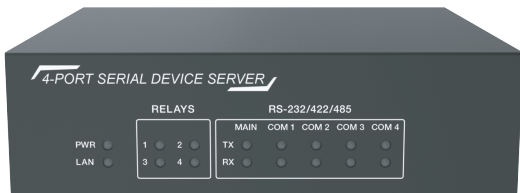




## Prestel CSP-4

Network Serial Port Expander



**USER MANUAL**

# Thank you for purchasing this product

For optimum performance and safety, please read these instructions carefully before connecting, operating or adjusting this product. Please keep this manual for future reference.

## Surge protection device recommended

This product contains sensitive electrical components that may be damaged by electrical spikes, surges, electric shock, lightning strikes, etc. Use of surge protection systems is highly recommended in order to protect and extend the life of your equipment.

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## 1. Introduction

This Network Serial Port Expander, with 4 extended input and output serial ports, can communicate with the programmable central control system or PC to control multiple devices, and perform protocol conversion between various devices with different communication modes. Built-in various input communication interfaces, the expander can communicate with the programmable central control host or PC through RS-232, RS-422, RS-485 and Network communication interface. The front panel of the expander is designed with LED indicators for power supply, main & extended serial ports sending/receiving data, which can conveniently and quickly indicate the progress of data communication and equipment power failure.

## 2. Features

- ☆ Main serial ports support RS-232, RS-422 full duplex, and RS-485 half duplex; extended serial port 1 and extended serial port 2 support RS-232, RS-232+ hardware flow control, RS-422 full duplex, and RS-485 half duplex; extended serial port 3 and extended serial port 4 support RS-232 and RS-232+ hardware flow control
- ☆ Extended serial ports support any baud rate (2400, 4800, 9600, 14400, 19200, 38400, 5600, 57600, 115200) to communicate with devices
- ☆ Extended serial ports support data bits (7, 8 bits), parity bits (odd, even, none), stop bits (1, 2 bits) settings
- ☆ Large buffering space for data transmitting and receiving is reserved for each serial port; data queue is supported
- ☆ Each frame of data can support up to 512 bytes
- ☆ Support data pass-through from an extended serial port to TCP/IP or UDP network
- ☆ Can be used as a protocol converter for serial communication and network communication; 2 network communication modes are provided:
  - a. TCP acts as a server, and the extender listens for TCP connection requests on the specified TCP port;
  - b. UDP acts as a server, and the extender listens for UDP connection requests on the specified UDP port.

- ☆ Provide one 100M Ethernet communication interface, one RS-232 and one RS - 485 interface, which can be connected to computer or central control system, compatible with all third-party central control systems such as AMX, CRESTRON, RTI, etc.
- ☆ Main communication serial ports support changing the communication baud rate to adapt to any baud rate (2400, 4800, 9600, 14400, 19200, 38400, 5600, 57600, 115200)
- ☆ Support 4 low-voltage relay ports, normally open contacts; each group is independent and isolated, maximum to 1A 24V DC/AC loading
- ☆ Built-in Web server, which can configure device parameters directly through the browser of various computers, tablets and mobile devices
- ☆ Support name or remark device name

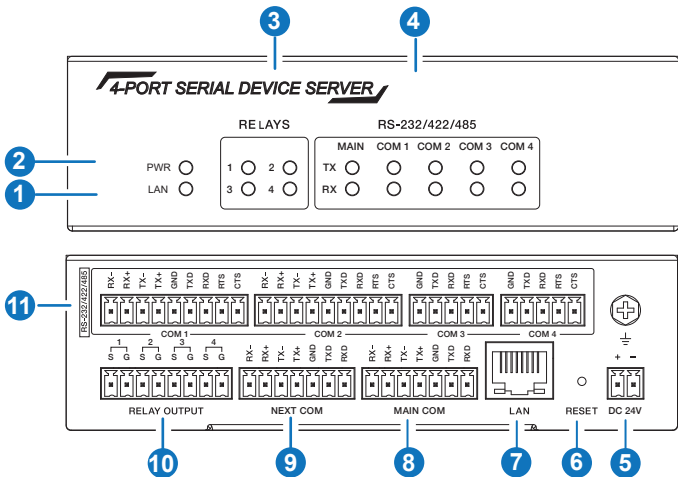
### 3. Package Contents

- ① 1 x Network Serial Port Expander
- ② 2 x 5-pin Phoenix Connector (3.81mm, male)
- ③ 2 x 7-pin Phoenix Connector (3.81mm, male)
- ④ 1 x 8-pin Phoenix Connector (3.81mm, male)
- ⑤ 2 x 9-pin Phoenix Connector (3.81mm, male)
- ⑥ 4 x Machine Screw
- ⑦ 2 x Mounting Ear
- ⑧ 1 x 24V/1A Power Adaptor with 2-pin 3.5mm Phoenix Connector
- ⑨ 1 x User Manual

