Serial Port Server (AT Command Set)
(NE2 series)
(Serial port ⇌) Ethernet



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"Basic Functions" AT Command Set

1、 To enter AT command mode: Send +++ via serial port, and send AT again within 3 seconds. If the device echoes +OK, then you have entered AT command mode.

2、 This instruction manual supports serial port servers of models NE2-D11/NE2-D12/NE2-S1/NE2-T1/NE2-T1B/NE2-T1M, etc.

3、 The following text contains “ <CR><LF> ” and “ \r \n ” , which represent newline characters for different text formats. They are actually HEX (0x 0D and 0x 0A).

Error code table:

Error code	illustrate
- 1	Invalid command format
1	Invalid command
2	System error
- 3	Not yet defined
- 4	Invalid parameters
- 5	Incorrect password

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1.1 Summary of basic configuration commands

instruction	describe
A T+EXAT	Exit AT configuration mode
A T+MODEL	Equipment Model
AT+NAME	Equipment Name
A T+SN	Device ID
AT+REBT	Restart the device
AT+RESTORE	Factory reset
AT+VER	Check firmware version
AT+UART	Serial port parameters
A T+MAC	Device MAC address
AT+WAN	Device network parameters
AT+LPORT	Device Port
A T+SOCK	Operating mode and target network parameters
AT+LINKSTA	Connection status feedback
AT+UARTCLR	Connect to serial port buffer mode
AT+REGMOD	Registration package mode
AT+REGINFO	Registration package contents
AT+HEARTMOD	Heartbeat Pack Mode
AT+HEARTINFO	Heartbeat Package Contents
A T+SHORTM	short connection
AT+TMORST	Timeout restart
A T+TMOLINK	Disconnect and restart
AT+PASSEN	AT configuration password enabled

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1.2 Enter AT command

instruction	AT
Function	Enter AT command mode
send	AT
return	<CR><LF>+OK<CR><LF> / <CR><LF>+OK =AT e nable <CR><LF>
Remark	When there is no connection and no configuration is provided, the following response is returned: + OK=AT enable Returns " +OK" when a connection is established.

[Example]

+++ first, without a newline.

No newline is needed when sending AT .

Received\ r\n+OK\r\n or\ r\n + OK=AT enable \r\n

1.3 Exit AT commands

instruction	AT+ EXAT
Function	Enter AT command mode
send	AT+ EXAT <CR><LF>
return	<CR><LF>+OK<CR><LF>

[Example]

Send: A T+EXAT \ r\n

Received: \ r\n+OK\r\n

1.4 Model Inquiry

instruction	AT+ MODEL
Function	Model Inquiry
send	AT+MODEL<CR><LF>
return	<CR><LF>+OK= < Model String><CR><LF>
Remark	Modelstring:NE2-D11 NE2-D12 NE2-S1 NE2-T1 NE2-T1B

[Example]

Send: A T+MODEL \ r\n

Received: \ r\n +OK= NE2-D11 \r\n

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1.5 Query/Set Name

instruction	AT+ NAME
Function	Query and set name
Send (query)	AT+NAME<CR><LF>
Return (query)	<CR><LF>+OK=< N ame String><CR><LF>
Send (Settings)	AT +NAME = < Name String><CR><LF> (Limited to 10 bytes)
Return (Settings)	<CR><LF>+OK<CR><LF>

[Example]

Query:

Send: A T+NAME \ r\n

Received: \ r\n +OK= admin \r\n

set up:

Send: A T+NAME=001 \ r\n

Received: \ r\n +OK \r\n

1.6 Query/Set ID

instruction	AT+ SN
Function	Query and set ID
Send (query)	AT+SN<CR><LF>
Return (query)	<CR><LF>+OK=< SN String><CR><LF>
Send (Settings)	AT+SN = < SN String><CR><LF> (Limited to 2-4 bytes)
Return (Settings)	<CR><LF>+OK<CR><LF>

[Example]

Query:

Send: A T+SN \ r\n

Received: \ r\n +OK=0001\r\n

set up:

Send: A T+SN=111 \ r\n

Received: \ r\n +OK \r\n

1.7 Restart

instruction	AT+ REBT
Function	Restart
send	AT+REBT<CR><LF>
return	<CR><LF>+OK<CR><LF>

[Example]

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Send: A T+ REBT \ r\n

Received: \ r\n +OK \r\n

Waiting for the restart to complete.

1.8 Factory reset

instruction	AT+ RESTORE
Function	Factory reset
send	AT+RESTORE<CR><LF>
return	<CR><LF>+OK<CR><LF>

[Example]

Send: A T+ RESTORE\ r\n

Received: \ r\n +OK \r\n

Waiting for the restart to complete.

