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# **CLM920\_AC3 (AC5) TCP/IP Usage Guide**

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V1.0



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## Update records

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## Contents

Chapter 1.Preparations Before Establishing a Connection.....	- 4 -
Chapter 2.TCP/UDP.....	- 5 -
Chapter 2.Transparent Transmission.....	- 8 -



# Chapter 1.Preparations Before Establishing a Connection

Please check the module status before establishing a connection.:

1.Is the SIM card ready?

**AT+CPIN?**

+CPIN: READY //The SIM card is ready

OK

2.Signal

**AT+CSQ**

+CSQ: 30,99 //The first parameter should be 10 or more

OK

3.Whether the module is registered

**AT^SYSINFO**

^SYSINFO: 2,3,0,9,1 //The module is registered in 4G. For the meaning of the specific parameters, please refer to the AT manual.

OK

After the return values of the above commands are normal, refer to the steps in each mode of this document to establish connection and transfer data.

If the return is not correct, check if the relevant card and antenna are available. After ensuring that the card, antenna and network environment are correct, operate to establish connection and transmit data.。



## Chapter 2.TCP/UDP

Take TCP as an example:

### Step 1: Set APN

```
AT+QIPCSGP=1,1,"CMNET" //CID,context type,APN
```

OK

### Step 2: Activate the context

```
AT+QIPACT=1 //CID,Must be consistent with the CID of step 1.
```

OK

```
+QIPACTURC: 1,1,"10.155.69.240" //Module gets IP
```

### Step 3: Create a socket connection, up to 6 channels

```
AT+QIPOPEN=1,1,"TCP","203.156.205.55",8866,12341,1 //CID,socket ID,TCP connect,Server  
address, server port, local port, connection type is TCP, and the access mode is directly reported when  
the message arrives.
```

OK

```
+QIPOPEN: 1,0
```

```
AT+QIPOPEN=2,2,"TCP","203.156.205.55",8866,12342,0 //CID,socket ID,TCP connect,Server  
address, server port, local port, connection type is TCP, access mode is reported when the message  
arrives
```

OK

```
+QIPOPEN: 2,0
```

### Step 4: Send data

```
AT+QIPSEND=1 //Send data to the first connection
```

```
>1234567890<CTRL+Z> //Data content does not echo
```

```
+QIPSEND:1,10 //socket ID, Send data length
```



OK

`AT+QIPSEND=2`

`>ABCDEFGHIJKLMNOPQRSTUVWXYZ`

`+QIPSEND:2,26`

OK

## Step 5: Receive data

The first connection receives data:

`RCV FROM:1,203.156.205.55,8866,10 //socket ID,Server address, server port, receive data length`

`AAAAAAAAAA //Data`

`RCV FROM:1,203.156.205.55,8866,30`

`BBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBB`

The second connection receives data:

`+QIPREADURC: 2 //The second connection has a message coming`

`AT+QIPREAD=2`

`+QIPREAD: 10 //There are 10 unread data in the 2nd connection`

OK

`AT+QIPREAD=2,10 //Read 10 data of the 2nd connection`

`+QIPREAD: 2,10`

`##### //Data`

OK

`+QIPREADURC: 2 //The server sends 22 "X" to the 2nd connection`

`AT+QIPREAD=2,8 //Read only the first 8 data`

`+QIPREAD: 2,8`

`XXXXXXXX`



OK

`AT+QIPREAD=2` //Read the remaining data length of the 2nd connection

+QIPREAD: 14 //14 data unread

OK

`AT+QIPREAD=2,20` //The read length is 20, and the read length can be greater than the unread data length.

+QIPREAD: 2,14 //The length of the data read by the second way is 14

XXXXXXXXXXXXXXXXXXXX

OK

### Step 6: Close the socket connection

`AT+QIPCLOSE=1` //socket ID

+QIPCLOSE: 1

OK

`AT+QIPCLOSE=2`

+QIPCLOSE: 2

OK

### Step 7: Disconnect the TCP/IP connection

`AT+QIPDEACT=1`

OK

+QIPACTURC: 1,0,"0.0.0.0"



## Chapter 2.Transparent Transmission

### Step 1: Set APN

```
AT+QIPCSGP=1,1,"CMNET" //CID,context type,APN
```

OK

### Step 2: Activate the context

```
AT+QIPACT=1 //CID,Must be consistent with the CID of step 1.
```

OK

```
+QIPACTURC: 1,1,"10.155.69.240" //Module gets IP
```

### Step 3: Establish a transparent connection

```
AT+QIPOPEN=1,1,"TCP","203.156.205.55",8866,12341,2 //CID,socket ID,TCP connection, server  
address, server port, local port, connection type is TCP, transparent mode
```

```
CONNECT //The transparent connection is established successfully, and the data can be  
sent and received.
```

```
WWWWWWWWWWWWWWWWWWWWWFFFFFFFFFFF //Data received by the module
```

The module sends the data server to receive

### Step 4: Exit transparent transmission

```
+++ //Do not bring the carriage return
```

```
OK //Exit transparent transmission successfully
```

```
AT+CPIN? //After exiting the transparent transmission, the AT command can be  
issued normally.
```

```
+CPIN: READY
```

OK

### Step 5: Exit AT command mode and enter transparent mode





ATO

CONNECT

### **Step 6: Disconnect the transparent connection**

+++ //Must switch to AT command mode before sending an instruction to disconnect

OK

AT+QIPCLOSE=1 //socket ID

+QIPCLOSE: 1

OK

### **Step 7: Disconnect the TCP/IP connection**

AT+QIPDEACT=1

OK

+QIPACTURC: 1,0,"0.0.0.0"