## 4. Specifications

Technical	
RS-232	Support full duplex communication mode, configurable hardware flow control
RS-485	Support half duplex communication mode
RS-422	Support full duplex communication mode
Baud Rate	Support 2400, 4800, 9600, 14400, 19200, 38400, 5600, 57600 and 115200
LAN	10/100 M Ethernet interface
RELAYS	Up to 1A 24VDC/AC loading
Connection	
INPUTS	1x LAN [RJ45, 8-pin female] 1×COM [7-pin Phoenix jack] 1×DC IN [2-pin Phoenix jack]
OUTPUTS	1×COM [7-pin Phoenix jack] 2×COM [9-pin Phoenix jack] 2×COM [5-pin Phoenix jack] 1×RELAY [8-pin Phoenix jack]
Mechanical	
Housing	Metal Enclosure
Color	Black
Dimension	147mm(W)×130mm(D)×42mm(H)
Weight	673g
Power Supply	Input: AC100 - 240V 50/60Hz Output: DC 24V/1A
Power Consumption	< 2W
Operating Temperature	0°C ~ 40°C / 32°F ~ 104°F
Storage Temperature	-20°C ~ 60°C / -4°F ~ 140°F
Relative Humidity	20~90% RH (non-condensing)

## 5. Operation Controls and Functions



No.	Name	Function Description
1	LAN LED	Network connection indicator. The green light flashes when the network communication is in good state.
2	POWER LED	The green light is on when the device is powered on.
3	RELAYS LED	Relay closing indicator. The green light is always on after the Relay is set to be closing.
4	RS-232/422/485 LED	Uplink and downlink extended serial port indicators, flashing when sending data (red light) and receiving data (yellow light).
5	DC 24V	DC 24V/1A power input port.
6	RESET button	Press and hold the reset button for 5 seconds to reset the factory settings.

No.	Name	Function Description
7	LAN	10M/100M Network communication interface.
8	MAIN COM	Main communication serial port. Connect to the central control system or PC.
9	NEXT COM	Main control cascading output serial port.
10	RELAY OUTPUT	4 low-voltage relay ports, normally open contacts, each group is independent and isolated, maximum to 1A 24V DC/AC loading.
11	RS-232/422/485	Extended serial port, COM1 and COM2 support RS-232/422/485 protocol; COM3 and COM4 support RS-232 protocol, which enables the extender to have two-way communication with devices.

## 6. Web GUI User Guide

The product supports Web GUI control. You can configure device parameters directly through the browser of various computers, tablets and mobile devices. The operation method is shown as below:

**Step 1**, Connect the LAN port of the device to PC, and set the PC's IP address to be in the same network segment with the expander. For instance, set the IP address to be 192.168.1.64 and Subnet mask to be 255.255.255.0, as shown in the figure below.

Internet Protocol Version 4 (TCP/IPv4) Properties

General

You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

☐ Obtain an IP address automatically

☒ Use the following IP address:

IP address: 192.168.1.64

Subnet mask: 255.255.255.0

Default gateway: 192.168.1.254

☐ Obtain DNS server address automatically

☒ Use the following DNS server addresses:

Preferred DNS server: 202.96.134.133

Alternate DNS server: 202.96.128.86

☒ Validate settings upon exit

Advanced...

OK Cancel

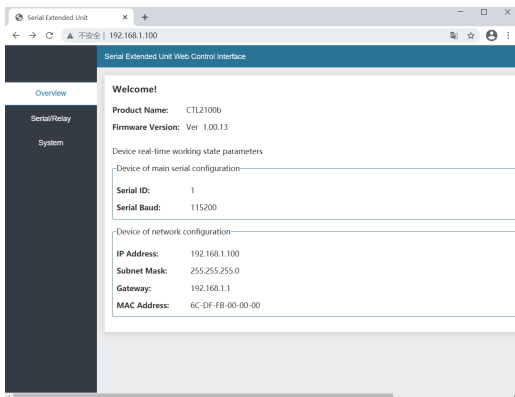
**Step 2,** Open the browser (Google Chrome is recommended), and input the expander's default IP address 192.168.1.100 to enter the Web GUI page.