1.9 Query version information

instruction	AT+ VER
Function	Query version information
send	AT+VER<CR><LF>
return	<CR><LF>+OK<CR><LF>

[Example]

Send: A T+ VER \ r\n

Received: \ r\n +OK =9167-0-xx \r\n

1.10 Query/Set Serial Port

instruction	AT+ UART
Function	Query and configure serial port
Send (query)	AT+UART<CR><LF>
Return (query)	<CR><LF>+OK=< B aud , Data, Stop, P arity, packetTime,packetLength><CR><LF>
Send (Settings)	AT+UART=< Baud , Data , Stop, P arity, packetTime,packetLength><CR><LF>
Return (Settings)	<CR><LF>+OK<CR><LF>
Remark	Baud rate : 600, 1200 , 2400, 4800, 9600, 19200, 38400, 57600, 115200, 230400, 460800; Data bits : 8 , 7, 6, 5 Stop (stop bit) : 1 (1 bit), 2 (1.5 bits), 3 (2 bits) Parity : 0 (NONE), 2 (EVEN) , 3 (ODD) packetTime (frame interval) : 1-125 (byte idle time) packetTime (frame length) : 10-1024 bytes

[Example]

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Query:

Send: A T+ UART \ r\n

Received:\r\n+OK=115200,8,1,0,1,1024\r\n

set up:

Send: A T+ UART= 115200,8,1,0,1,1024\ r\n

Received:\r\n+OK\r\n

1.11 Query MAC address

instruction	AT+ MAC
Function	Query MAC address
send	AT+MAC<CR>
return	<CR><LF>+OK=< MAC ><CR><LF>
Remark	The returned data format is "xx -xx-xx-xx-xx-xx ".

[Example]

Send: A T+ MAC\ r\n

Received:\r\n+OK=84 - C2 - E4 - 36 - 05 - A2\r\n

1.12 Query/Set Network Parameters

instruction	AT+ WAN
Function	Query and set network parameters
Send (query)	AT+WAN<CR><LF>
Return (query)	<CR><LF>+OK=< Mode , Address , M ask, Gateway , DNS 1,DNS2><CR><LF>
Send (Settings)	AT+WAN=< Mode , Address , M ask, Gateway , DNS 1,DNS2><CR><LF>
Return (Settings)	<CR><LF>+OK<CR><LF>
Remark	Mode: DHCP/STATIC Address : Local IP address M ask : Subnet mask Gateway DNS 1 : Primary DNS Server DNS 2 : Alternate DNS server

[Example]

Query:

Send: A T+ WAN\ r\n

Received:\r\n+OK= STATIC , 192.168.3.7,255.255.255.0,192.168.3.1,114.114.114.114,8.8.8.8\r\n

Settings: (Dynamic IP)

Send: A T+ WAN=DHCP , 192.168.3.7,255.255.255.0,192.168.3.1,114.114.114.114,8.8.8.8\ r\n

Received:\r\n+OK\r\n

Configuration: (Static IP)

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Send: AT + WAN=STATIC , 192.168.3.7,255.255.255.0,192.168.3.1,114.114.114.114,8.8.8.8\r\n

Received:\r\n+OK\r\n

1.13 Query/Set Local Port Number

instruction	AT+ LPORT
Function	Query and set the local port number
Send (query)	AT+LPORT=<linkId><CR>
Return (query)	<CR><LF>+OK=<linkId, Value ><CR><LF>
Send (Settings)	AT+LPORT=<linkId, Value ><CR>
Return (Settings)	<CR><LF>+OK<CR><LF>
Remark	linkId (link number): 0 or 1 Port number : 0-65535,0 (A random port is used in client mode, and a non-zero parameter is required in server mode, otherwise the device server will fail to start) ;

[Example]

Query:

Send: A T+ LPORT=0\ r\n

Received:\r\n+OK=0,8887\r\n

set up:

Send: A T+ LPORT =0, 888 3 \ r\n

Received:\r\n+OK\r\n

1.14 Query/set local machine operating mode and target device network parameters

instruction	AT+ SOCK
Function	Query and set network protocol parameters
Send (query)	AT+SOCK=<linkId><CR><LF>
Return (query)	<CR><LF>+OK=<linkId, Model , R e mote IP, R e mote P ort><CR><LF>
Send (Settings)	AT+SOCK=<linkId, Model , R e mote IP, R e mote P ort><CR><LF>
Return (Settings)	<CR><LF>+OK<CR><LF>
Remark	linkId (link number): 0 or 1 Model (Working Mode) : DISABLE, TCPC, TCPS, UDPC, UDPS, MQTTC, HTTPC ; Remote IP (target IP /domain name): Maximum domain name configuration of 128 characters ; Remote Port (Target Port): 1-65535 ;

[Example]

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Query:

Send: A T+ SOCK=0\ r\n

Received:\r\n+OK=0,TCPC,192.168.3.3,8888\r\n

set up:

Send: AT+SOCK=0,TCPC,192.168.3.100,8886\ r\n

Received:\r\n+OK\r\n

1.15 Query network connection status

instruction	AT+ LINKSTA
Function	Query network connection status
send	AT+LINKSTA=<linkId><CR><LF>
return	<CR><LF>+OK=<linkId, STA ><CR><LF>
Remark	STA : Connect/Disconnect

[Example]

