

Dragino NBSN50-95 AT Command Sets

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1 Introduction

This article describes the AT Commands Set used in Dragino NB-IoT products, it covers below products:

- NBSN50-95 NB-IoT I/O Controller

How to connect device and send AT command?

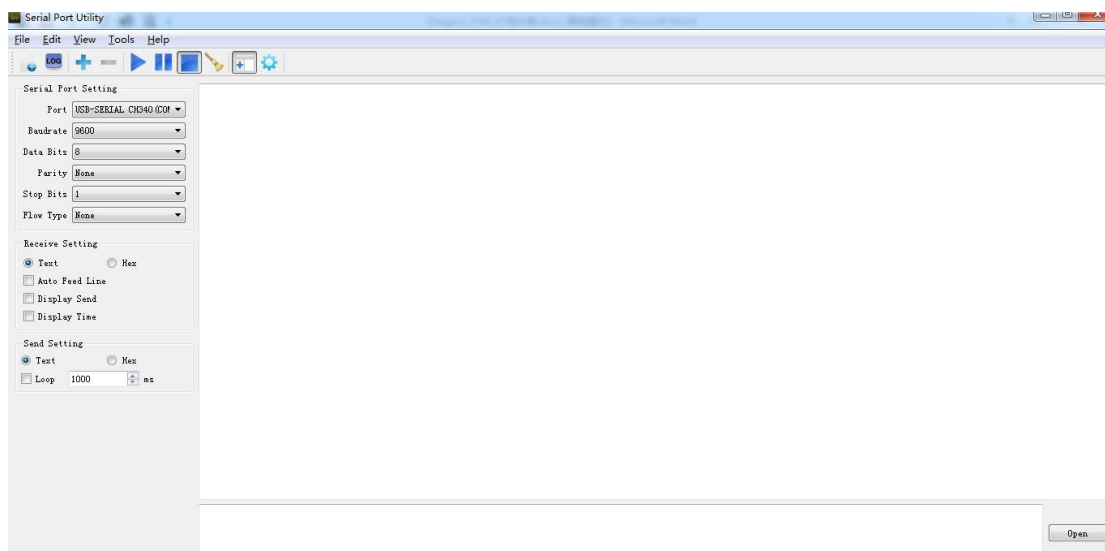
Software Setting:

An USB-TTL can be used with standard windows software such as Serial Port Utility.

The chosen software should be configured with the following parameters:

- Baud rate: 9600
- Data: 8 bit
- Parity: none
- Stop: 1 bit
- Flow type: none

Figure 1 show the standard configuration for Serial Port Utility to use USB-TTL.



All the AT commands have a standard format as “AT+XXX”, with XXX denoting the command.

There are four available command behaviors:

- **AT+XXX?** provides a short help of the given command, for example **AT?**
- **AT+XXX** is used to run a command, such as **AT+CFG**
- **AT+XXX=?** is used to get the value of a given command, for example **AT+TDC=?**
- **AT+XXX=<value>** is used to provide a value to a command, for example

AT+TDC=600

The output of the commands is provided on the UART. The output format is as below:

<value><CR><LF>

<CR><LF><Status>

Note: <CR> stands for “carriage return” and <LF> stands for “line feed”

The <value><CR><LF> output is returned whenever the “help AT+XXX?” or the “get AT+XXX=?” commands are run.

When no value is returned, the <value><CR><LF> output is not returned at all.

Every command (except for ATZ used for MCU reset) returns a status string, which is preceded and followed by <CR><LF> in a “<CR><LF><Status>” format. The possible status are:

- OK: command run correctly without error.
- AT_ERROR: generic error
- AT_PARAM_ERROR: a parameter of the command is wrong
- AT_TEST_PARAM_OVERFLOW: the parameter is too long
- AT_RX_ERROR: error detection during the reception of the command

More details on each command description and examples are described in the next part of this section. Note that each command preceded by # is the one provided by the host to the module. Then the return of the module is printed.

2 General Command

■ AT: Attention

AT: Attention	
Test Command: AT	Response: OK

■ AT+MODEL: Get module information

AT+MODEL: Get module information	
Test Command: AT+MODEL=?	Response: NBSN95,v1.2.0 OK

■ AT?: Short Help

AT?: Short Help	
Test Command: AT?	Response: AT+<CMD>?:help on <CMD> AT+<CMD>:run <CMD> AT+<CMD>=<value>:set the value AT+<CMD>=? :get the value <followed by the help of all commands> OK