The Web GUI pages are shown as below:

## ■ Overview Page

The Overview page provides basic information about the product name, firmware version, serial ID, serial Baud and the network settings.



## ■ Serial /Relay Page

On this page you can configure serial ports and turn on/off relays. After setting, please click "Confirm".



Serial Extended Unit

192.168.1.100/serial.shtml

Overview

Serial/Relay

System

COM1

BaudRate: 9600

DataLen: 8Bit

StopBit: 1Bit

ParityBit: NONE

UartType: RS232

Confirm

COM2

BaudRate: 9600

DataLen: 8Bit

StopBit: 1Bit

ParityBit: NONE

UartType: RS232

Confirm

COM3

BaudRate: 9600

DataLen: 8Bit

StopBit: 1Bit

ParityBit: NONE

UartType: RS232

Confirm

COM4

BaudRate: 9600

DataLen: 8Bit

StopBit: 1Bit

ParityBit: NONE

UartType: RS232

Confirm

Relay Switch Control

Relay 1

Switch ☐

Relay 2

Switch ☐

Relay 3

Switch ☐

Relay 4

Switch ☐

Confirm

## ■ System Page

On this page you can configure network setting, main serial port setting, product setting and restore factory settings. After setting, please click “Confirm”.

Serial Extended Unit

192.168.1.100/system.shtml

Serial Extended Unit Web Control Interface

Overview

Serial/Relay

System

System

IP Setting

Enable DHCP: ☐ ON ☒ OFF

IP Address: 192.168.1.100

Gateway: 192.168.1.1

Subnet Mask: 255.255.255.0

TCP Port: 8880

UDP Port: 8881

Confirm

Primary COM Setting

BaudRate: 115200

DataLen: 8Bit

StopBit: 1Bit

ParityBit: NONE

UartType: RS232

Confirm

Product Setting

Serial ID: 1

Product Name: CTL2100b

Confirm

Factory Reset

Note: The device will restart in 1s when it was restored factory setting. Communications setting by default. Serial ID:001, Baud Rate:115200, Data Len:8Bit, Stop Bit:1Bit, Parity Bit:None, Uart Type:RS232.

Factory Reset: ☐

Confirm

## 7. ASCII Commands

The product also supports ASCII command control. Connect the product to a PC and open a Serial Command tool on PC to send ASCII commands to control the product.

Here is the ASCII command list about Single Machine Instruction.

ASCII Commands				
Serial port protocol: baud rate:115200(default) Data bits: 8 Stop bits:1 Parity: none Flow control: none				
TCP/IP port: 8880 udp port:8881				
x,y,z, XXX are parameters Error Code describe: E00 -> unknown command E01 -> parameter out of range E04 -> This feature is not supported				
Serial port expander id range:z = 1~999 Note: When cascading, the id numbers of all machines cannot be set to the same.				
VERSION V1.00.09				
Command Code	Description	Example	Feedback	Default Setting
<b>System Settings</b>				
cs power x!	x={0-1}, 1 = power on, 0 = power off x = on/off, on = power on, off =power off	cs power 1! / cs power on!	power state: power on	power on
cr power!	get current power state	cr power!	power state: power on/off	
cs reboot!	reboot the device	cs reboot!	reboot... com x config info: baud rate:xxx data len:8bit/7bit stop bit:1bit/2bit parity bit: none/even/odd output type:rs232/ rs232+flow/rs485/ rs422 .....	
cs reset!	Reset to factory defaults	cs reset!	Reset to factory defaults	
cr fw version!	Get Firmware version	cr fw version!	mcu boot:v1.00.01 mcu app :v1.00.13	
cr status!	Get device current status	cr status!	get the product all status: power, id,com status, ip config,relay status;	
cs id [x]!	Set the ID of the serial port expander, x=1-999	cs id 1!	set the serial id is 1	serial id is 1