Send: A T+ LINKSTA=0\ r\n

Received:\r\n+OK=0,Disconnect\r\n

1.16 Query/Set Serial Port Cache Clearing Status

instruction	AT+ UARTCLR
Function	Query and set serial port cache clearing status
Send (query)	AT+UARTCLR=<linkId><CR><LF>
Return (query)	<CR><LF>+OK=<linkId, STA ><CR><LF>
Send (Settings)	AT+UARTCLR=<linkId, STA ><CR><LF>
Return (Settings)	<CR><LF>+OK<CR><LF>
Remark	linkId (link number): 0 or 1 STA : ON (Enable connection, clear cache) OFF (Disable connection, clear cache)

[Example]

Query:

Send: A T+ UARTCLR=0\ r\n

Received:\r\n+OK=0,ON\r\n

set up:

Send: A T+ UARTCLR=0,OFF\ r\n

Received:\r\n+OK\r\n

1.17 Query/Set Registration Package Mode

instruction	AT+ REGMOD

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Function	Query and set registration package mode
Send (query)	AT+REGMOD=<linkId><CR><LF>
Return (query)	<CR><LF>+OK=<linkId, Status ><CR><LF>
Send (Settings)	AT+REGMOD=<linkId, status ><CR><LF>
Return (Settings)	<CR><LF>+OK<CR><LF>
Remark	linkId (link number): 0 or 1 Status: OFF - Disable OLMAC - Send MAC address upon first connection OLSN - Send SN upon first connection OLCSTM - Send Custom Initial Connection EMBMAC - Send MAC per packet EMBSN - SN sent per packet EMBCSTM - Custom per packet sending OLTIME - First connection sent timestamp EMBTIME - Timestamp of each package sent

[Example]

Query:

Send: A T+ REGMOD=0\ r\n

Received:\r\n+OK=0,OFF\r\n

set up:

Send: A T+ REGMOD=0, OLMAC \ r\n

Received:\r\n+OK\r\n

1.18 Query/Set Custom Registration Package Contents

instruction	REGINFO
Function	Query and set custom registration package contents
Send (query)	AT+HEARTINFO=<linkId><CR><LF>
Return (query)	<CR><LF>+OK=<linkId, Mode , Data ><CR><LF>
Send (Settings)	AT+HEARTINFO=<linkId, Mode , Data ><CR><LF>
Return (Settings)	<CR><LF>+OK<CR><LF>
Remark	linkId (link number): 0 or 1 Module : Data format (HEX) 1 hexadecimal , (STR) string; Data type: ASCII is limited to 128 bytes, HEX is limited to 128 bytes;

[Example]

Query:

Send: A T+ REGINFO=0 \ r\n

Received:\r\n+OK=0, STR, regist msg\r\n

set up:

Send: A T+ REGINFO =0, STR, EBTYE TEST\ r\n

Received:\r\n+OK\r\n

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1.19 Query/Set up network heartbeat packets

instruction	AT+ NETHEARTPKT
Function	Query and set up network heartbeat packets
Send (query)	AT+ NETHEARTPKT=<linkId><CR><LF>
Return (query)	<CR><LF>+OK=<linkId, Mode , Time ,Type, Data ><CR><LF>
Send (Settings)	AT+NETHEARTPKT=<linkId, Mode , Time ,Type, Data ><CR><LF>
Return (Settings)	<CR><LF>+OK<CR><LF>
Remark	linkId (link number): 0 or 1 Mode: 0 (Off), 1 (SN), 2 (MAC), 3 (Custom data); Time : Time 1 - 65535 s; Type: Data format (HEX) 1 hexadecimal , (STR) string; Data type: ASCII is limited to 128 bytes, HEX is limited to 128 bytes;

[Example]

Query:

Send: A T+ NETHEARTPKT=0 \ r\n

Received:\r\n+OK=0,1,5,STR , net heart packet\r\n

Send: A T+ NETHEARTPKT =0,1,5,STR , net heart packet\ r\n

Received:\r\n+OK\r\n

1.20 Query/Set Serial Port Heartbeat Packet

instruction	AT+ UARTHEARTPKT
Function	Query and set up network heartbeat packets
Send (query)	AT+ UARTHEARTPKT<CR><LF>
Return (query)	<CR><LF>+OK=< Mode , Time ,Type, Data ><CR><LF>
Send (Settings)	AT+UARTHEARTPKT=< Mode , Time , Type, Data ><CR><LF>
Return (Settings)	<CR><LF>+OK<CR><LF>
Remark	Mode: 0 (Off), 1 (SN), 2 (MAC), 3 (Custom data); Time : Time 1 - 65535 s; Type: Data format (HEX) 1 hexadecimal , (STR) string; Data type: ASCII is limited to 128 bytes, HEX is limited to 128 bytes;

[Example]

Query:

Send: A T+ UARTHEARTPKT=0 \ r\n

Received:\r\n+OK=1,5,STR , net heart packet\r\n

Send: A T+ UARTHEARTPKT =0,1,5,STR , net heart packet\ r\n

Received:\r\n+OK\r\n

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1.21 Query/Set Short Connection Time

instruction	AT+ SHORTM
Function	Query and set short connection time
Send (query)	AT+SHORTM=<linkId><CR><LF>
Return (query)	<CR><LF>+OK=<linkId, Time ><CR><LF>
Send (Settings)	AT+SHORTM=<linkId, Time ><CR><LF>
Return (Settings)	<CR><LF>+OK<CR><LF>
Remark	linkId (link number): 0 or 1 Time : Limits from 0 to 65535, 0 is off;

