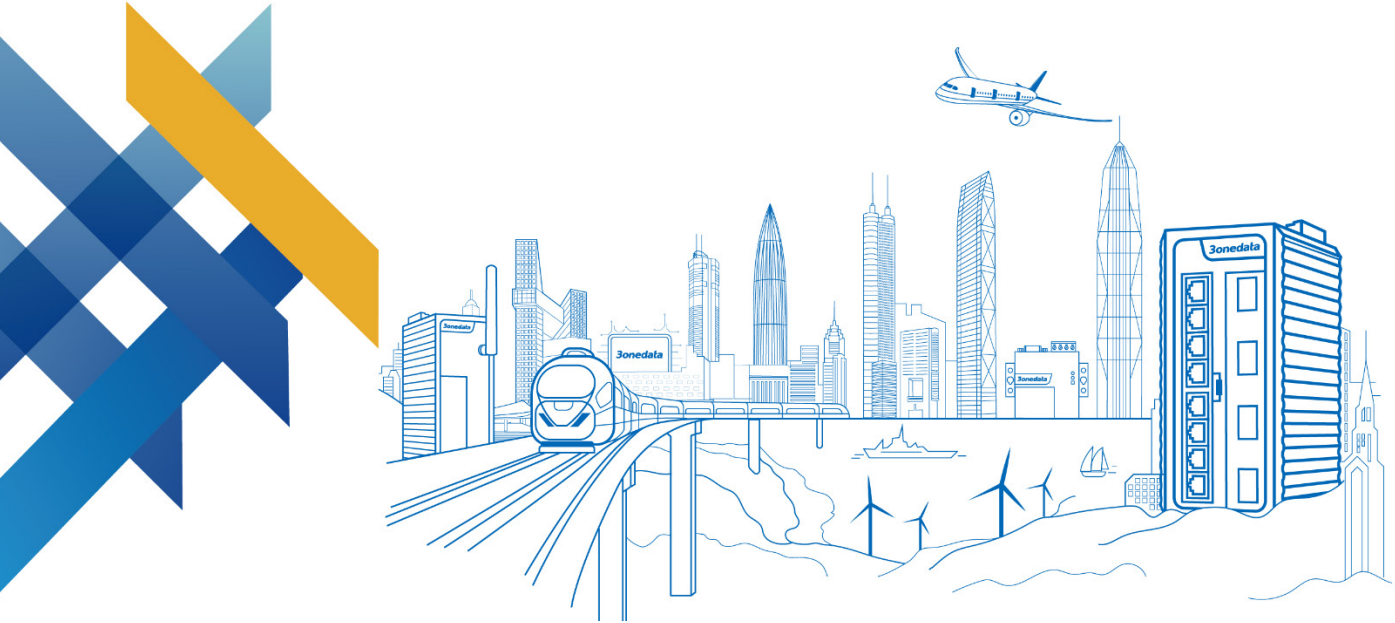


**3onedata**



# Serial Server CLI User Manual

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**Industrial Ethernet Communication Solution Expert**

**3onedata Co., Ltd.**

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## 3onedata Co., Ltd.

Headquarter address:

3/B, Zone 1, Baiwangxin High Technology Industrial park, Nanshan  
District, Shenzhen, 518108 China

Technology support:

support@3onedata.com

Service hotline:

+86-400-880-4496

E-mail:

sales@3onedata.com

Fax:

+86 075526703485

Website:

<http://www.3onedata.com>

# Preface

CLI user manual has introduced the following contents:

- Command line login method
- Related configuration commands



Note

The screenshot or configuration reference model of this manual is 32 RS-232/485/422+2 100M copper ports. Except for the types of supported serial ports (RS-232, RS-422 and RS-485), the number of network ports and the number of serial ports, other types of products have similar interface functions and operations.

## Audience






This manual applies to the following engineers:

- Network administrators
- Technical support engineers

## Text Format Convention

Format	Description
" "	Words with "" represent the interface words. Such as: "Port No."
>	Multi-level path is separated by ">". Such as opening the local connection path description: Open "Control Panel> Network Connection> Local Area Connection".
Light Blue Font	It represents the words clicked to achieve hyperlink. The font color is as follows: 'Light Blue'.
About this chapter	The section 'about this chapter' provide links to various sections of this chapter, as well as links to the Principles Operations Section of this chapter.

## Symbols

Format	Description
 Notice	Remind the announcements in the operation, improper operation may result in data loss or equipment damage.
 Warning	Pay attention to the notes on the mark, improper operation may cause personal injury.
 Note	Conduct a necessary supplements and explanations for the description of operation content.
 Key	Configuration, operation, or tips for device usage.
 Tips	Pay attention to the operation or information to ensure success device configuration or normal working.

## Port Convention

The port number in this manual is only an example, and does not represent the actual port with this number on the device. In actual use, the port number existing on the device shall prevail.

## Revision Record

Version No.	Date	Revision note
01	06/09/2017	Manual development
02	10/10/2017	Add Password Verification Function
03	12/06/2021	Upgrade

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# 1 CLI Configuration

## 1.1 To know command line interface

The command line interface is the text class instruction interaction interface between the user and the device. The user types the text command, and submits the device to execute relevant commands by entering the Enter key, so as to configure and manage the device, and can confirm the configuration result by viewing the output information. The command line interface allows user to enter more meaningful instructions at a time than the graphical interface, which uses mouse clicks to set the relevant options. The command line interface of the device is as shown:

```
Welcome to SerialServer
SerialServer login: admin
Password:
SerialServer> enable
SerialServer#
```

## 1.2 Start to Use Command Line Interface

Device supports multiple ways to enter the command line interface:

- Entering command line interface after logging into the device via Console port
- Entering command line interface after logging into the device via Telnet
- Enter the command line interface after logging in to the device by SSH

## 1.3 Command Line Format Convention

The commands in this manual are mainly divided into three items according to the following format.

Description introduce the function implemented by the command



**Command** introduce command format, adopts the following bold fonts:**command**

Parameter introduce the parameters in command When multiple parameters are included, they are described in the following bullet format.

- Parameter 1: Introduce parameter 1.
- Parameter 2: Introduce parameter 2.
- Parameter 3: Introduce parameter 3.

Some commands also give examples of command-line operations.

## 1.4 Command Line View

At initial startup, when the prompt of "SerialServer >" appears, type "?" Key to view the available configuration commands, and the user can enter the management state by typing "enable".

When the prompt of "SerialServer#" appears, it means that it has entered the management state, by typing "?" Key, you can see the configuration commands that can be used in management mode. The user can enter the configuration state by typing "configure terminal", and retreat to the higher level directory by typing "exit".

The interface is shown as follows:

```
SerialServer login:admin
Password:*****
SerialServer> enable
SerialServer# configure terminal
SerialServer(config)#
```

## 1.5 Use Command Line Online Help

CLI provides the following kinds of online help:

- Complete help;
- Partial help.

### 1. Complete help

1) In any view, enter <?> to get all commands and their simple description in this view.