Command Code	Description	Example	Feedback	Default Setting
cr id!	Query the ID of the serial port expander	cr id!	serial id is xxx	
cs product name xxx!	Set the product name Maximum support for 8 characters	cs product	set product	product name
cr product name!	Query product name	cr product name!	product name is	
<b>Serial Port Settings</b>				
cs com [x] baudrate [y]!	Serial port baud rate settings x = {1-5}, y = {1-9}, 1->main com, 1->115200, 2->expand com 1, 2->57600, 3->expand com 2, 3->56000, 4->expand com 3, 4->38400, 5->expand com 4, 5->19200, 6->14400, 7->9600, 8->4800, 9->2400.	cs com 1 baudrate 1!	set com 1 baudrate is 115200	main com ->115200 expand com 1 ->9600 expand com 2 ->9600 expand com 3 ->9600 expand com 4 ->9600
cs com [x] datalen [y]!	Serial port data length Settings x = {1-5}, y = {1-2}, 1->main com, 1->8bit, 2->expand com 1, 2->7bit, 3->expand com 2, 4->expand com 3, 5->expand com 4,  When the serial data bit is set to 7bit, if the current check bit is none, the check bit forces a surprise check and indicates "when setting databits to 7bit, the check digit cannot be set to none, if the check digit is not set, odd check will be set by default!"  For example: MAIN COM Send: cs com 1 datalen 2! Feedback information: when setting databits to 7bit, the check digit cannot be set to none, if the check digit is not set, odd check will be set by default! set com 1 datalen is 7 bit	cs com 1 datalen 1!	set com 1 datalen is 8 bit	main com ->8bit expand com 1 ->8bit expand com 2 ->8bit expand com 3 ->8bit expand com 4 ->8bit

Command Code	Description	Example	Feedback	Default Setting
cs com [x] stopbit [y]!	Serial port stop bit settings x = {1-5}, y = {1-2}, 1->main com, 1->1bit, 2->expand com 1, 2->2bit, 3->expand com 2, 4->expand com 3, 5->expand com 4,	cs com 1 stopbit 1!	set com 1 stopbit is 1 bit	main com ->1bit expand com 1 ->1bit expand com 2 ->1bit expand com 3 ->1bit expand com 4 ->1bit
cs com [x] paritybit [y]!	Serial port data verification Settings x = {1-5}, y = {1-3}, 1->main com, 1->none, 2->expand com 1, 2->even, 3->expand com 2, 3->odd, 4->expand com 3, 5->expand com 4,  Note:When the serial check bit is set to null.If the serial data bit is 7 bits, the data bit is forced to change back to 8 bits.	cs com 1 paritybit 1!	set com 1 paritybit is none	main com ->none expand com 1 ->none expand com 2 ->none expand com 3 ->none expand com 4 ->none
cs com [x] output type [y]!	Serial output type Settings x = {1-5}, y = {1-4}, 1->main com, 1->rs232, 2->expand com 1, 2->rs232 3->expand com 2, +flow, 4->expand com 3, 3->rs485, 5->expand com 4, 4->rs422  Note: rs232 +flow is not supported in main com; com3 and com4 do not support RS485 and RS422.	cs com 1 output type 1!	set com 1 output is rs232	main com ->rs232 expand com 1 ->rs232 expand com 2 ->rs232 expand com 3 ->rs232 expand com 4 ->rs232
cr com [x] config!	Read the serial port configuration information x = {0-5}, 0->all com, 1->main com, 2->expand com 1, 3->expand com 2, 4->expand com 3, 5->expand com 4,	cr com 1 config!	com 1 config info: baud rate:xxx data len:8bit/7bit stop bit:1bit/2bit parity bit: none/even/odd output type:rs232/ rs232+flow/rs485/ rs422 .....	