[Example]

Query:

Send: AT+ SHORTM=0 \ r\n

Received:\r\n+OK=0,0\r\n

set up:

Send: A T+ SHORTM =0,5\ r\n

Received:\r\n+OK\r\n

1.22 Query/Set Timeout Restart Time

instruction	AT+ TMORST
Function	Query and set timeout restart time
Send (query)	AT+TMORST<CR><LF>
Return (query)	<CR><LF>+OK=< Time ><CR><LF>
Send (Settings)	AT+TMORST=<Time> <CR> <LF> (Limits time to 60-65535s, 0 disables)
Return (Settings)	<CR><LF>+OK<CR><LF>
Remark	Time : Limited to 60-65535s, 0 is off;

[Example]

Query:

Send: AT+ TMORST \ r\n

Received:\r\n+OK=300\r\n

set up:

Send: A T+ SHORTM = 350\ r\n

Received:\r\n+OK\r\n

1.23 Query/Set Network Reconnection Time

instruction	AT+ TMOLINK

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Function	Query and set the network reconnection time.
Send (query)	AT+TMOLINK<CR><LF>
Return (query)	<CR><LF>+OK=< Times ><CR><LF>
Send (Settings)	AT+TMOLINK= <Times> <CR><LF>
Return (Settings)	<CR><LF>+OK<CR><LF>
Remark	Times (Network Reconnection Time) : Limited to 10-65535, 0 for fast reconnection;

[Example]

Query:

Send: AT+ TMOLINK \ r\n

Received:\r\n+OK=5\r\n

set up:

Send: A T+ TMOLINK =10\ r\n

Received:\r\n+OK\r\n

1.24 Protocol distribution

instruction	AT+ DISTRIBUTE
Function	Query and configure protocol distribution enable
Send (query)	AT+DISTRIBUTE <CR><LF>
Return (query)	<CR><LF>+OK= <DIST> <CR> <LF>
Send (Settings)	AT+ DISTRIBUTE =< DIST ><CR><LF>
Return (Settings)	<CR><LF>+OK<CR><LF>
Remark	DIST : 0 - Disable protocol distribution; 1 - Enable protocol distribution

[Example]

Query:

Send: AT+ DISTRIBUTE \ r\n

Received:\r\n+OK=0\r\n

set up:

Send: A T+ DISTRIBUTE =1\ r\n

Received:\r\n+OK\r\n

1.25 Network Fast AT

instruction	AT+NETAT
Function	Query and configure network quick AT
Send (query)	AT+NETAT <CR><LF>
Return (query)	<CR><LF>+OK=<SW , HEAD > <CR><LF>
Send (Settings)	AT+ DISTRIBUTE =<SW , HEAD><CR><LF>

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Return (Settings)	<CR><LF>+OK<CR><LF>
Remark	SW : 0 - Disable network fast AT; 1 - Enable network fast AT

[Example]

Query:

Send: AT+ NETAT \ r\n

Received:\r\n+OK=0,NETAT\r\n

set up:

Send: A T+ NETAT =1,NETAT\ r\n

Received:\r\n+OK\r\n

Quick examples of using AT

[Example]

Query:

Send: NETAT+NAME \ r\n

Received:\r\n+OK=admin\r\n

set up:

Send: NETAT+NAME =admin\ r\n

Received:\r\n+OK\r\n

1.26 AT configuration password enabled

instruction	AT+PASSEN
Function	Query and set AT configuration password enable
Send (query)	AT+PASSEN <CR><LF>
Return (query)	<CR><LF>+OK=<SW> <CR> <LF>
Send (Settings)	AT+ PASSEN =<SW><CR><LF>
Return (Settings)	<CR><LF>+OK<CR><LF>
Remark	SW : OFF - Disable AT configuration password enable ON: Enable AT configuration password

[Example]

Query:

Send: AT+ PASSEN \ r\n

Received:\r\n+OK=OFF\r\n

set up:

Send: A T+ PASSEN = ON\ r\n

Received:\r\n+OK\r\n

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" Modbus Function" AT Command Set

1.27 Summary of Modbus Function Commands

instruction	describe
A T+MODWKMOD	Mod bus mode
A T+MODPTCL	Protocol Conversion
AT+MODGTWYTM	Storage gateway instruction storage time and query interval
AT+MODCMDEDIT	Modbus RTU instructions pre-stored

1.28 Query Modbus address filtering

instruction	AT +MODADDFLI
Function	Query and set Modbus filter addresses
Send (query)	AT+MODADDFLI <CR><LF>
Return (query)	<CR><LF>+OK = <FilterAddr> <CR> <LF>
Send (Settings)	AT+ MODADDFLI =<FliterAddr><CR><LF>
Return (Settings)	<CR><LF>+OK<CR><LF>
Remark	FliterAddr: 0-255, 0: No filtering; 1-255: No filtering of packets at this address.