■ ATZ: MCU Reset

ATZ: MCU Reset	
Test Command: ATZ?	Response: ATZ: Trig a reset of the MCU OK
Test Command: ATZ	Response: DRAGINO NBSN50-95 NB-IoT Sensor Node Image Version: XX NB-IoT Stack : XX <followed by the help of all commands> Please ENTER Password to active AT Command Line

AT+TDC: Application Data Transmission Interval

AT+TDC: Application Data Transmission Interval< The default TDC is 3600 S>	
Test Command: AT+TDC?	Response: AT+TDC: Get or set the application data transmission interval in seconds OK
AT+TDC=?	Response: 600 OK
AT+TDC=600	Set TDC to 10 minutes. Response: OK

AT+DEUI: Get or set the Device ID

AT+DEUI: Get or set the Device ID<The default value is 6 bytes after IMEI><Must be 6 bytes>	
Test Command: AT+DEUI?	Response: AT+DEUI: Get or set the Device ID OK
AT+DEUI=?	Response: 724031556159 OK
AT+DEUI=010203040506	Response: OK

AT+CFG: Print all configurations

AT+CFG: Print all configurations	
Test Command: AT+CFG	Response: AT+CFGMOD=1 AT+PASSWORD=12345678 AT+SERVADDR=123.57.29.36:5683 AT+URI=/mqtt/COAPTEXT?c=460043331608879 AT+TDC=600 ... OK

AT+CFGMOD: Working mode selection

AT+CFGMOD: Working mode selection	
Test Command: AT+CFGMOD?	Response: Working mode selection OK
Test Command: AT+CFGMOD=?	Response: 1 OK
Test Command: AT+CFGMOD=1	Response: OK

AT+INTMOD: Get or Set the trigger interrupt mode

AT+INMOD: Get or Set the trigger interrupt mode	
Test Command: AT+INTMOD?	Response: Get or Set the trigger interrupt mode (0:input,1:falling or rising,2:falling,3:rising) OK
Test Command: AT+INTMOD =?	Response: 1 OK
Test Command: AT+INTMOD =1	Response: OK

AT+5VT: Set extend the time of 5V power

AT+5VT: Get or Set extend the time of 5V power	
Test Command: AT+5VT?	Response: Get or Set extend the time of 5V power Unit: ms OK
Test Command: AT+5VT=?	Response: 1000 OK
Test Command: AT+5VT=1000	Response:

	OK
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■ AT+WEIGRE: Get weight or set weight to 0g

AT+ WEIGRE: Set the weight to 0g	
Test Command: AT+WEIGRE	Response: Get weight or set weight to 0g OK
Test Command: AT+WEIGRE=?	Response: 963g OK

■ AT+WEIGAP: Get or Set the GapValue of weight

AT+WEIGAP: Get or Set the GapValue of weight	
Test Command: AT+WEIGAP?	Response: Get or Set the GapValue of weight OK
Test Command: AT+WEIGAP=?	Response: 409.3 g OK
Test Command: AT+WEIGAP=400.0	Response: OK

■ AT+PRO: Choose agreement

AT+PRO: Get or Set usage agreement	
Test Command: AT+PRO?	Response: Get or Set usage agreement (1:COAP,2:UDP,3:MQTT,4:TCP) OK
Test Command: AT+PRO=?	Response: 1 OK
Test Command: AT+PRO=1	Response: OK

■ AT+RXDL: Extend the sending and receiving time

AT+RXDL: Get or Set confirmation mode< The default value is 0>	
Test Command:	Response:

AT+RXDL?	Get or Set the receiving time Unit: ms OK
Test Command: AT+RXDL=?	Response: 0 OK
Test Command: AT+RXDL=1000	Response: OK

■ **AT+EXT: Get or Set Count value**

AT+EXT: Get or Set Count value<Only valid for mode 6>	
Test Command: AT+EXT?	Response: Get or Set Count value OK
Test Command: AT+EXT=?	Response: 56487 OK
Test Command: AT+EXT=123	Response: OK

■ **AT+SERVADDR: Server Address**

AT+SERVADDR: Server Address<Up to 21 bytes>	
Test Command: AT+SERVADDR?	Response: AT+SERVADDR: Get or Set the Device Address OK
Test Command: AT+SERVADDR=?	Response: (While Error in format, return AT_PARAM_ERROR) 123.57.29.36,5683 OK
Test Command: AT+SERVADDR=123.57.29.36,5683	Response: OK

3 CoAP management

■ AT+URI: Resource parameters

AT+URI: Get or set CoAP options	
Test Command: AT+URI?	Response: AT+URI: Get or set CoAP options OK
Test Command: AT+URI=?	Response: 5,11,"mqtt",11,"coap",12,"0",15,"c=text1",23,"0" OK
Test Command: AT+URI=5,11,"mqtt",11,"coap",12,"0",15,"c=text1",23,"0"	Response:(System will write new value to URI,While Error in format, return AT_PARAM_ERROR) OK