For example:**SerialServer#**

```
configure Configuration from vty interface
disable Turn off privileged mode command
enable Turn on privileged mode command
end End current mode and change to enable mode
exit Exit current mode and down to previous mode
list Print command list
ping Send echo messages
```

```

quit      Exit current mode and down to previous mode
show      Show running system information
ssh       Open an ssh connection
system    System management
telnet    Open a telnet connection
traceroute Trace route to destination

```

2) Enter a command followed by “?” separated by space, all keywords and their simple description would be listed if this location has keywords.

```

SerialServer(config)# ip
http-server
https-server
ssh-server
telnet-server

```

## 2. Partial help

1) Type a command followed by a string followed by <? >, which lists all keywords that the command begins with that string.

```

SerialServer(config)# ip
ip      Enable IP remote configurestart telnet server
ipfilter --ipfilter showall

```

2) Type the first few letters of a key in the command, and press <Tab>. If the key begins with a unique input letter, the complete key can be displayed.

```

SerialServer(config)# sh press <Tab>
SerialServer(config)# show

```

## 1.6 History Command

command line interface provides features like Doskey, which can save history Command entered by user automatically. User can call history Commands saved by command line interface at any time and execute them repeatedly. Operations are as follows.

Operation	Key	Result
Visit last history command	The up cursor key<↑>	If there are earlier history commands, the last history command would be fetched
Visit next history command	The down cursor key<↓>	If there are later history commands, the next history command would be fetched

## 1.7 Common Commands

### list

<b>Description</b>	Display all command lines under current nodes
<b>Command</b>	<code>list</code>

### exit

<b>Description</b>	Exit the current configuration view
<b>Command</b>	<code>exit</code>

# 2 Login to the Device Configuration by Using CLI

---

The command line interface (CLI) is the text instruction interaction between user and device interface, the user type in text commands, through press the Enter key to submit equipment related command, and can enter commands to configuration of equipment, and by looking at the output of information to confirm the configuration result, it is convenient for users to configure and manage the device.

Login to the device through CLI includes: login through Console port, Telnet and SSH. When you use Console port, Telnet and SSH to log in to the device, you need to use CLI to interact with the device.

## 2.1 Configure logging in to the device via Console port

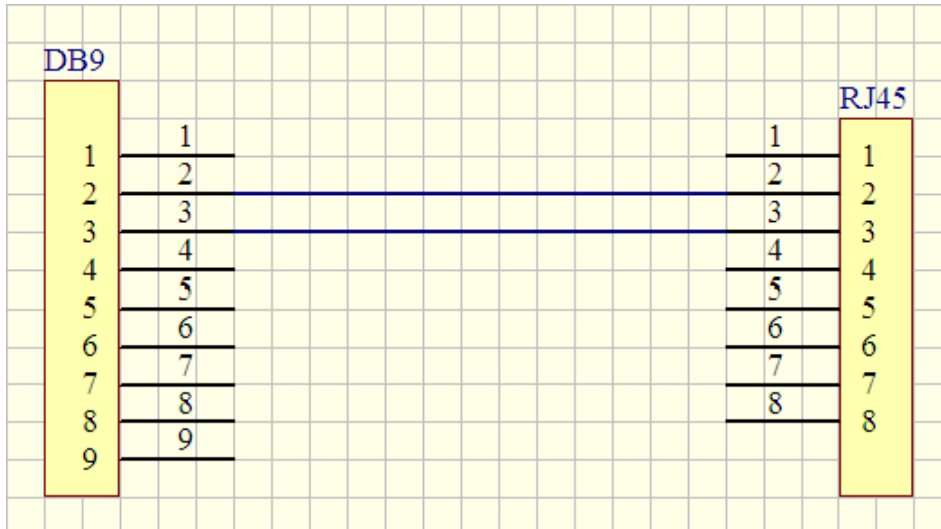
### 2.1.1 Connect the device to the configuration terminal

Establish a local configuration environment, and connect the serial port of the computer with the Console port of the device.



This cable is used to connect the Console port of the device with the external monitoring terminal device. One of the ends is RJ45 8-core socket, and the other one is 9-hole socket (DB9).

RJ45 head is connected to Console socket of the device, and the schematic diagram of internal connection line of this cable is as follows.

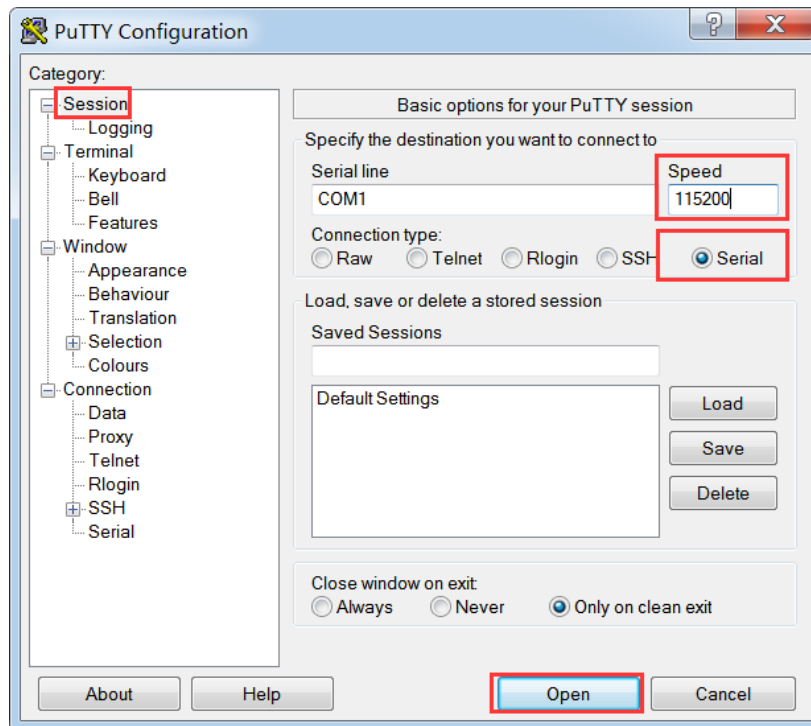


## 2.1.2 Log in to the device using the third-party software

### PuTTY

PuTTY is a Telnet, SSH, rlogin, pure TCP and serial interface connection software, and it is a free and open green software. Use PuTTY to log in to the device as follows.

- Step 1** Download PuTTY software and install it.
- Step 2** Open PuTTY and click "Session" on the menu bar.
- Step 3** In the "Basic options for your putty session" input box on the right,
  1. Select "Connection type" to "Serial".
  2. Enter "115200" in the "Speed" text box;
  3. Click "Open".