Command Code	Description	Example	Feedback	Default Setting
<b>Network Port Settings</b>				
cs ip addr xxx.xxx.xxx.xxx!	set network ip address ip range 1.0.0.1~223.255.255.254	cs ip addr 192.168.1.2!	set ip address is 192.168.1.2	ip address is 192.168.1.100
cs subnet xxx.xxx.xxx.xxx!	set network subnet mask xxx=254 252 248 240 224  192 128 0	cs subnet 255.255.255.0!	set subnet mask is 255.255.255.0	subnet mask is 255.255.255.0
cs gateway xxx.xxx.xxx.xxx!	set network gateway gateway range 1.0.0.1~223.255.255.254	cs gateway 192.168.1.1!	set gateway is 192.168.1.1	gateway is 192.168.1.1
cs ip mode [x]!	set ip mode, x={0-1} 0=dhcp 1=static ip	cs ip mode 1!	ip mode is static ip	ip mode is static ip
cs tcp/ip port x!	tcp/ip port settings, x={1-65535}	tcp/ip port is 8000!	set tcp/ip port is 8000	tcp/ip port is 8880
cs udp port x!	udp port Settings, x={1-65535}	cs udp port 8001!	set udp port is 8001	udp port is 8881
cr ipconfig!	Network configuration query	cr ipconfig!	ip mode: static/dhcp ip: 192.168.1.100 subnet mask: 255.255.255.0 gateway: 192.168.1.1 mac address: 6C:DF:FB:00:00:00 tcp/ip mode:server tcp/ip port=8880 udp mode:server udp port =8881	
<b>Data Send</b>				
N/A	Expand serial port data reporting data->cmd data (The data range is 1 to 512) x={1-4} 1->com 1 2->com 2 3->com 3 4->com 4	COM1 : ABCD	COM1 : N/A MAIN COM : cs ch 1 report ABCD end!	
cs ch [x] cmd [data] end!	The data of the main serial port is issued data->cmd data (The data range is 1 to 512 ) x={0-4} 0->all com 1->com 1 2->com 2 3->com 3 4->com 4	MAIN COM : cs ch 1 cmd ABCD end!	MAIN COM : N/A COM1 : ABCD	

Command Code	Description	Example	Feedback	Default Setting
<b>Relay Setting</b>				
cs relay [x] to [y]!	relay switch x={0-4}      y={0-1} 0->all relay port      0->off 1->relay port 1      1->on 2->relay port 2 3->relay port 3 4->relay port 4	cs relay 1 to 1!	set relay 1 open	
cr relay [x]!	relay inquiry x={0-4} 0->all relay port 1->relay port 1 2->relay port 2 3->relay port 3 4->relay port 4	cr relay 0!	relay 1 is open/close relay 2 is open/close relay 3 is open/close relay 4 is open/close all relays are open all relays are close	relay 1 is close relay 2 is close relay 3 is close relay 4 is close

Here is another ASCII command list about Cascading Order.

ASCII Commands				
Serial port protocol: baud rate:115200(default) Data bits: 8 Stop bits:1 Parity: none Flow control: none				
TCP/IP port: 8880 udp port:8881				
x,y,z, XXX are parameters		Error Code describe: E00 -> unknown command		
E01 -> parameter out of range		E04 -> This feature is not supported		
Serial port expander id range:z = 1~999 Note: When cascading, the id numbers of all machines cannot be set to the same.				
VERSION V1.00.09				
Command Code	Description	Example	Feedback	Default Setting
System Settings				
id[z] cs power x!	x ={0-1}, 1 = power on, 0 = power off x = on/off, on = power on, off =power off	id[1] cs power 1! / cs power on!	id[1] power state: power on	power on
id[z] cr power!	get current power state	id[1] cr power!	id[1] power state: power on/off	

Command Code	Description	Example	Feedback	Default Setting
id[z] cs reboot!	reboot the device	id[1] cs reboot!	id[1] reboot... id[1] com x config info: baud rate:xxx data len:8bit/7bit stop bit:1bit/2bit parity bit: none/even/odd output type: rs232/rs232+flow/ rs485/rs422 .....	
id[z] cs reset!	Reset to factory defaults	id[1] cs reset!	id[1] reset to factory defaults	
id[z] cr fw version!	Get Firmware version	id[1] cr fw version!	id[1] mcu boot:v1.00.01 mcu app :v1.00.13	
id[z] cr status!	Get device current status	id[1] cr status!	get the product all status: power, id,com status, ip config,relay status;	
id[z] cs id [x]!	Set the ID of the serial port expander,x=1-999	id[1] cs id 1!	id[1] set the serial id is 1	serial id is 1
id[z] cr id!	Query the ID of the serial port expander	id[1] cr id!	id[1] serial id is xxx	
id[z] cs product name xxx!	Set the product name Maximum support for 8 characters	id[1] cs product	id[1] set product	product name
id[z] cr product	Query product name	id[1] cr product	id[1] product	
<b>Serial Port Settings</b>				
id[z] cs com [x] baudrate [y]!	Serial port baud rate settings x = {1-5}, y = {1-9}, 1->main com, 1->115200, 2->expand com 1, 2->57600, 3->expand com 2, 3->56000, 4->expand com 3, 4->38400, 5->expand com 4, 5->19200, 6->14400, 7->9600, 8->4800, 9->2400.	id[1] cs com 1 baudrate 1!	id[1] set com 1 baudrate is 115200	main com ->115200 expand com 1 ->9600 expand com 2 ->9600 expand com 3 ->9600 expand com 4 ->9600