4 UDP management

■ AT+CFM: Upload confirmation mode (only valid for UDP)

AT+CFM: Get or Set confirmation mode< If +CFM is set to 0, this will result in not receiving the delivery, but it can enter the low-power mode more quickly >	
Test Command: AT+CFM?	Response: Get or Set confirmation mode (0: Off 1: On) OK
Test Command: AT+CFM=?	Response: 1 OK
Test Command: AT+CFM=1	Response: OK

5 MQTT management

■ AT+CLIENT: Get or Set MQTT client

AT+CLIENT: Get or Set the MQTT clientID<The default value is NULL, invalid value><No more than 40 bytes>	
Test Command: AT+CLIENT?	Response: AT+CLIENT: Get or Set the MQTT clientID OK

Test Command: AT+CLIENT=?	Response: T1 OK
Test Command: AT+CLIENT=T1	OK

■ **AT+UNAME: Get or Set MQTT Username**

AT+UNAME: Get or Set the MQTT Username<The default value is NULL, invalid value><No more than 40 bytes>	
Test Command: AT+UNAME?	Response: AT+UNAME: Get or Set the MQTT Username OK
Test Command: AT+UNAME=?	Response: root OK
Test Command: AT+UNAME=root	OK

■ **AT+PWD: Get or Set MQTT password**

AT+PWD: Get or Set the MQTT password<The default value is NULL, invalid value><No more than 40 bytes>	
Test Command: AT+PWD?	Response: AT+PWD: Get or Set the MQTT password OK
Test Command: AT+PWD=?	Response: 123456 OK
Test Command: AT+PWD=123456	OK

■ **AT+PUBTOPIC: Get or Set MQTT publish topic**

AT+PUBTOPIC: Get or set MQTT publishing topic<The default value is NULL, invalid value><No more than 64 bytes>	
Test Command: AT+PUBTOPIC?	Response: AT+PUBTOPIC: Get or set MQTT publishing topic OK

Test Command: AT+PUBTOPIC=?	Response: Topic1 OK
Test Command: AT+PUBTOPIC=Topic1	OK

■ AT+SUBTOPIC: Get or Set MQTT subscription topic

AT+SUBTOPIC: Get or set MQTT subscription topic<The default value is NULL, invalid value><No more than 64 bytes>	
Test Command: AT+SUBTOPIC?	Response: AT+SUBTOPIC: Get or set MQTT subscription topic OK
Test Command: AT+SUBTOPIC=?	Response: Topic2 OK
Test Command: AT+SUBTOPIC=Topic2	OK

6 Information

■ AT+FDR: Factory Data Reset

AT+FDR: Factory Data Reset	
Test Command: AT+FDR	Response: DRAGINO NBSN50-95 NB-IoT Sensor Node Image Version: XX NB-IoT Stack : XX <followed by the help of all commands> Please ENTER Password to active AT Command Line
Test Command: AT+FDR?	Response: AT+FDR: Reset Parameters to Factory Default OK

■ AT+PASSWORD: Serial Access Password

AT+ PASSWORD: Password<The default password is 12345678><Up to 8 digits><If the password is set to 0, the password mechanism is cancelled>	
Test Command: AT+PASSWORD=?	Response: 12345678

	OK
Test Command: AT+PWD?	Response: AT+PWD: Get or set the System password
	OK
Test Command: AT+PWD=12345678	Response: OK

■ AT+LDATA: Get the last upload data

AT+LDATA: Get the last upload data	
Test Command: AT+LDATA =?	Response: 72403155615900780c3b1801000000035010f02a260d960cd
	OK
Test Command: AT+LDATA?	Response: AT+LDATA: Get the last upload data
	OK

■ AT+CDP: Read or Clear cached data

AT+CDP: Read or Clear cached data<Up to ten sets of data>	
Test Command: AT+CDP	Response: 0:00780c3b1801000000035010f02a260d960cd 1:00780c3c180100000003b011002ab60d95ea5 2:00780c37190100000003400fe028a60d95f5d ...
	OK
Test Command: AT+CDP?	Response: AT+CDP: Read or Clear cached data
	OK
Test Command: AT+CDP=0	Response: OK

■ AT+CUM: Get or Set cache upload mechanism

AT+CUM: Get or Set cache upload mechanism	
Test Command: AT+CUM?	Response: Get or Set cache upload mechanism (0: Off 1: On)
	OK

Test Command: AT+CUM=?	Response: 1 OK
Test Command: AT+CUM=0	Response: OK