**Step 4** the "com-PuTTY" command line editing dialog box pops up.



**Step 5** End.

## 2.2 Connect Configuration via Telnet

Telnet to the device through the terminal requires the following conditions:

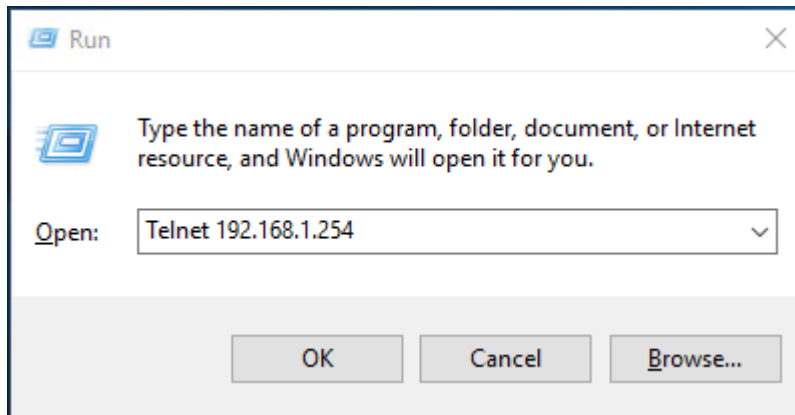
- The IP address of the device can be set on this device (the IP command can be used in the system management view);
- If the terminal and the port connected to the device are in the same LAN, its IP address must be set on the same network segment; Otherwise, the terminal and the device must be reachable across routes.

If the above two points meet, Telnet can be used to login to the device, and then set up the device.

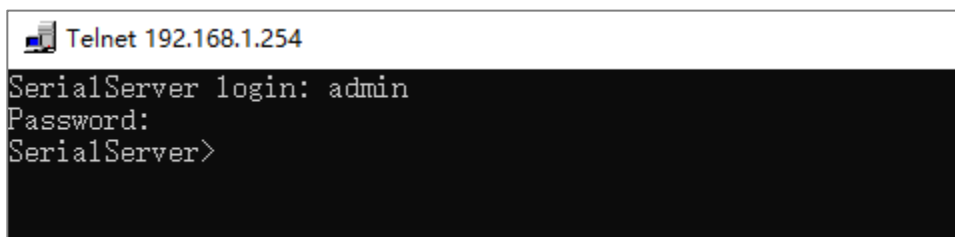
The operation steps are as follows:

**Step 1** To establish the configuration environment, it is only necessary to connect the computer network port with the network port of the device through the local area network.

**Step 2** Enter "Telnet+space+product IP" for verification before logging into the device through telnet, as shown in the following figure.



**Step 3** The "Telnet" dialog box pops up and user can enter user name and password according to the hint. The user name and password of the user login are all admin by default. As the picture below.



**Step 4** End.

## 2.3 Connect Configuration via SSHD

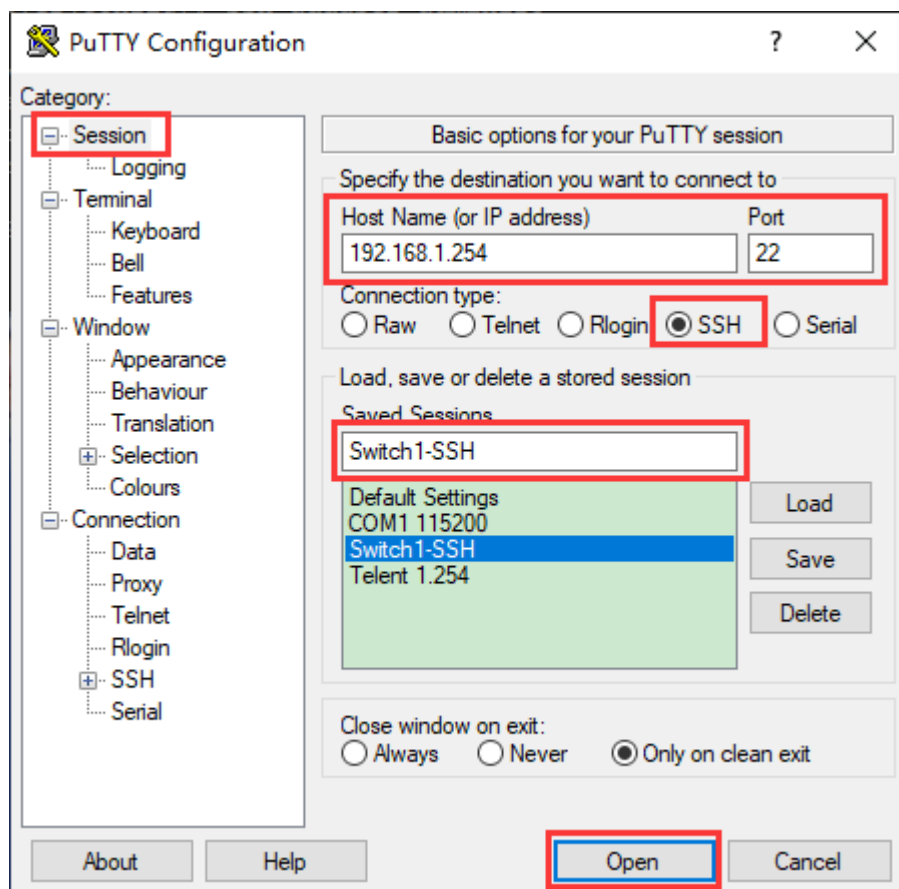
The full English name of SSH is Secure Shell. SSH is a security protocol based on application layer and transmission layer. SSH is a reliable protocol which provides security for remote login sessions and other network services. Using SSH protocol can effectively prevent information leakage in the process of remote management, and can also prevent DNS and IP spoofing. In addition, the transmitted data is compressed so that the transmission speed can be increased.

### Configuration Instance

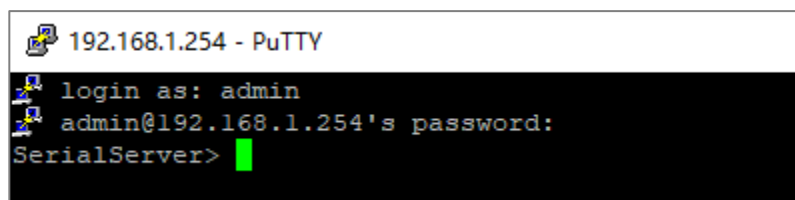
This device is used as SSH server, and PC accesses this device through third-party software PuTTY as SSH client. PuTTY is a connectivity software for Telnet, SSH, Rlogin, Raw and serial interface, which is usually used for various remote login. The system SSH server is enabled by default.

**Step 1** Run PuTTY software on PC host and fill in the following parameters:

1. Click "Session" in the "Category" bar;
2. Choose "SSH" in the "Connection type";
3. Enter the IP address "192.168.1.254" of the device in the "Host Name (or IP address)" text box.
4. "Port" port number defaults to 22.
5. (Optional) enter the session name in the "Saved Sessions", such as Switch1-SSH; click "save" to save this session;
6. Click "Open" button to enter the SSH configuration interface;



**Step 2** Enter the user name and password of this device, both of which default to "admin", as shown in the following figure.



