

AT commands

1.1 commands form

AT+<CMD>[op][para1, para2, para3,...]<CR><LF>

AT+ : Command prefix

CMD: Control directive

[op]: “=” Indicates parameter configuration, “NULL” Represents a parameter query

[para-n]: Parameter list, can be omitted

<CR><LF>: Carriage return (ASCII) 0x0D 0x0A

1.2 The instruction error code

Error code	Description
-1	Invalid command format
-2	Invalid command
-3	Invalid operator
-4	Invalid parameter
-5	Operation not allowed

1.3 The instruction set

REBT	Restart the module
VER	Query version number
EXAT	Exit AT command mode
RESTORE	reset
UART	Set/query serial port parameters
IMEI	Query module IMEI
LINKSTA	Query SOCK connection status
LINKSTA1	Query SOCK1 connection status
SOCK	Set/query SOCK parameters
SOCK1	Set/Query SOCK1 parameters
REGMOD	Set/query registration package mode
REGINFO	Set/query custom registration package information (ASCII)
REGINFONEW	Set/query custom registration package information (hexadecimal)
HEARTMOD	Set/Query Heartbeat Packet Mode
HEARTINFO	Set/query custom heartbeat packet information (ASCII)

HEARTINFONEW	Set/query custom heartbeat packet information (hexadecimal)
HEARTM	Set/query heartbeat packet time
SHORTM	Set/query short connection time
CREG	Query whether to register to the network
CSQ	Query signal strength
CPIN	Check SIM card status
POTOCOL	Query/set whether to enable protocol transmission
MODBUS	Set/query Modbus TCP/RTU conversion function
MTCPID	Set/query Modbus TCP event identifier
NETHEAD	Set/query network AT command header
MQTTMODE	Set/query MQTT mode
MQTT_ADDRESS	Set/query the address and port of the IoT platform
MQTT_CONNECT	Set/query parameters for access to the Internet of Things platform
MQTT_SUBSCRIBE_TOPIC	Set/query the topic and message level of the subscription message
MQTT_PUBLISH_TOPIC	Set/query the topic and message level of the published message
MQTT_ALIAUTH	Set/query the three elements of Alibaba Cloud
APN	Query/set APN information
APN_ENABLE	Query/set APN enable
WORK_MODE	Query/set working mode

1.4 Detailed instructions

AT+REBT

Function: Restart the module.

Format: Set

Send: AT+REBT<CR>

Return: <CR><LF>+OK<CR><LF>

Argument: None

Description: Once the command is executed correctly, the module restarts and enters transmission mode after reboot.

AT+VER

Function: Query the module firmware version. Format: Set

Send AT+VER<CR><LF>

Return <CR><LF>+OK=<ver><CR><LF>

Parameter: ver module firmware version description: None

AT+RESTORE

Function: The module reverts to factory settings.

Format: Set

Send AT+RESTORE<CR><LF>

Return <CR><LF>+OK<CR><LF>

Argument: None

Description: None

AT+UART

Function: Set / query UART parameters. Format: Query

Send AT+UART<CR>

Return <CR><LF>+OK=<baudrate>,< parity ><CR><LF>

Set up

Send AT+UART=<baudrate>,< parity ><CR><LF>

Return <CR><LF>+OK<CR><LF>

Parameter: baudrate Baud rate, configurable level as follows:

1200,
2400,
4800,
9600,
19200,
38400,
57600,
115200,
230400,
460800,
921600,

Description: None

Parity test bit NONE no test bit EVEN

Even test ODD oddity test

AT+IMEI

Function:

n:

Query

module

IMEI.

Format:

Query

Send: AT+IMEI<CR>

Return: <CR><LF>+OK=<imei><CR><LF>

Parameter: IMEI code for the imei module

AT+LINKSTA

Features: Query

whether a TCP link has
been established.

Format: Query

send: AT+LINKSTA<CR>

return: <CR><LF>+OK=<sta><CR><LF>

Parameter: Whether Sta establishes a TCP link, Connect (TCP connection) / Disconnect (TCP disconnect).