Command Code	Description	Example	Feedback	Default Setting
id[z] cs com [x] datalen [y]!	<p>Serial port data length Settings</p> <p>x = {1-5}, y = {1-2},</p> <p>1-&gt;main com, 1-&gt;8bit,</p> <p>2-&gt;expand com 1, 2-&gt;7bit,</p> <p>3-&gt;expand com 2,</p> <p>4-&gt;expand com 3,</p> <p>5-&gt;expand com 4,</p> <p>When the serial data bit is set to 7-bit, if the current check bit is none, the check bit forces a surprise check and indicates "when setting databits to 7-bit, the check digit cannot be set to none, if the check digit is not set, odd check will be set by default!"</p> <p>For example: MAIN COM Send: id[1] cs com 1 datalen 2!</p> <p>Feedback information: when setting databits to 7bit, the check digit cannot be set to none, if the check digit is not set, odd check will be set by default!</p> <p>id[1] set com 1 datalen is 7-bit</p>	id[1] cs com 1 datalen 1!	id[1] set com 1 datalen is 8-bit	<p>main com-&gt;8bit</p> <p>expand com 1 -&gt;8bit</p> <p>expand com 2 -&gt;8bit</p> <p>expand com 3 -&gt;8bit</p> <p>expand com 4 -&gt;8bit</p>
id[z] cs com [x] stopbit [y]!	<p>Serial port stop bit settings</p> <p>x = {1-5}, y = {1-2},</p> <p>1-&gt;main com, 1-&gt;1bit,</p> <p>2-&gt;expand com 1, 2-&gt;2bit,</p> <p>3-&gt;expand com 2,</p> <p>4-&gt;expand com 3,</p> <p>5-&gt;expand com 4,</p>	id[1] cs com 1 stopbit 1!	id[1] set com 1 stopbit is 1 bit	<p>main com-&gt;1bit</p> <p>expand com 1 -&gt;1bit</p> <p>expand com 2 -&gt;1bit</p> <p>expand com 3 -&gt;1bit</p> <p>expand com 4 -&gt;1bit</p>
id[z] cs com [x] paritybit [y]!	<p>Serial port data verification Settings</p> <p>x = {1-5}, y = {1-3},</p> <p>1-&gt;main com, 1-&gt;none,</p> <p>2-&gt;expand com 1, 2-&gt;even,</p> <p>3-&gt;expand com 2, 3-&gt;odd,</p> <p>4-&gt;expand com 3,</p> <p>5-&gt;expand com 4,</p> <p>Note: When the serial check bit is set to null. If the serial data bit is 7 bits, the data bit is forced to change back to 8 bits.</p>	id[1] cs com 1 paritybit 1!	id[1] set com 1 paritybit is none	<p>main com -&gt;none</p> <p>expand com 1 -&gt;none</p> <p>expand com 2 -&gt;none</p> <p>expand com 3 -&gt;none</p> <p>expand com 4 -&gt;none</p>