**Step 3** Access to the device through SSH is successful, end.



# 3 Network Configuration

## 3.1 Network Setting

### lan mode (dual | (set (redundant | switch)) | single)

<b>Description</b>	Network mode configuration supports single IP and dual IP modes, and single IP supports redundant mode and switching mode
<b>Command</b>	<code>lan mode (dual   (set (redundant   switch))   single)</code>

E.g. : set the network to dual IP mode.

```
SerialServer(config)# lan mode dual
```

### (lan1 | lan2) modify config (dhcp | static | bootp)

<b>Description</b>	The IP address configuration mode of Network Card 1/ Network Card 2 can be obtained dynamically by DHCP or BOOTP, or manually configured by static
<b>Command</b>	<code>(lan1   lan2) modify config (dhcp   static   bootp)</code>

E.g. : set the address of network card 1 to automatic acquisition.

```
SerialServer(config)# ip address modify config dhcp
```

### lan (1|2) modify ip IP netmask MASK gateway GATEWAY

<b>Description</b>	Configure IP address, mask and gateway address of Network Card 1/ Network Card 2
<b>Command</b>	<code>lan (1 2) modify ip IP netmask MASK gateway GATEWAY</code>

E.g. : set the IP address of network card 1 to 192.168.1.254/24

```
SerialServer(config)# lan 1 modify ip 192.168.1.254 netmask
255.255.255.0 gateway 192.168.1.1
```

## show ip address (lan1 | lan2)

<b>Description</b>	Display IP address of Network Card 1/ Network Card 2
<b>Command</b>	<code>show ip address (lan1   lan2)</code>

E.g. : display the IP address of Network Card 1

```
SerialServer(config)# show ip address lan1
```

## dns (1|2) address DNS

<b>Description</b>	Set IP address of DNS server, which is up to twice
<b>Command</b>	<code>dns (1 2) address DNS</code>

E.g. : Configure the DNS server address 1 to 8.8.8.8.

```
SerialServer(config)# dns 1 address 8.8.8.8
```

# 4 COM Settings

## 4.1 COM Settings



Notice

- After modifying the serial port parameters, please use the "restart com" command to restart the current serial port to ensure that the modification of the current serial port parameters takes effect.

### serial-com NAME

<b>Description</b>	Enter corresponding serial port for configuration
<b>Command</b>	<b>serial-com NAME</b>
<b>Parameters</b>	NAME:com1-com32, it represents serial port number, refer to the number of serial ports supported by real objects

E.g. : Enter the serial port 1 for configuration  
 SerialServer(config)# serial-com com1  
 SerialServer(config-serial)#

### alias Alias

<b>Description</b>	Set serial port alias
<b>Command</b>	<b>alias Alias</b>
<b>Parameters</b>	alias is less than or equal to 20 characters

E.g. : Set the alias of serial port 1 to thefirstcom.  
 SerialServer(config)# serial-com com1  
 SerialServer(config-serial)# alias thefirstcom /\*set the alias\*/

### baudrate

<b>Description</b>	Set serial port baud rate
--------------------	---------------------------

<b>Command</b>	<b>baudrate</b> (110 300 600 1200 2400 4800 9600 19200 38400 57600 115200)
<b>Parameters</b>	The supported baud rate includes the following values: <ul style="list-style-type: none"> <li>• 110</li> <li>• 300</li> <li>• 600</li> <li>• 1200</li> <li>• 2400</li> <li>• 4800</li> <li>• 9600</li> <li>• 19200</li> <li>• 38400</li> <li>• 57600</li> <li>• 115200</li> </ul>

## databits

<b>Description</b>	Set data bit of serial port, which is the data length bit of serial port
<b>Command</b>	<b>databits (5bits 6bits 7bits 8bits)</b>
<b>Parameters</b>	Optional parameter: <ul style="list-style-type: none"> <li>• 5bits: set the length of serial data to 5 bits</li> <li>• 6bits: set the length of serial data to 6 bits</li> <li>• 7bits: set the length of serial data to 7 bits</li> <li>• 8bits: set the length of serial data to 8 bits</li> </ul>

E.g. : set the data bit of COM1 to 8 bits, and check.

```
SerialServer(config)# serial-com com1
```

```
SerialServer(config-serial)# databits 8bits
```

## stopbits

<b>Description</b>	Set the stop bit length of serial port
<b>Command</b>	<b>stopbits (1bits 1.5bits 2bits)</b>
<b>Parameters</b>	Optional parameter: <ul style="list-style-type: none"> <li>• 1 bits</li> <li>• 1.5bits</li> <li>• 2 bits</li> </ul>

## paritybits

<b>Description</b>	Set data verification method of serial port
<b>Command</b>	<code>paritybits (none odd even mark space)</code>

## flowctrl

<b>Description</b>	Set serial port flow control
<b>Command</b>	<code>flowctrl (none rts/cts xon/xoff dtr/dsr)</code>

## mode

<b>Description</b>	Set interface mode of serial port
<b>Command</b>	<code>mode (232 485 422)</code>

## fifoen

<b>Description</b>	Set the FIFO function of the serial port
<b>Command</b>	<code>fifoen (enable disable)</code>

## rts

<b>Description</b>	Set the RTS control of the serial port
<b>Command</b>	<code>rts (auto on off)</code>

## dtr

<b>Description</b>	Set serial port DTR control
<b>Command</b>	<code>dtr (auto on off)</code>

## applyall parameters

<b>Description</b>	Apply the communications parameter configuration of current serial port to all serial ports
<b>Command</b>	<code>applyall parameters</code>

## 4.2 Serial Port Mode

### Operatemode

<b>Description</b>	Set work mode of serial port
--------------------	------------------------------

<b>Command</b>	<code>operatemode</code> ( <code>realcom tcpserver tcpclient udpserver udpclient udprang udpmulticast disable</code> )
----------------	---

## applyall modes

<b>Description</b>	Apply the operation mode configuration of current serial port to all serial ports
<b>Command</b>	<code>applyall modes</code>

## restart com

<b>Description</b>	Restart current serial port
<b>Command</b>	<code>restart com</code>

## 4.2.1 Realcom Mode

### realcom alive\_time Time

<b>Description</b>	Set tcp keep-alive time of serial port
<b>Command</b>	<code>realcom alive_time Time</code>

### realcom delimiter-mode

<b>Description</b>	Set the mode of processing delimiter when serial server is transmitting messages
<b>Command</b>	<code>realcom delimiter-mode (Retain Delimiter+1 Delimiter+2 delete)</code>
<b>Parameters</b>	<p>Optional parameter:</p> <ul style="list-style-type: none"> <li>Retain: the system would send out the received delimiter and other data via network.</li> <li>Delimiter+1: reserve 1 byte behind the delimiter</li> <li>Delimiter+2: reserve 2 bytes behind the delimiter</li> <li>Delete: the matching delimiter character (or combination of characters) will be deleted, and the system will only transmit data other than the delimiter.</li> </ul>

### realcom delimiter-num

<b>Description</b>	Enable or disable delimiter
<b>Command</b>	<code>realcom delimiter-num (0 1 2)</code>

<b>Parameters</b>	Optional parameter: <ul style="list-style-type: none"> <li>• 0: disable delimiter</li> <li>• 1: enable delimiter 1</li> <li>• 2: enable delimiter 2</li> </ul>
-------------------	--

### realcom delimiter1 DELIMITER

<b>Description</b>	Set serial port delimiter 1
<b>Command</b>	realcom delimiter1 DELIMITER
<b>Parameters</b>	Input range of delimiter is HEX:00-FF