Query:

Send: AT+ MODADDFLI \ r\n

Received:\r\n+OK= 0 \r\n

set up:

Send: AT+ MODADDFLI = 1\ r\n

Received:\r\n+OK\r\n

1.29 Query Modbus operating mode and command timeout.

instruction	AT+MODWKMOD
Function	Query and set Modbus working mode
Send (query)	AT+ MODWKMOD<CR><LF>
Return (query)	<CR><LF>+OK=<Mode >< Time out> <CR><LF>
Remark	Mode: NONE (Disable MODBUS) SIMPL (Simple Protocol Conversion) MULIT (Multi-host mode) STORE (Storage Gateway) CONFIG (Configurable Gateway)

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	AUTOUP (Active Upload Mode) Timeout : 0-65535 ;

Query:

Send: AT+ MODWKMOD \ r\n

Received:\r\n+OK= SIMPL , 100 \r\n

set up:

Send: AT+ MODWKMOD =MULIT,1000 \ r\n

Received:\r\n+OK\r\n

1.30 Start Modbus TCP to Modbus RTU protocol conversion

instruction	AT+MODPTCL
Function	Query and configure protocol conversion (Modbus) T CP < => Modbus R TU)
Send (query)	AT+ MODPTCL <CR><LF>
Return (query)	<CR><LF>+OK=<Mode> <CR> <LF>
Remark	Mode: ON (Enable protocol conversion) OFF (Disable protocol conversion)

Query:

Send: AT+ MODPTCL \ r\n

Received:\r\n+OK= ON \r\n

set up:

Send: AT+ MODPTCL = ON \ r\n

Received:\r\n+OK\r\n

1.31 Configure the Modbus gateway command storage time and automatic query interval.

instruction	AT+MODGTWYTM
Function	Query and configure the storage time of Modbus gateway commands and the automatic query interval.
Send (query)	AT+ MODGTWY ™ <CR><LF>
Return (query)	<CR><LF>+OK=< Time 1 > < Time2> <CR><LF>
Remark	Time 1 : Instruction storage time (1-255 seconds) Time2: Automatic query interval (1 - 65535 milliseconds)

Query:

Send: AT+ MODGTWYTM \ r\n

Received:\r\n+OK= 10 , 200 \r\n

set up:

Send: AT+ MODGTWYTM = 5 , 100 \ r\n

Received:\r\n+OK\r\n

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1.32 a Modbus configuration gateway

instruction	AT+MODCMDEDIT
Function	a Modbus configuration gateway
Send (query)	AT+ MODCMDEDIT <CR><LF>
Return (query)	<CR><LF>+OK= <Mode> <CMD> <CR> <LF>
Remark	Mode : Add command ; DEL delete command ; CLR clear command; C MD : Modbus commands (only standard Modbus RTU commands are supported, no checksum is required, and only function codes 01, 02, 03, and 04 can be configured to be read) . The same command cannot be stored; otherwise, return +ERR =-4 .

Query:

Send: AT+ MODCMDEDIT \ r\n

Received:\r\n+OK=\r\n

1: 02 03 00 00 00 02\r\n

2: 01 03 00 05 00 00\r\n

set up:

Send: AT+ MODCMDEDIT = ADD,0103000A0003 \ r\n (Add command)

Received:\r\n+OK\r\n

Send: AT+ MODCMDEDIT = DEL,0103000A0003 \ r\n (Delete command)

Received:\r\n+OK\r\n

Send: AT+ MODCMDEDIT = CLR,0103000A0003 \ r\n (Clear command)

Received:\r\n+OK\r\n

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"Internet of Things (IoT) Functionality" AT Instruction Set

1.33 Summary of "Internet of Things Function" Commands

instruction	describe
AT+HTPREQMODE	HTTP request method
AT+HTPURL	HTTP URL path
AT+HTPHEAD	H TTP headgear
AT+MQTTCLOUD	MQTT platform
AT+MQTKPALIVE	M QTT heartbeat survival cycle
AT+MQTDEVID	M QTT Client ID
AT+MQTUSER	M QTT U s er Name
AT+MQTPASS	M QTT Password
AT+MQTTPRDKEY	Alibaba Cloud Product Key
AT+MQTSUB	M QTT Subscription Topic
AT+MQTPUB	M QTT release theme

1.34 MQTT and HTTP target IP or domain name configuration

Refer to " Query/Set Local Operating Mode and Target Device Network Parameters ".

