management set



The interception of standard management HTTP Port (80): UNBLOCK default, if for some reason the HTTP service was cut off in the network environment and can not be caused by the serial server management and set, when this option must be set to: BLOCK, makes the PORT8080 replaced PORT80. So you must enter in your web browser: HTTP://192.168.168.55:8080 to enter the management menu.

The system management of IP ADDRESS:192.168.200.200 default

If you forget the equipment IP ADDRESS, using the IP managers, but also can be connected to the converter, and find the set IPaddress.

If you are using DHCP or PPPoE to obtain the dynamic IP, can use this method to obtain the devices using IPADDRESS.

Note: if the set IP and IP managers just forget, please provide the virtual software using your product in the IP SEARCH tool to find the right IP ADDRESS.

The device name: default is serial server, enter the registration code, maximum 15 characters can be entered, name used to describe equipment.

2、Administrator password

username: admin default

password: admin default

In order to ensure the system security, landed in the WEB management system, input user name and the correct password system

Blocked PING request: UNBLOCK default

In order to avoid a hacker entry system, can the function of equipment for BLOCK, how can be cut off by the network up to PING requirements, make to the intruder cannot know your IP.

3、MAC Address changed

Serial port server MAC ADDRESS may have the necessary changes in the special, such as some ISP manufacturers use change Internet equipment is requires a user to enter a registered MAC ADDRESS

4、 Restore factory default

According to the "FACTORY DEFAULT" button to restore, and then press OK, the system will be re covered all of your settings, return to the initial state of the game when: 192.168.168.55, the port number is: 50000.

Note: if not necessary, please do not arbitrarily restore factory settings

5、 System restart

According to the "REBOOT" if you want to change other settings not restart the system, the device restart.

6、 The system state

Product Name: serial server

Software version: the use of the current system software version number

The system boot time: display system from start to now after a time

Management of the IP ADDRESS: is now setting management IP

The status of the network: serial server is currently IP forms, MAC address, IP address, subnet mask, default gateway IP address. Primary DNS IP address and now online.

Serial interface: serial server state at present serial interface setting state

Recording: the number of network and serial port a total of sending and receiving data

7、 Backup and restore

This function system user equipment set state backup and restore.



Backup: press "Backup" key and storage system now set to a backup file co-exist in the hard disk.

Reduction: input current path to backup file and press the "Browse" button to find, is completed, press "Restore" key to restore the system