### realcom delimiter2 DELIMITER

<b>Description</b>	Set serial port delimiter 2
<b>Command</b>	realcom delimiter2 DELIMITER
<b>Parameters</b>	Input range of delimiter is HEX:00-FF

### realcom frame\_break

<b>Description</b>	Set processing method of serial port unsolicited data
<b>Command</b>	realcom frame_break (0 1 2)
<b>Parameters</b>	Optional parameter: <ul style="list-style-type: none"> <li>• 0: discard</li> <li>• 1: send to the last communication connection</li> <li>• 2: send to all open connections</li> </ul>

### realcom packet-length Length

<b>Description</b>	Set the packaging length of serial port
<b>Command</b>	realcom packet-length Length

### realcom packing-mode

<b>Description</b>	Set packaging mode of serial port
<b>Command</b>	realcom packing-mode (interval mandatory)
<b>Parameters</b>	Optional parameter: <ul style="list-style-type: none"> <li>• interval</li> <li>• Mandatory: mandatory time</li> </ul>

### realcom queue\_access

<b>Description</b>	Enable serial port command mode
--------------------	---------------------------------

<b>Command</b>	<code>realcom queue_access (disable enable)</code>
----------------	--

### realcom resp\_timeout Time

<b>Description</b>	Set response time of serial port
<b>Command</b>	<code>realcom resp_timeout Time</code>

### realcom session\_num

<b>Description</b>	Set the maximum session number of serial port
<b>Command</b>	<code>realcom session_num (1 2 3 4)</code>

### realcom transfer-time Time

<b>Description</b>	Set transmission time of serial port
<b>Command</b>	<code>realcom transfer-time Time</code>

## 4.2.2 TCP Server Mode

### tcpserver session\_num

<b>Description</b>	Set the maximum session number of serial port
<b>Command</b>	<code>tcpserver session_num (1 2 3 4)</code>

### tcpserver preemption

<b>Description</b>	Set whether serial port could be seized
<b>Command</b>	<code>tcpserver preemption (disable connect_order time_order)</code>

### tcpserver local\_port Port

<b>Description</b>	Set local listening port number of serial port
<b>Command</b>	<code>tcpserver local_port Port</code>

### tcpserver pwd\_enable

<b>Description</b>	Serial port password verification enable
<b>Command</b>	<code>tcpserver pwd_enable (disable enable)</code>



## tcpserver caching\_enable

<b>Description</b>	Serial Port Buffer Enable
<b>Command</b>	<code>tcpserver caching_enable (disable enable)</code>

## tcpserver linkmsg

<b>Description</b>	Set serial port connection sending message
<b>Command</b>	<code>tcpserver linkmsg (close ipaddr devicename)</code>

## tcpserver alive\_time Time

<b>Description</b>	Set tcp keep-alive time of serial port
<b>Command</b>	<code>tcpserver alive_time Time</code>

## tcpserver inactivity-time Time

<b>Description</b>	Set idle timeout time of serial port
<b>Command</b>	<code>tcpserver inactivity-time Time</code>

## tcpserver queue\_access

<b>Description</b>	Enable serial port command mode
<b>Command</b>	<code>tcpserver queue_access (disable enable)</code>

## tcpserver resp\_timeout Time

<b>Description</b>	Set response time of serial port
<b>Command</b>	<code>tcpserver resp_timeout Time</code>

## tcpserver frame\_break

<b>Description</b>	Set processing method of serial port unsolicited data
<b>Command</b>	<code>tcpserver frame_break (0 1 2)</code>
<b>Parameters</b>	Optional parameter: <ul style="list-style-type: none"> <li>• 0: discard</li> <li>• 1: send to the last communication connection</li> <li>• 2: send to all open connections</li> </ul>

## tcpserver packing-mode

<b>Description</b>	Set packaging mode of serial port
--------------------	-----------------------------------

<b>Command</b>	<code>tcpserver packing-mode (interval mandatory)</code>
----------------	--

## tcpserver packet-length Length

<b>Description</b>	Set the packaging length of serial port
<b>Command</b>	<code>tcpserver packet-length Length</code>

## tcpserver delimiter-num

<b>Description</b>	Enable or disable delimiter
<b>Command</b>	<code>tcpserver delimiter-num (0 1 2)</code>
<b>Parameters</b>	Optional parameter: <ul style="list-style-type: none"> <li>• 0: disable delimiter</li> <li>• 1: enable delimiter 1</li> <li>• 2: enable delimiter 2</li> </ul>

## tcpserver delimiter1 DELIMITER

<b>Description</b>	Set serial port delimiter 1
<b>Command</b>	<code>tcpserver delimiter1 DELIMITER</code>
<b>Parameters</b>	Input range of delimiter is HEX:00-FF

## tcpserver delimiter2 DELIMITER

<b>Description</b>	Set serial port delimiter 2
<b>Command</b>	<code>tcpserver delimiter2 DELIMITER</code>
<b>Parameters</b>	Input range of delimiter is HEX:00-FF

## tcpserver delimiter-mode

<b>Description</b>	Set the mode of processing delimiter when serial server is transmitting messages
<b>Command</b>	<code>tcpserver delimiter-mode (Retain Delimiter+1 Delimiter+2 delete)</code>
<b>Parameters</b>	Optional parameter: <ul style="list-style-type: none"> <li>• Retain: the system would send out the received delimiter and other data via network.</li> <li>• Delimiter+1: reserve 1 byte behind the delimiter</li> <li>• Delimiter+2: reserve 2 bytes behind the delimiter</li> <li>• Delete: the matching delimiter character (or combination of characters) will be deleted, and the system will only transmit data</li> </ul>

	other than the delimiter.
--	---------------------------

### tcpserver transfer-time Time

Description	Set transmission time of serial port
Command	<code>tcpserver transfer-time Time</code>

## 4.2.3 TCP client Mode

### tcpclient alive\_time Time

Description	Set tcp keep-alive time of serial port
Command	<code>tcpclient alive_time Time</code>

### tcpclient conn\_control

Description	Choose the method serial server initiates connection request
Command	<code>tcpclient conn_control (always char dsr_on dcd_on)</code>
Parameters	<p>Optional parameter:</p> <ul style="list-style-type: none"> <li>• <code>always</code>: Immediately after the system is started, it tries to establish a connection with the target host and automatically reconnects the target host after the connection is disconnected.</li> <li>• <code>char</code>: Automatically connects to the target host when receiving data from the serial port.</li> <li>• <code>dsr_on</code>: Automatically connects to the target host when the DSR signal is detected.</li> <li>• <code>dcd_on</code>: Automatically connects to the target host when the DCD signal is detected.</li> </ul>

### tcpclient delimiter-mode

Description	Set the mode of processing delimiter when setting serial server messages
Command	<code>tcpclient delimiter-mode (Retain Delimiter+1 Delimiter+2 delete)</code>
Parameters	<p>Optional parameter:</p> <ul style="list-style-type: none"> <li>• <code>Retain</code>: the system would send out the received delimiter and other data via network.</li> <li>• <code>Delimiter+1</code>: reserve 1 byte behind the delimiter</li> <li>• <code>Delimiter+2</code>: reserve 2 bytes behind the delimiter</li> <li>• <code>Delete</code>: the matching delimiter character (or combination of</li> </ul>

	characters) will be deleted, and the system will only transmit data other than the delimiter.
--	---