1.35 Query/Set HTTP Request Method

instruction	AT+HTPREQMODE
Function	Query and configure HTTP client mode request methods
Send (query)	AT+ HTPREQMODE =<linkId><CR><LF>
Return (query)	<CR><LF>+OK=<linkId, Method ><CR><LF>
Send (Settings)	AT+ HTPREQMODE =<linkId, Method ><CR><LF>
Return (Settings)	<CR><LF>+OK<CR><LF>
Remark	linkId (link number): 0 or 1 Method : GET \ POST

[Example]

Query:

Send: AT+HTPREQMODE \ r\n

Received:\r\n+OK=0, GET \r\n

set up:

Send: A T+ HTPREQMODE =0, POST \ r\n

Received:\r\n+OK\r\n

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1.36 Query/Set HTTP URL Path

instruction	AT+HTPURL
Function	Query and set HTTP URL paths
Send (query)	AT+ HTPURL =<linkId><CR><LF>
Return (query)	<CR><LF>+OK=<linkId, P ath><CR><LF>
Send (Settings)	AT+ HTPURL =<linkId, Path ><CR><LF>
Return (Settings)	<CR><LF>+OK<CR><LF>
Remark	Path: HTTP request URL resource address (length limited to 0-256 characters)

[Example]

Query:

Send: AT+ HTPURL =0 \ r\n

Received: \r\n+OK=0, /1.php? \r\n

set up:

Send: A T+ HTPURL =0, /view/ed7e65a90408763231126edb6f1aff00bfd57061.html \ r\n

Received:\r\n+OK\r\n

1.37 Query/Set HTTP Headers

instruction	AT+HTPHEAD
Function	Query and set HTTP headers
Send (query)	AT+ HTPHEAD =<linkId><CR><LF>
Return (query)	<CR><LF>+OK= < linkId, Para , Head ><CR><LF>
Send (Settings)	AT+ HTPHEAD = < linkId, Para , Head ><CR><LF>
Return (Settings)	<CR><LF>+OK<CR><LF>
Remark	linkId (link number): 0 or 1 Para(Whether the HTTP return serial port data includes a header) : D EL: Without a cover; A DD: with a cap; Header (HTTP request header) : Length limit 256 characters;

[Example]

Query:

Send: AT+ HTPHEAD =0 \ r\n

Received:\r\n+OK=0, DEL,User-Agent: Mozilla/5.0 \r\n

set up:

Send: A T+ HTPHEAD =0, ADD, Host:www.ebyte.com \ r\n

Received:\r\n+OK\r\n

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1.38 Query/Set up MQTT target platform

instruction	AT+MQTTCLOUD
Function	Query and configure the MQTT target platform
Send (query)	AT+ MQTTCLOUD =<linkId><CR><LF>
Return (query)	<CR><LF>+OK=<linkId, Server ><CR><LF>
Send (Settings)	AT+ MQTTCLOUD =<linkId, Server ><CR><LF>
Return (Settings)	<CR><LF>+OK<CR><LF>
Remark	linkId (link number): 0 or 1 Server (MQTT target platform) : S TANDARD (MQTT 3.1.1 standard protocol server) OneNET (OneNET -MQTT Server) A LI (Alibaba Cloud MQTT Server) B AIDU (Baidu Cloud M QTT Server) H UAWEI (Huawei Cloud M QTT Server)

[Example]

Query:

Send: AT+ MQTTCLOUD =0 \ r\n

Received:\r\n+OK=0, STANDARD \r\n

set up:

Send: A T+ MQTTCLOUD =0, BAIDU \ r\n

Received:\r\n+OK\r\n

1.39 Query/Set MQTT Keep-alive Heartbeat Sending Period

instruction	AT+ M QTKPALIVE
Function	Query and set the MQTT keep-alive heartbeat time period
Send (query)	AT+ MQTKPALIVE =<linkId><CR><LF>
Return (query)	<CR><LF>+OK=<linkId, Time ><CR><LF>
Send (Settings)	AT+ MQTKPALIVE =<linkId, Time ><CR><LF>
Return (Settings)	<CR><LF>+OK<CR><LF>
Remark	linkId (link number): 0 or 1 Time: MQTT keep-alive heartbeat time (limited to 30-1200 seconds, default 60 seconds , modification is not recommended);

[Example]

Query:

Send: AT+ MQTKPALIVE =0 \ r\n

Received:\r\n+OK=0, 60 \r\n

set up:

Send: A T+ MQTKPALIVE =0, 30 \ r\n

Received:\r\n+OK\r\n

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1.40 Query/set MQTT device name (Client ID)

instruction	AT+MQTDEVID
Function	Query and set the MQTT device name (Client ID).
Send (query)	AT+ MQTDEVID =<linkId><CR><LF>
Return (query)	<CR><LF>+OK=<linkId, Client ID ><CR><LF>
Send (Settings)	AT+ MQTDEVID =<linkId, Client ID ><CR><LF>
Return (Settings)	<CR><LF>+OK<CR><LF>
Remark	linkId (link number): 0 or 1 Client ID : MQTT device name (Client ID) with a length limit of 256 characters;

[Example]

Query:

Send: AT+ MQTDEVID =0 \ r\n

Received:\r\n+OK=0, test-1 \r\n

set up:

Send: A T+ MQTDEVID =0,+OK=0,test-iot\ r\n

Received:\r\n+OK\r\n

1.41 Query/set MQTT username (User Name / Device Name)

instruction	AT+MQTUSER
Function	Query and set MQTT username (User Name/ Device Name)
Send (query)	AT+ MQTUSER =<linkId><CR><LF>
Return (query)	<CR><LF>+OK=<linkId, User Name ><CR><LF>
Send (Settings)	AT+ MQTUSER =<linkId, User Name ><CR><LF>
Return (Settings)	<CR><LF>+OK<CR><LF>
Remark	linkId (link number): 0 or 1 User Name : MQTT Product ID (User Name / The device name is limited to a length of 256 characters.