Note: must be a backup document extension: *.cfg

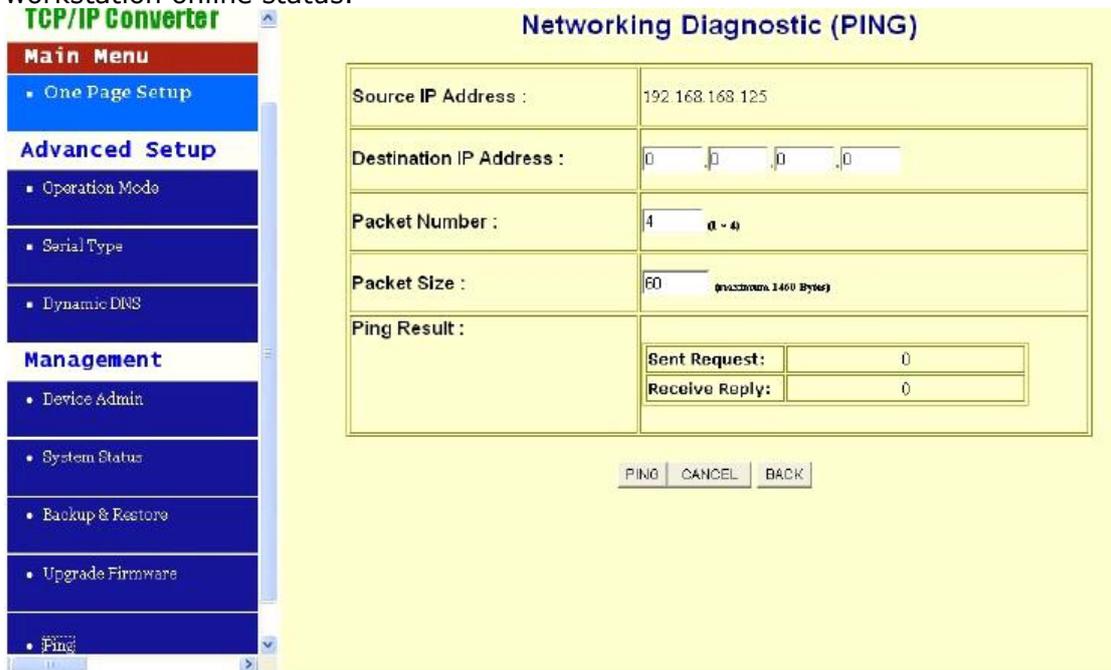
8、 Software upgrade

This feature provides you the software upgrade to your new data reduction of serial server, in this action, must go to the company's Web site to download the latest version of the current PC and saved in the.



Browse: input file path to upgrade in PC press the navigation key for
 Upgrade: to complete the operation steps and press "SPGRADE" key to upgrade
 Note: in the process of upgrading to ensure the power supply stability, otherwise
 it will cause irreparable mistake.

9、This feature provides test equipment or between with other network
 workstation online status.



Send IP ADDRESS: currently equipment IP address (read only)
 The target IP ADDRESS: input to PING IP ADDRESS
 The number of packets: input to send the packet to the number, the maximum
 value is 4
 The packet size: input to send the packet size, the maximum value is 1400
 PING results: the results showed that the number and frequency of the received
 PING (read only)

Chapter 9 Virtual software application

1、The brief introduction of virtual serial port application functions

Virtual serial port application program is mainly used in the control of the host PC, generated a number of virtual serial port according to the need, virtual serial port using the virtual serial driver, pure hardware serial port and computer originally has (COM1 COM2) has exactly the same interface settings, namely, pure hardware serial port is in the computer itself (COM1 COM2) can run the program, virtual serial port generated using the virtual serial port driver can also be normal operation.

Serial port server series, it provides transparent conversion of TCP/IP to the serial port, serial port server received from the data on the interface, the transparent transmission to the network, but also can receive data from the network transparent and sent to the serial port server serial port.

Vir-COM provides the serial port serial port server to the virtual serial port mapping management and data forwarding function. Through the virtual serial port driver generated a number of virtual serial port on the computer, and then the serial port mapping one or more serial server to the virtual serial port is specified using a Vir-COM, and then start the Vir-COM transfer functions, thus, can communicate through virtual serial port and distal site equipment.

2、Virtual serial port driver and the Vir-COM runtime environment

Virtual serial port driver and Vir-COM can be run in the following circumstances: Windows98.Windows200.WindowsXP.Windows7 32 system,

3、Install and uninstall the virtual serial port driver

Installation: run VirCOM to complete the virtual serial port driver installation

Uninstall: through the panel within the add or remove programs to uninstall windows contro

4、VirCOMMethod of use

Open VirCOM in the computer desktop, into a virtual serial port application program interface, as shown in the following figure:



In the VSPORT2.5.7 virtual serial port application program interface, a File file, the program menu tool of Tool, system System, quit Exit four menu. Open in the Tool-IPSearch tools, can easily find the all connected to the serial port server LAN, found later can change the serial port server using the software of