## tcpclient delimiter-num

<b>Description</b>	Enable or disable delimiter
<b>Command</b>	tcpclient delimiter-num (0 1 2)
<b>Parameters</b>	Optional parameter: <ul style="list-style-type: none"> <li>• 0: disable delimiter</li> <li>• 1: enable delimiter 1</li> <li>• 2: enable delimiter 2</li> </ul>

## tcpclient delimiter1 DELIMITER

<b>Description</b>	Set serial port delimiter 1
<b>Command</b>	tcpclient delimiter1 DELIMITER
<b>Parameters</b>	Input range of delimiter is HEX:00-FF

## tcpclient delimiter2 DELIMITER

<b>Description</b>	Set serial port delimiter 2
<b>Command</b>	tcpclient delimiter2 DELIMITER
<b>Parameters</b>	Input range of delimiter is HEX:00-FF

## tcpclient dest\_dns session ID dns DNS

<b>Description</b>	Set the DNS address of server to be connected by serial server.
<b>Command</b>	tcpclient dest_dns session ID dns DNS

## tcpclient dest\_ip session ID ip IP

<b>Description</b>	Set the IP address of server to be connected by serial server.
<b>Command</b>	tcpclient dest_ip session ID ip IP

## tcpclient dest\_port session ID dest Port

<b>Description</b>	Set the TCP port number of server to be connected by serial server.
<b>Command</b>	tcpclient dest_port session ID dest Port

## tcpclient disconn\_ctrl

<b>Description</b>	Choose the way to disconnect serial server
--------------------	--

<b>Command</b>	tcpclient disconn_ctrol (none dsr_off dcd_off idle)
<b>Parameters</b>	<p>Optional parameter:</p> <ul style="list-style-type: none"> <li>• None: Never shut down the network connection automatically.</li> <li>• dsr_off: Automatically shuts down the network connection when the DSR signal is detected invalid.</li> <li>• dcd_off: Automatically shuts down the network connection when the DCD signal is detected invalid.</li> <li>• idle: If the idle timeout time is greater than 0, the system will automatically shut down TCP connections that do not have any data send and receive activity for a specified period of time.</li> </ul>

### tcpclient inactivity-time Time

<b>Description</b>	Set idle timeout time of serial port
<b>Command</b>	tcpclient inactivity-time Time

### tcpclient ip\_type session Id

<b>Description</b>	Set the address type of server that current session serial server connects to IP address or DNS address
<b>Command</b>	tcpclient ip_type session Id (IP DNS)
<b>Parameters</b>	<p>Optional parameter:</p> <ul style="list-style-type: none"> <li>• IP Address</li> <li>• DNS: DNS server address</li> </ul>

### tcpclient linkmsg

<b>Description</b>	Set serial port connection sending message
<b>Command</b>	tcpclient linkmsg (close ipaddr devicename)

### tcpclient local\_port session ID local Port

<b>Description</b>	Set a local port number that can provide service or connection for outside world, which can connect and communicate with server.
<b>Command</b>	tcpclient local_port session ID local Port

### tcpclient local\_port\_enable session ID

<b>Description</b>	Set enable or disable binding local port
<b>Command</b>	tcpclient local_port_enable session ID (disable enable)
<b>Parameters</b>	Optional parameter:

	<ul style="list-style-type: none"> <li>• disable</li> <li>• enable</li> </ul>
--	---

### tcpclient packet-length Length

Description	Set the packaging length of serial port
Command	<code>tcpclient packet-length Length</code>

### tcpclient packing-mode

Description	Set packaging mode of serial port
Command	<code>tcpclient packing-mode (interval mandatory)</code>

### tcpclient pwd\_enable

Description	Serial port password verification enable
Command	<code>tcpclient pwd_enable (disable enable)</code>

### tcpclient caching\_enable

Description	Serial Port Buffer Enable
Command	<code>tcpclient caching_enable (disable enable)</code>

### tcpclient session\_num

Description	Set the maximum session number of serial port
Command	<code>tcpclient session_num (1 2 3 4)</code>

### tcpclient transfer-time Time

Description	Set transmission time of serial port
Command	<code>tcpclient transfer-time Time</code>

## 4.2.4 UDP server Mode

### udpserver delimiter-mode

Description	Set the mode of processing delimiter when setting serial server messages
Command	<code>udpserver delimiter-mode (Retain Delimiter+1 Delimiter+2 delete)</code>

<b>Parameters</b>	Optional parameter:
	<ul style="list-style-type: none"> <li>• Retain: the system would send out the received delimiter and other data via network.</li> <li>• Delimiter+1: reserve 1 byte behind the delimiter</li> <li>• Delimiter+2: reserve 2 bytes behind the delimiter</li> <li>• Delete: the matching delimiter character (or combination of characters) will be deleted, and the system will only transmit data other than the delimiter.</li> </ul>

## udpserver delimiter-num

<b>Description</b>	Enable or disable delimiter
<b>Command</b>	<code>udpserver delimiter-num (0 1 2)</code>
<b>Parameters</b>	Optional parameter: <ul style="list-style-type: none"> <li>• 0: disable delimiter</li> <li>• 1: enable delimiter 1</li> <li>• 2: enable delimiter 2</li> </ul>

## udpserver delimiter1 DELIMITER

<b>Description</b>	Set serial port delimiter 1
<b>Command</b>	<code>udpserver delimiter1 DELIMITER</code>
<b>Parameters</b>	Input range of delimiter is HEX:00-FF

## udpserver delimiter2 DELIMITER

<b>Description</b>	Set serial port delimiter 2
<b>Command</b>	<code>udpserver delimiter2 DELIMITER</code>
<b>Parameters</b>	Input range of delimiter is HEX:00-FF

## udpserver listen\_port Port

<b>Description</b>	Set the listening port that network receives UDP data
<b>Command</b>	<code>udpserver listen_port Port</code>

## udpserver packet-length Length

<b>Description</b>	Set the packaging length of serial port
<b>Command</b>	<code>udpserver packet-length Length</code>

### udpserver packing-mode

<b>Description</b>	Set packaging mode of serial port
<b>Command</b>	udpserver packing-mode (interval mandatory)

### udpserver session\_num

<b>Description</b>	Set the maximum session number of serial port
<b>Command</b>	udpserver session_num (1 2 3 4)

### udpserver transfer-time Time

<b>Description</b>	Set transmission time of serial port
<b>Command</b>	udpserver transfer-time Time

## 4.2.5 UDP client Mode

### udpclient delimiter-mode

<b>Description</b>	Set the mode of processing delimiter when setting serial server messages
<b>Command</b>	udpclient delimiter-mode (Retain Delimiter+1 Delimiter+2 delete)
<b>Parameters</b>	<p>Optional parameter:</p> <ul style="list-style-type: none"> <li>Retain: the system would send out the received delimiter and other data via network.</li> <li>Delimiter+1: reserve 1 byte behind the delimiter</li> <li>Delimiter+2: reserve 2 bytes behind the delimiter</li> <li>Delete: the matching delimiter character (or combination of characters) will be deleted, and the system will only transmit data other than the delimiter.</li> </ul>