AT+LINKSTA1

Features: Query

whether a TCP link has
been established.

Format: Query

Send: AT+LINKSTA1<CR>

Return: <CR><LF>+OK=<sta><CR><LF>

Parameter: Whether Sta establishes a TCP link, Connect (TCP connection) / Disconnect (TCP disconnect).

AT+SOCK

Function: Format /

query network protocol
parameters.

Format: Query

Send: AT+SOCK<CR>

Return: <CR><LF>+OK=<protocol>,<ip>,< port ><CR><LF>

Set up

Send: AT+SOCK=<protocol>,<ip>,< port ><CR>

Return :

<CR><LF>+OK<CR><LF>

Parameters: Protocol protocol type, TCPC/UDPC, TCPC for TCP client UDPC for UDP client

The IP address or domain name of the IP target server

Port server port number, 10 feeds, less than 65535.

AT+SOCK1

Function: Format /

query network protocol
parameters.

Format: Query

Send: AT+SOCK1<CR>

Return: <CR><LF>+OK=<EN>,<protocol>,<ip>,< port ><CR><LF>

Set up

Send: AT+SOCK1=<EN>,<protocol>,<ip>,< port ><CR>

Return: <CR><LF>+OK<CR><LF>

Parameter: EN enables 0:Shutdown SOCK1

1: Open SOCK1

Protocol protocol type, TCPC/UDPC TCPC corresponds to TCP client UDPC pair should UDP client

ip When the module is set to "CLIENT," the IP address or domain name of the target server

Port server port number,10 inputs, less than 65535.

AT+REGMOD

Features: Set up a query registration package mechanism.

format:

Query

Send: AT+REGMOD<CR>

Return: <CR><LF>+OK=<status><CR><LF>

Set up

Send: AT+REGMOD =<status><CR>

Return: <CR><LF>+OK<CR><LF>

Parameter: Status registration package mechanism

EMBMAC adds MAC/IMEI as the registration packet data before each packet is sent to the server.

EMBCSTM adds custom registration package data before each packet is sent to the server. OLMAC sends a MAC/IMEI registration package only the first time it is linked to the server. OLCSTM sends a user-defined registration package only the first time it is linked to the server. OFF can't register package mechanism.

AT+REGINFO

Features: Set the

query custom

registration package

content format:

Query Send : AT+

REGINFO <CR>

Return: <CR><LF>+OK=<data><CR><LF>

Set up

Send: AT+ REGINFO =<data><CR>

Return: <CR><LF>+OK<CR><LF>

Parameter: ASCII code with in data 40 bytes.

AT+REGINFONEW

Function: Set the

Return: <CR><LF>+OK<CR><LF>

Parameter: DATA 40 bytes of ASCII code heartbeat packet data.

AT+HEARTINFONEW

Function:

Set/query

heartbeat

packet data.

Format: Query

Send: AT+ HEARTINFONEW<CR>

Return :
<CR><LF>+OK=<type>,<data><CR><LF> Set up

Send: AT+ HEARTINFO=<type>,<data><CR>

Return: <CR><LF>+OK<CR><LF>

Argument:type

The 0 heartbeat package type is HEX

1 The heartbeat type is ASCII code

data

ASCII codes within 40 bytes, when the heartbeat package type is HEX, the content must be in a legitimate HEX format and the length must be even.

AT+HEARTM

Function: Set /

query heartbeat

package time.

Format: Query

Send: AT+ HEARTM <CR>

Return: <CR><LF>+OK=<time><CR><LF>

Set up

Send: AT+ HEARTM =<time><CR>

Return: <CR><LF>+OK<CR><LF>

Parameter: time heartbeat time,0 off, range 1to65535 seconds.

AT+SHORTM

Function: Set

/query short

connection

time. Format:

Query

Send: AT+ SHORTM<CR>

Return: <CR><LF>+OK=<time><CR><LF>

Set up

Send: AT+ SHORTM=<time><CR>

Return: <CR><LF>+OK<CR><LF>

Parameter: time short connection time,0 off, range 2-255 seconds.