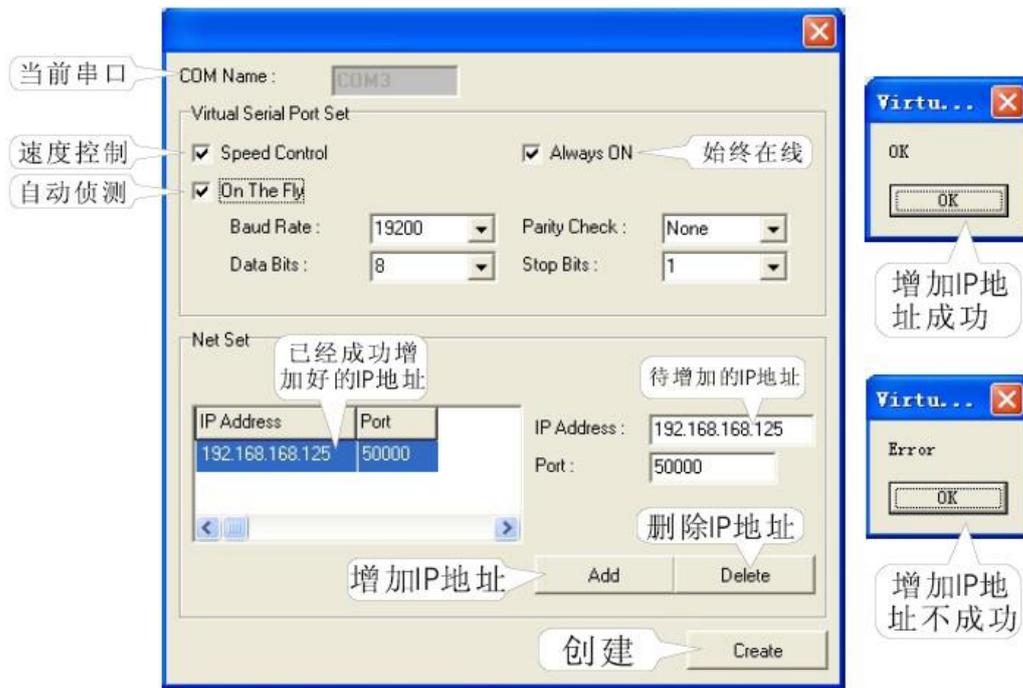
IP.



Many times through the "Refresh" button, the software will automatically receive the entire network serial server, and then listed in the above item box, select one of the following entry, the entry box is automatically displays the current serial server you click, once the change after, according to the "Alter" can be directly.

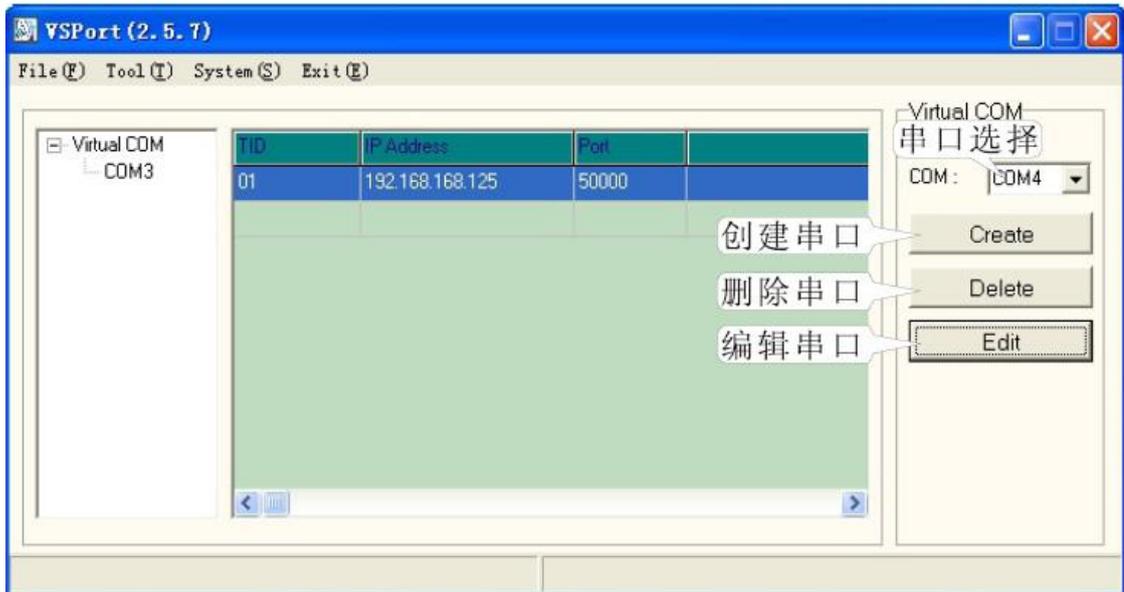
5. The establishment of virtual serial port

Completion of user equipment IP address settings and parameters, you can run for existing applications through the establishment of a virtual serial port, and do not need to change the software, select the range of the serial number you want: COM1-COM99; then click on the VSPORT program interface "Create", appears the following interface:



The new name of the COM Name: range of COM1-COM99 serial port
 Serial port server IP address: user set, the default IP192.168.168.55 device
 Port PORT:50000 default, range: 0-65535
 Set parameters, virtual serial port 6
 Baud Rate:115200 default, 1200-230.4kbps
 Data Bits:0 default
 Parity Check:None default, even, odd, mark, space
 Stop Bits:1 default, 2
 Note: if ON THE FLY is a tick, the system will automatically detect the serial baud rate, data bits, parity bits, stop bits.