Command Code	Description	Example	Feedback	Default Setting
id[z] cs com [x] output type [y]!	Serial output type Settings x = {1-5}, y = {1-4}, 1->main com, 1->rs232, 2->expand com 1, 2->rs232 3->expand com 2, +flow, 4->expand com 3, 3->rs485, 5->expand com 4, 4->rs422 Note: rs232 +flow is not supported in main com; com3 and com4 do not support RS485 and RS422.	id[1] cs com 1 output type 1!	id[1] set com 1 output is rs232	main com ->rs232 expand com 1 ->rs232 expand com 2 ->rs232 expand com 3 ->rs232 expand com 4 ->rs232
id[z] cr com [x] config!	Read the serial port configuration information x = {0-5}, 0->all com, 1->main com, 2->expand com 1, 3->expand com 2, 4->expand com 3, 5->expand com 4,	id[1] cr com 1 config!	id[1] com 1 config info: baud rate:xxx data len:8bit/7bit stop bit:1bit/2bit parity bit: none/even/odd output type:rs232/ rs232+flow/rs485/ rs422 .....	
<b>Network Port Settings</b>				
id[z] cs ip addr xxx.xxx.xxx.xxx!	set network ip address ip range 1.0.0.1~223.255.255.254	id[1] cs ip addr 192.168.1.2!	id[1] set ip address is 192.168.1.2	ip address is 192.168.1.100
id[z] cs subnet xxx.xxx.xxx.xxx!	set network subnet mask xxx =254 252 248 240 224 192  128 0	id[1] cs subnet 255.255.255.0!	id[1] set subnet mask is 255.255.255.0	subnet mask is 255.255.255.0
id[z] cs gateway xxx.xxx.xxx.xxx!	set network gateway gateway range 1.0.0.1~223.255.255.254	id[1] cs gateway 192.168.1.1!	id[1] set gateway is 192.168.1.1	gateway is 192.168.1.1
id[z] cs ip mode [x]!	set ip mode, x={0-1} 0=dhcp 1=static ip	id[1] cs ip mode 1!	id[1] ip mode is static ip	ip mode is static ip
id[z] cs tcp/ip port x!	tcp/ip port settings, x={1-65535}	id[1] tcp/ip port is 8000!	id[1] set tcp/ip port is 8000	tcp/ip port is 8880
id[z] cs udp port x!	udp port Settings,x={1-65535}	id[1] cs udp port 8001!	id[1] set udp port is 8001	udp port is 8881
id[z] cr ipconfig!	Network configuration query	id[1] cr ipconfig!	id[1] ip mode: static/dhcp ip: 192.168.1.100 subnet mask: 255.255.255.0 gateway: 192.168.1.1 mac address: 6C:DF:FB:00:00:00 tcp/ip mode:server tcp/ip port=8880 udp mode:server udp port =8881	

Command Code	Description	Example	Feedback	Default Setting
<b>Relay Setting</b>				
id[z] cs relay [x] to [y]!	relay switch x={0-4}                      y={0-1} 0->all relay port            0->off 1->relay port 1              1->on 2->relay port 2 3->relay port 3 4->relay port 4	id[1] cs relay 1 to 1!	id[1] set relay 1 open	
id[z] cr relay [x]!	relay inquiry x={0-4} 0->all relay port 1->relay port 1 2->relay port 2 3->relay port 3 4->relay port 4	id[1] cr relay 0!	id[1] relay 1 is open/close id[1] relay 2 is open/close id[1] relay 3 is open/close id[1] relay 4 is open/close id[1] all relays are open id[1] all relays are close	relay 1 is close relay 2 is close relay 3 is close relay 4 is close
<b>Cascade Control</b>				
id[z] cs ch x cmd ABCD end!	<p>The data of the main serial port is issued data-&gt;cmd data (The data range is 1 to 512 ) z = {1~999}, x={0-4}</p> <p>1. When using cascade, you first need to use main com to issue a command with id flag, and the feedback information will be marked with id. At this time, the machine enters the cascade state. For example : MAIN COM : id[1] cs ch 1 cmd ABCD end! COM1 : id[1] ABCD</p> <p>2. If next time the main com sends the command without the id mark, the feedback message will not carry the id mark. At this time, the machine enters the non-cascading state. For example : MAIN COM : cs ch 1 cmd ABCD end! COM1 : ABCD</p> <p>Note: When cascading, the id numbers of all machines cannot be set to the same.</p>	MAIN COM : id[1] cs ch 1 cmd ABCD end!	MAIN COM : N/A COM1 : id[1] ABCD	

Command Code	Description	Example	Feedback	Default Setting
N/A	<p>Sub-machine data report data-&gt;cmd data (The data range is 1 to 512)</p> <p>When using cascading, when the extended COM of any machine reports data to the host, each machine must be in the cascading state, otherwise, the data received by the host will have errors.</p>	COM1 : ABDC	<p>COM1 : N/A MAIN COM : id[xxx] cs ch 1 report ABCD end!</p>	