AT+CSQ

功能：

查询信

号强度。

格式：

设置

发 送 AT+CSQ<CR><LF>

返 回 <CR><LF>+OK=<csq><CR><LF>

参数：

csq

信 号

强 度

说明：

无

AT+CREG

Features: Check if

you are

registered with a

carrier. Format:

Set

发 送 AT+CREG<CR><LF>

返 回 <CR><LF>+OK=<creg><CR><LF>

Parameter: creg

Description: None

1 Register to the network

0 is not registered to the network

AT+CPIN

Feature:

Query SIM

status.

Format:

Set

发 送 AT+CPIN<CR><LF>

返 回 <CR><LF>+OK=<cpin><CR><LF>

Parameter: cpin

1 The SIM card was detected

0 The SIM card is not detected

Description: None

AT+ UARTEX（扩展指令）

Function: Set / Query Serial Parameters (AT-UART
instructions can only be configured Baud Rate, Check Bit)

Format: Query

Send: AT+ UARTEX <CR>

Return: <CR><LF>+OK=<sta><CR><LF>

Set up

Send: AT+ UARTEX =<baud>,<data bit>,< parity>,<stop><CR>

Return: <CR><LF>+OK<CR><LF>

Parameter: baud: serial baud rate, configurable level as follows:

1200,
2400,
4800,
9600,
19200,
38400,
57600,
115200,
230400,
460800,
921600,

Data bit: Serial bit

Parity: Serial check bit

stop: Serial stop bit

8, the data bit length is 8 bits

7, the data bit length is 7 bits

N, the check method is no check O, the check
method is odd school E, checked as parity

1, the stop bit is 1 bit

2, the stop bit is 2 bits

AT+MODBUS

Function: Set /Query whether the
Modbus RTU/TCP conversion function is

formatted: Configuration

Send: AT+ **MODBUS** =<state> <CR>

Return: <CR><LF>+OK<CR><LF>

Inquire

Send: AT+ **MODBUS** <CR>

Return: <CR><LF>+OK=<state> <CR><LF>

Argument: State state

on enables Modbus RTU/TCP conversion

OFF turns off the Modbus RTU/TCP conversion function

AT+MTCPID

Features: Set /query Modbus

RTU/TCP event identifier format:

Configuration

Send: AT+ MTCPID =<id> <CR>

Return: <CR><LF>+OK<CR><LF>

Inquire

Send: AT+ MTCPID <CR>

Return: <CR><LF>+OK=<id> <CR><LF>

Parameter: id identifier (0 to 65535) 2 bytes

Note: When id 0 is 0, any modbus TCP received is converted to the corresponding RTU protocol, otherwise only identifier matching will be converted

AT+NETHEAD

Function: Set /query the network AT instruction header

Format: Configuration

Send: AT+ NETHEAD =<value> <CR>

Return: <CR><LF>+OK<CR><LF>

Inquire

Send: AT+ NETHEAD <CR>

Return: <CR><LF>+OK=<value><CR><LF>

Parameter: value, set/query network AT instruction header

Note: Network AT identifiers can be up to 19 characters long

AT+MQTTMODE

Function: Set /query MQTT mode

Format: Configuration

Send: AT+ MQTTMODE =<mode> <CR>

Return: <CR><LF>+OK<CR><LF>

Inquire

Send: AT+ NETHEAD <CR>

Return: <CR><LF>+OK=<value><CR><LF>

Parameter: mode, MQTT mode

Note: The mode value is as follows:

0 MQTT mode off;

1 Alibaba Cloud Platform;

2 oneNET platform;

3 Baidu cloud platform, as well as other IoT platforms that support standard MQTT protocols;

AT+MQTT_ADDRESS

Functions: Set/query MQTT platform address, port

Format: Configuration

Send: AT+ MQTT_ADDRESS =<addr><port> <CR>

Return: <CR><LF>+OK<CR><LF>

Inquire

Send: AT+ MQTT_ADDRESS<CR>

Return: <CR><LF>+OK=<addr><port><CR><LF>

Parameter: addr platform address

Port platform port

AT+MQTT_CONNECT

Features: Set/query the necessary parameters for accessing the MQTT platform, which is not required to complete this configuration when using Alibaba Cloud, but is required