### udpclient delimiter-num

<b>Description</b>	Enable or disable delimiter
<b>Command</b>	udpclient delimiter-num (0 1 2)
<b>Parameters</b>	<p>Optional parameter:</p> <ul style="list-style-type: none"> <li>0: disable delimiter</li> <li>1: enable delimiter 1</li> <li>2: enable delimiter 2</li> </ul>



**udpclient delimiter1 DELIMITER**

<b>Description</b>	Set serial port delimiter 1
<b>Command</b>	udpclient delimiter1 DELIMITER
<b>Parameters</b>	Input range of delimiter is HEX:00-FF

**udpclient delimiter2 DELIMITER**

<b>Description</b>	Set serial port delimiter 2
<b>Command</b>	udpclient delimiter2 DELIMITER
<b>Parameters</b>	Input range of delimiter is HEX:00-FF

**udpclient dest\_ip session ID ip IP**

<b>Description</b>	Set the IP address of server to be connected by serial server.
<b>Command</b>	udpclient dest_ip session ID ip IP

**udpclient dest\_port session ID dest Port**

<b>Description</b>	Set the TCP port number of server to be connected by serial server.
<b>Command</b>	udpclient dest_port session ID dest Port

**udpclient packet-length Length**

<b>Description</b>	Set the packaging length of serial port
<b>Command</b>	udpclient packet-length Length

**udpclient packing-mode**

<b>Description</b>	Set packaging mode of serial port
<b>Command</b>	udpclient packing-mode (interval mandatory)

**udpclient session\_num**

<b>Description</b>	Set the maximum session number of serial port
<b>Command</b>	udpclient session_num (1 2 3 4)

**udpclient transfer-time Time**

<b>Description</b>	Set transmission time of serial port
<b>Command</b>	udpclient transfer-time Time

## 4.2.6 UDP rang Mode

### udprang delimiter-mode

<b>Description</b>	Set the mode of processing delimiter when setting serial server messages
<b>Command</b>	udprang delimiter-mode (Retain Delimiter+1 Delimiter+2 delete)
<b>Parameters</b>	<p>Optional parameter:</p> <ul style="list-style-type: none"> <li>Retain: the system would send out the received delimiter and other data via network.</li> <li>Delimiter+1: reserve 1 byte behind the delimiter</li> <li>Delimiter+2: reserve 2 bytes behind the delimiter</li> <li>Delete: the matching delimiter character (or combination of characters) will be deleted, and the system will only transmit data other than the delimiter.</li> </ul>

### udprang delimiter-num

<b>Description</b>	Enable or disable delimiter
<b>Command</b>	udprang delimiter-num (0 1 2)
<b>Parameters</b>	<p>Optional parameter:</p> <ul style="list-style-type: none"> <li>0: disable delimiter</li> <li>1: enable delimiter 1</li> <li>2: enable delimiter 2</li> </ul>

### udprang delimiter1 DELIMITER

<b>Description</b>	Set serial port delimiter 1
<b>Command</b>	udprang delimiter1 DELIMITER
<b>Parameters</b>	Input range of delimiter is HEX:00-FF

### udprang delimiter2 DELIMITER

<b>Description</b>	Set serial port delimiter 2
<b>Command</b>	udprang delimiter2 DELIMITER
<b>Parameters</b>	Input range of delimiter is HEX:00-FF

### udprang dest\_endip session ID ip IP

<b>Description</b>	Set the end IP address of UDP Rang destination address
<b>Command</b>	udprang dest_endip session ID ip IP

**udprang dest\_port session ID port Port**

<b>Description</b>	Enter the port number of the host that will be connected by serial device server.
<b>Command</b>	udprang dest_port session ID port Port

**udprang dest\_startip session ID ip IP**

<b>Description</b>	Set the start IP address of UDP range destination address
<b>Command</b>	udprang dest_startip session ID ip IP

**udprang listen\_port Port**

<b>Description</b>	Set the listening port that network receives UDP data
<b>Command</b>	udprang listen_port Port

**udprang packet-length Length**

<b>Description</b>	Set the packaging length of serial port
<b>Command</b>	udprang packet-length Length

**udprang packing-mode**

<b>Description</b>	Set packaging mode of serial port
<b>Command</b>	udprang packing-mode (interval mandatory)

**udprang session\_num**

<b>Description</b>	Set the maximum session number of serial port
<b>Command</b>	udprang session_num (1 2 3 4)

**udprang transfer-time Time**

<b>Description</b>	Set transmission time of serial port
<b>Command</b>	udprang transfer-time Time

**4.2.7 UDP multicast Mode****udpmulticast broadcast\_ip session ID groupnum NUM ip IP**

<b>Description</b>	Set the IP of the group of the session
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<b>Command</b>	udpmulticast broadcast_ip session ID groupnum NUM ip IP
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## udpmulticast delimiter-mode

<b>Description</b>	Set the mode of processing delimiter when setting serial server messages
<b>Command</b>	udpmulticast delimiter-mode (Retain Delimiter+1 Delimiter+2 delete)
<b>Parameters</b>	<p>Optional parameter:</p> <ul style="list-style-type: none"> <li>Retain: the system would send out the received delimiter and other data via network.</li> <li>Delimiter+1: reserve 1 byte behind the delimiter</li> <li>Delimiter+2: reserve 2 bytes behind the delimiter</li> <li>Delete: the matching delimiter character (or combination of characters) will be deleted, and the system will only transmit data other than the delimiter.</li> </ul>

## udpmulticast delimiter-num

<b>Description</b>	Enable or disable delimiter
<b>Command</b>	udpmulticast delimiter-num (0 1 2)
<b>Parameters</b>	<p>Optional parameter:</p> <ul style="list-style-type: none"> <li>0: disable delimiter</li> <li>1: enable delimiter 1</li> <li>2: enable delimiter 2</li> </ul>

## udpmulticast delimiter1 DELIMITER

<b>Description</b>	Set serial port delimiter 1
<b>Command</b>	udpmulticast delimiter1 DELIMITER
<b>Parameters</b>	Input range of delimiter is HEX:00-FF

## udpmulticast delimiter2 DELIMITER

<b>Description</b>	Set serial port delimiter 2
<b>Command</b>	udpmulticast delimiter2 DELIMITER
<b>Parameters</b>	Input range of delimiter is HEX:00-FF

## udpmulticast dest\_ip session ID ip IP

<b>Description</b>	Set the IP address of server to be connected by serial server.
<b>Command</b>	udpmulticast dest_ip session ID ip IP

**udpmulticast dest\_port session ID port Port**

<b>Description</b>	Set the IP address of server to be connected by serial server.
<b>Command</b>	udpmulticast dest_port session ID port Port

**udpmulticast group\_num**

<b>Description</b>	Set the number of the multicast groups
<b>Command</b>	udpmulticast group_num (1 2 3 4)

**udpmulticast listen\_port Port**

<b>Description</b>	Set the listening port that network receives UDP multicast data
<b>Command</b>	udpmulticast listen_port Port