The completion of the above settings, set up to create the IP address and port number, and then click the ADD button, increase the success after the emergence of a OK window, if not successful there will be a ERROR window. Creation is not successful reason may be: first, it is possible to set the IP address is not correct; second, or the port number is not the same; the third is a cable impassability), once the IP address increased after successfully by creating Create button, successfully created in the serial display area shows you create successful serial no.. The following diagram:



Create good, program left will display the new COM number and IP address, port number. If you want to delete the serial number, directly selected, and then click the delete button.

Chapter 10 Troubleshooting

1、 When the electricity is, LED lamp does not light

Confirm Is it right? Equipment using standard power supply, and check the power line is normal, otherwise notified equipment manufacturers.

2、 Unable to read the data through Ethernet

Between the equipment and computer switch connection, using PING approach to confirm. NET lights are often bright, or to check the connections.

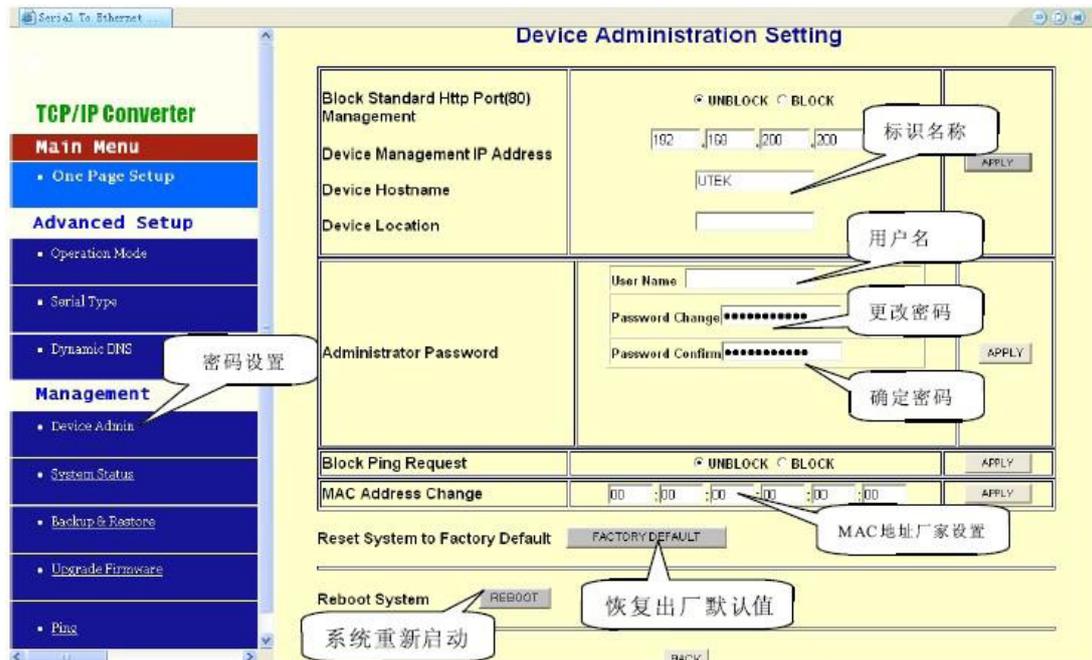
3、 Not through the device reads the equipment "s data from serial port

The connection between RS232/RS485/RS422 inspection equipment and equipment, confirm the serial parameters settings of the device Is it right? Consistent.

4、 Unable to search equipment

Can be configured by the administrator to the host IP address, IP to 192.168.200.xxx, and then open the IE, enter the 192.168.200.200, enter, enter the Webpage landing window, enter the user name and password: admin, enter

the device interface, window as shown below:



Click the FACTORY DEFAULT button, the system will be in 10 seconds to restore to factory settings, you can reset the parameters after.