[Example]

Query:

Send: AT+ MQTUSER =0 \ r\n

Received: \r\n+OK=0, ebyte-IOT \r\n

set up:

Send: A T+ MQTUSER =0, 12345678&a1Ofdo5l0 \ r\n

Received:\r\n+OK\r\n

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1.42 Query/set MQTT product password (MQTT password/Device Secret)

instruction	AT+ M QTPASS
Function	Query and set the MQTT login password (MQTT Password / Device Secret)
Send (query)	AT+ MQTPASS =<linkId><CR><LF>
Return (query)	<CR><LF>+OK=<linkId, Password ><CR><LF>
Send (Settings)	AT+ MQTPASS =<linkId, Password ><CR><LF>
Return (Settings)	<CR><LF>+OK<CR><LF>
Remark	linkId (link number): 0 or 1 Password: The MQTT login password (MQTT Password/Device Secret) is limited to 256 characters in length.

[Example]

Query:

Send: AT+ MQTPASS =0 \ r\n

Received:\r\n+OK=0, 12345678 \r\n

set up:

Send: A T+ MQTPASS =0, 87654321 \ r\n

Received:\r\n+OK\r\n

1.43 Query/Set up MQTT subscription topics

instruction	AT+MQTSUB
Function	Query and configure MQTT subscription topics
Send (query)	AT+ MQTSUB =<linkId><CR><LF>
Return (query)	<CR><LF>+OK= < linkId, Q o s>, < T opic><CR><LF>
Send (Settings)	AT+ MQTSUB = < linkId, Q o s,Topic ><CR><LF>
Return (Settings)	<CR><LF>+OK<CR><LF>
Remark	linkId (link number): 0 or 1 QoS : Only supports QoS levels 0 and 1; Topic: MQTT subscription topic (length limit 256 characters)

[Example]

Query:

Send: AT+ MQTSUB =0 \ r\n

Received:\r\n+OK=0, 0,topic \r\n

set up:

Send: A T+ MQTSUB =0, 0,/ggip6zWo8of/TEST/user/SUB \ r\n

Received:\r\n+OK\r\n

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1.44 Query/Set up MQTT publish topics

instruction	AT+MQTPUB
Function	Query and configure MQTT publishing topics
Send (query)	AT+ MQTPUB =<linkId><CR><LF>
Return (query)	<CR><LF>+OK= < linkId, Qos,T opic,Cycle><CR><LF>
Send (Settings)	AT+ MQTPUB = < linkId, Qos,Topic ,Cycle><CR><LF>
Return (Settings)	<CR><LF>+OK<CR><LF>
Remark	linkId (link number): 0 or 1 QoS : Only supports QoS levels 0 and 1; Topic: MQTT publishing topic (length limit 256 characters) Cycle: Release Level 1 retransmission interval (1-10s) (Retransmissions within this interval will occur within 30s)

[Example]

Query:

Send: AT+ MQTPUB =0 \ r\n

Received:\r\n+OK=0, 0,topic \r\n

set up:

Send: A T+ MQTPUB = 0, 0,/ggip6zWo8of/TEST/user/PUB \ r\n

Received:\r\n+OK\r\n

1.45 Query/Set SNTP Function Switch

instruction	AT+SNTPENABLE
Function	Query and set the SNTP function switch status
Send (query)	AT+ SNTPENABLE <CR><LF>
Return (query)	<CR><LF>+OK= <STATE> <CR><LF>
Send (Settings)	AT+ SNTPENABLE = < STATE ><CR><LF>
Return (Settings)	<CR><LF>+OK<CR><LF>
Remark	STATE: Represents the function's enabled status, 0 or 1.

[Example]

Query:

Send : AT + SNTPENABLE

Received:\r\n+OK=0\r\n

set up:

Send: AT+ SNTPENABLE =1 \ r\n

Received:\r\n+OK\r\n

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1.46 Query/Set SNTP Server URL Address

instruction	AT+ SNTPSERVERURL
Function	Query and set the SNTP server URL address
Send (query)	AT+ SNTPSERVERURL <CR><LF>
Return (query)	<CR><LF>+OK= <URL> <CR><LF>
Send (Settings)	AT+ SNTPSERVERURL = < URL ><CR><LF>
Return (Settings)	<CR><LF>+OK<CR><LF>
Remark	URL: Represents the URL address of the SNTP remote server (length limited to 256 characters).

[Example]

Query:

Send: AT+ SNTPSERVERURL \ r\n

Received:\r\n +OK=ntp.ntsc.ac.cn \r\n

set up:

Send: AT+ SNTPENABLE = ntp1.aliyun.com \ r\n

Received:\r\n+OK\r\n

1.47 Query/Set SNTP Time Zone Location

instruction	AT+ SNTPTIMEZONE
Function	This command allows you to query and set the system's time zone. Setting this parameter will modify the system time; the device's factory default is UTC+8.
Send (query)	AT+ SNTPTIMEZONE <CR><LF>
Return (query)	<CR><LF>+OK= < TZ_STR><CR><LF>
Send (Settings)	AT+ SNTPTIMEZONE = < TZ_INT ><CR><LF>
Return (Settings)	<CR><LF>+OK<CR><LF>
Remark	TZ_STR: A UTC format string, ranging from "UTC-12 to UTC+12". TZ_INT: -12 to +12 represents the time zone to be set.