**udpmulticast packet-length Length**

<b>Description</b>	Set the packaging length of serial port
<b>Command</b>	udpmulticast packet-length Length

**udpmulticast packing-mode**

<b>Description</b>	Set packaging mode of serial port
<b>Command</b>	udpmulticast packing-mode (interval mandatory)

**udpmulticast session\_num**

<b>Description</b>	Set the maximum session number of serial port
<b>Command</b>	udpmulticast session_num (1 2 3 4)

**udpmulticast transfer-time Time**

<b>Description</b>	Set transmission time of serial port
<b>Command</b>	udpmulticast transfer-time Time

# 5 Remote Management

## 5.1 Telnet Settings

### ip telnet-server

<b>Description</b>	Enable Telnet
<b>Command</b>	<code>ip telnet-server</code>

### no ip telnet-server

<b>Description</b>	Disable Telnet
<b>Command</b>	<code>no ip telnet-server</code>

## 5.2 HTTP Settings

### ip http-server

<b>Description</b>	Enable HTTP
<b>Command</b>	<code>ip http-server</code>

### no ip http-server

<b>Description</b>	Disable HTTP
<b>Command</b>	<code>no ip http-server</code>

## 5.3 HTTPS Settings

### ip https-server

<b>Description</b>	Enable HTTPS
<b>Command</b>	<code>ip https-server</code>

### no ip https-server

<b>Description</b>	Disable HTTPS
<b>Command</b>	<code>no ip https-server</code>

## 5.4 SSHD Settings

### ip ssh-server

<b>Description</b>	Enable SSHD
<b>Command</b>	<code>ip ssh-server</code>

### no ip ssh-server

<b>Description</b>	Disable SSHD
<b>Command</b>	<code>no ip ssh-server</code>

# 6 Access Ctrl Mode

## 6.1 User Configuration

### user-add username

<b>Description</b>	New user
<b>Command</b>	<code>user-add username NAME privilege LEVEL password PASSWORD</code>

### user-edit username

<b>Description</b>	Modify user information
<b>Command</b>	<code>user-edit username NAME privilege LEVEL password PASSWORD</code>

### user-del username

<b>Description</b>	Delete User
<b>Command</b>	<code>user-del username WORD</code>

## 6.2 IP Address Filtering

### ipfilter set

<b>Description</b>	Enable IP Filtering
<b>Command</b>	<code>ipfilter set (enable disable)</code>

### ipfilter rule

<b>Description</b>	Enable default Access Permission
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<b>Command</b>	<code>ipfilter rule (blacklist whitelist)</code>
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### ipfilter modify num ID state STATE ip IP mask MASK

<b>Description</b>	Configure IP address filtering
<b>Command</b>	<code>ipfilter modify num ID state STATE ip IP mask MASK</code>

### ipfilter showall

<b>Description</b>	Display the configuration information of IP address filtering
<b>Command</b>	<code>ipfilter showall</code>

## 6.3 MAC Address Filtering

### macfilter set

<b>Description</b>	Enable Mac address filtering
<b>Command</b>	<code>macfilter set (enable disable)</code>

### macfilter rule

<b>Description</b>	Enable default Access Permission
<b>Command</b>	<code>macfilter rule (blacklist whitelist)</code>

### macfilter modify num ID state STATE mac MAC

<b>Description</b>	Configure Mac address filtering
<b>Command</b>	<code>macfilter modify num ID state STATE mac MAC</code>

### macfilter showall

<b>Description</b>	Display the configuration information of MAC address filtering
<b>Command</b>	<code>macfilter showall</code>

## 6.4 Diagnostic Test



Note

The access directory of this chapter is “SerialServer#”.

## ping WORD or ping ip WORD

<b>Description</b>	Ping test
<b>Command</b>	ping WORD or ping ip WORD

## traceroute WORD or traceroute ip WORD

<b>Description</b>	Traceroute test
<b>Command</b>	traceroute WORD or traceroute ip WORD

# 7 System Management Model

## 7.1 Reboot the Device

### system reboot

Note: The access directory is “SerialServer#”

<b>Description</b>	Reboot the Device
<b>Command</b>	<code>system reboot</code>

## 7.2 Restore Factory Settings

### system restore keepIP (enable|disable)

Note: The access directory is “SerialServer#”

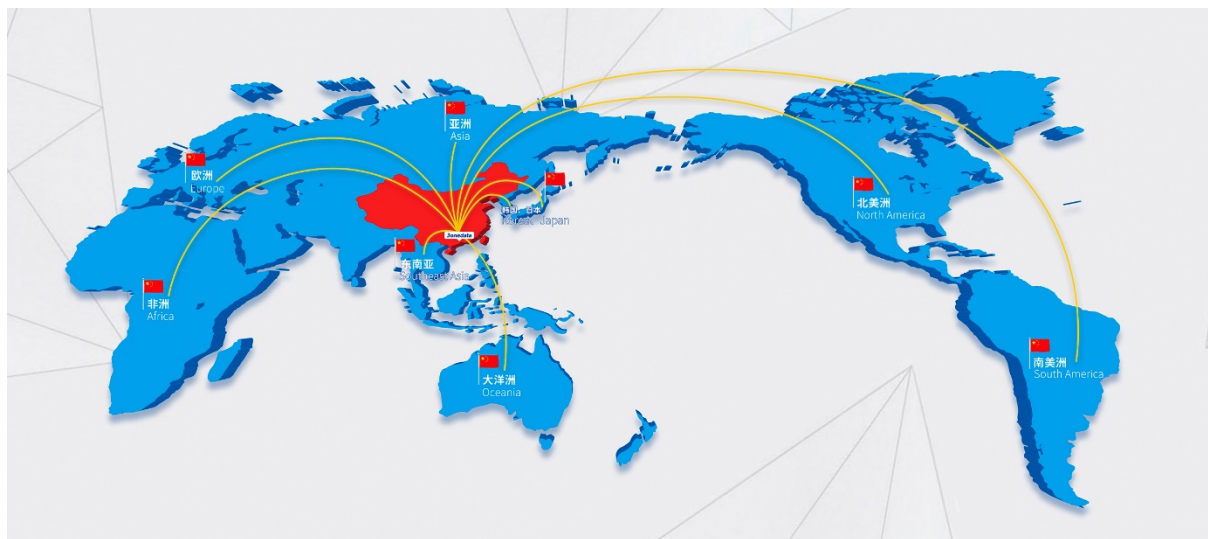
<b>Description</b>	Restore the device to factory defaults
<b>Command</b>	<code>system restore keepIP (enable disable)</code>

## 7.3 Online Upgrade

### system update file

<b>Description</b>	Upgrade applications
<b>Command</b>	<code>system update file FILENAME A.B.C.D restore (enable disable) keepIP (enable disable)</code>

# 3onedata



## 3onedata Co., Ltd.

Headquarter Address: 3/B, Zone 1, Baiwangxin High Technology Industrial Park, Song Bai Road, Nanshan District, Shenzhen, 518108, China

Technology Support: [tech-support@3onedata.com](mailto:tech-support@3onedata.com)

Service Hotline: 4008804496

Official Website: <http://www.3onedata.com>