Use the AT-plus MQTT_ALIAUTH to configure the three elements

Format: Configuration

Send: AT+ MQTT_CONNECT =<value0><value1><value2><CR>

Return: <CR><LF>+OK<CR><LF>

Inquire

Send: AT+ MQTT_CONNECT<CR>

Return: <CR><LF>+OK=<value0><value1><value2><CR><LF>

Parameter:<value0> when MQTT mode is set to 2, that is, access oneNET, value0 is the device ID, and when MQTT mode is set to 3, that is, access to Baidu Cloud or other platforms that support standard MQTT protocols, value0 is the device name

<value1> when the MQTT mode is set to 2, it is connected to oneNET, value1 is the product ID, and when the MQTT mode is set to 3

That is, access to Baidu Cloud or other platforms that support standard MQTT protocols, value1 is the user name

<value2> when the MQTT mode is set to 2, the access oneNET, value2 is the authentication information, and when the MQTT mode is set to 3

That is, access to Baidu Cloud or other platforms that support standard MQTT protocols, value2 is the password

AT+MQTT_SUBSCRIBE_TOPIC

Functions: Set/query MQTT platform address, port

Format: Configuration

Send: AT+ MQTT_SUBSCRIBE_TOPIC =<topicName><qos> <CR>

Return: <CR><LF>+OK<CR><LF>

Inquire

Send: AT+ MQTT_SUBSCRIBE_TOPIC<CR>

Return: <CR><LF>+OK=<topicName><qos><CR><LF>

Parameters: The level of the message subject name qos for the topicName subscription, qos values can be taken,0,1,2

AT+MQTT_PUBLISH_TOPIC

Functions: Set/query MQTT platform address, port

Format: Configuration

Send: AT+ MQTT_PUBLISH_TOPIC =<topicName><qos> <CR>

Return: <CR><LF>+OK<CR><LF>

Inquire

Send: AT+ MQTT_PUBLISH_TOPIC<CR>

Return: <CR><LF>+OK=<topicName><qos><CR><LF>

Parameter: The subject name of the message published by topicName

The level of the message that qos reads, the value of qos can only be taken at 0

AT+MQTT_ALIAUTH

Features: Set / query the three elements of the Alibaba Cloud platform, when the MQTT mode is set to 1, that is, when accessing Alibaba Cloud needs to be configured

Format: Configuration

Send: AT+ MQTT_ALIAUTH =<value0><value1><value2> <CR>

Return: <CR><LF>+OK<CR><LF>

Inquire

Send: AT+ MQTT_ALIAUTH<CR>

Return: <CR><LF>+OK=<value0><value1><value2> <CR><LF>

Parameter: < value0 > product key

< value1 > device name

< value2 > device key

AT+APN

Features: Set up / query APN information

Format: Configuration

Send: AT+ APN=<addr><username><password><authentication> <CR>

Return: <CR><LF>+OK<CR><LF>

Inquire

Send: AT+ APN<CR>

Return: <CR><LF>+OK=<addr><username><password><authentication><CR><LF>

Parameter: addr represents the access address of the APN, password represents the user name, password represents the password, and the value of the name of the name is 2

AT+APN_ENABLE

Function: Set/query APN enable

Format: Configuration

Send: AT+ APN_ENABLE =<enable> <CR>

Return: <CR><LF>+OK<CR><LF>

Inquire

Send: AT+ APN_ENABLE<CR>

Return: <CR><LF>+OK=<enable><CR><LF>

Parameter: enable means APN enable,0 is off, and1 is on

AT+WORK_MODE

Function: Set/query working mode

Format: Configuration

Send: AT+ WORK_MODE =<mode> <CR>

Return: <CR><LF>+OK<CR><LF>

Inquire

Send: AT+ WORK_MODE<CR>

Return: <CR><LF>+OK=<mode><CR><LF>

Parameter: mode represents operating mode,0 is network transmission, and1 is mqtt mode.