[Example]

Query:

Send: AT+ SNTPTIMEZONE \ r\n

Received:\r\n +OK=UTC+8 \r\n

set up:

Send: AT+ SNTPTIMEZONE =1 \ r\n

Received:\r\n+OK\r\n

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1.48 Query/Set Client Overflow Handling in TCP Server Mode

instruction	AT+ TCPSCONMANGER
Function	Query and configure how to handle situations where the number of client connections exceeds the limit under a TCP server for a specified link.
Send (query)	AT+ TCPSCONMANGER =<LINK> <CR><LF>
Return (query)	<CR><LF>+OK= < LINK ,STATE><CR><LF>
Send (Settings)	AT+ TCPSCONMANGER = < LINK ,STATE><CR><LF>
Return (Settings)	<CR><LF>+OK<CR><LF>
Remark	LINK: The link number to query/set STATE: Management mode, 0: Deny new client access. 1: The client whose connection was disconnected earliest

[Example]

Query:

Send: AT+ TCPSCONMANGER =1 \ r\n

Received:\r\n +OK=1,0 \r\n

set up:

Send: AT+ TCPSCONMANGER =1,1 \ r\n

Received:\r\n+OK\r\n

1.49 Query/Set Link TLS Connection Mode

instruction	AT+ TLSMODE
Function	Query and set the TLS function mode switch for a specified link in TCP client/MQTT/HTTP mode.
Send (query)	AT+ TLSMODE =<LINK> <CR><LF>
Return (query)	<CR><LF>+OK= < LINK ,STATE><CR><LF>
Send (Settings)	AT+ TLSMODE = < LINK ,STATE><CR><LF>
Return (Settings)	<CR><LF>+OK<CR><LF>
Remark	LINK: The link number to query/set STATE: TLS connection mode, parameter range and explanation are as follows: 0: Disable TLS 1: Enable TLS but do not verify server certificates. 2: Use a custom root certificate to verify the server certificate. 3: Use a custom root certificate and a custom device certificate for two-way authentication. 4: Use the root certificate that comes with the device to verify the server certificate. 5: Use the device's built-in root certificate and a custom device certificate for two-way authentication.

[Example]

Query:

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Send: AT+ TLSMODE =1 \ r\n
Received:\r\n +OK=1,0 \r\n
set up:
Send: AT+ TLSMODE =1,1 \ r\n
Received:\r\n+OK\r\n

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Of AT configuration

1.50 of connecting to a standard MQTT 3.1.1 server

{
Client ID: 876275396
MQTT username: 485233
MQTT password: E_DEV01
mqtt server: mqtt.heclouds.com
mqtt port:6002
}
Before configuring, restore factory settings to avoid enabling unused functions.
SEND (+++)
SEND (AT) within 3 seconds
RECV(+OK=AT enable)
SEND (AT+RESTORE)
RECV(+OK)
The above steps can be used to restore factory settings using hardware.
Step 1: Enter AT configuration mode;
SEND (+++)
SEND (AT) within 3 seconds
RECV(+OK=AT enable)
Step 2: Enable dynamic IP . If it is a local area network MQTT server , you can configure the corresponding IP . Here, we use dynamic IP .
SEND(AT+WAN=DHCP, 192.168.3.7,255.255.255.0,192.168.3.1,114.114.114.114,8.8.8.8)
RECV(+OK)
Step 3: Configure the working mode and MQTT server address and port;
SEND(AT+SOCK= 0, MQTTC,mqtt.heclouds.com,6002)
RECV(+OK=And local port has been set to 0)
Step 4: Select the MQTT platform ;
SEND(AT+MQTTCLOUD= 0, STANDARD)
RECV(+OK)
Step 5: Configure the device's Client ID;
SEND(AT+MQTDEVID= 0, 876275396)
RECV(+OK)
Step 6: Configure the device's MQTT username;
SEND(AT+MQTUSER= 0, 485233)
RECV(+OK)
Step 7: Configure the device's MQTT password;
SEND(AT+MQTPASS= 0, E_DEV01)
RECV(+OK)

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Step 8: Subscribe to the corresponding topic;
SEND(AT+MQTSUB=0, 0, EBYTE_TEST)
RECV(+OK)
Step 9: Configure the theme to be used for publishing;
SEND(AT+MQTPUB=0, 0, EBYTE_TEST)
RECV(+OK)
Step 10: Restart the device;
SEND(AT+REBT)
RECV(+OK)

Revision History

Version	Revision Date	Revision Notes
1.0	2024-02-28	Initial version
1.1	2024-10-18	New directives related to SNTP and TLS have been added.
1.2	2026-02-27	Fix the command error in section 4.1

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