Configure instruction:

1.The TT18 4G can work on CAT-M1,NB-IOT and GSM networks. Please confirm with your simcard supplier to choose the simcard can support at least one of the three networks. And some simcard have to set APN, please confirm with your simcard supplier to get the APN information. You also can contact with Tzone to get help.

2. The TT18 4G can be set via two ways, one way is to use the configure software, the other way is to set via server downward command. Please follow the guide below.

3. Please note to do the RTC time and ACK setting function on your server, if you set the TT18 4G send data to your cloud.

RTC time setting

Format of the server set TT18 4G RTC time：@UTC,yyyy-MM-dd HH:mm:ss#
For example：@UTC,2021-11-24 02:56:43#
*please note the time setting should be UTC +0 time, and we suggest to set the RTC time every time when the server received data from TT18 4G

ACK setting

Format of the sever set ACK：@ACK,Packet index(Hex converted into decimal)#

For example：@ACK,35#
*The ACK function is to make sure your server received the TT18 4G data. Only after received the ACK from server, then the TT18 will send the next data.
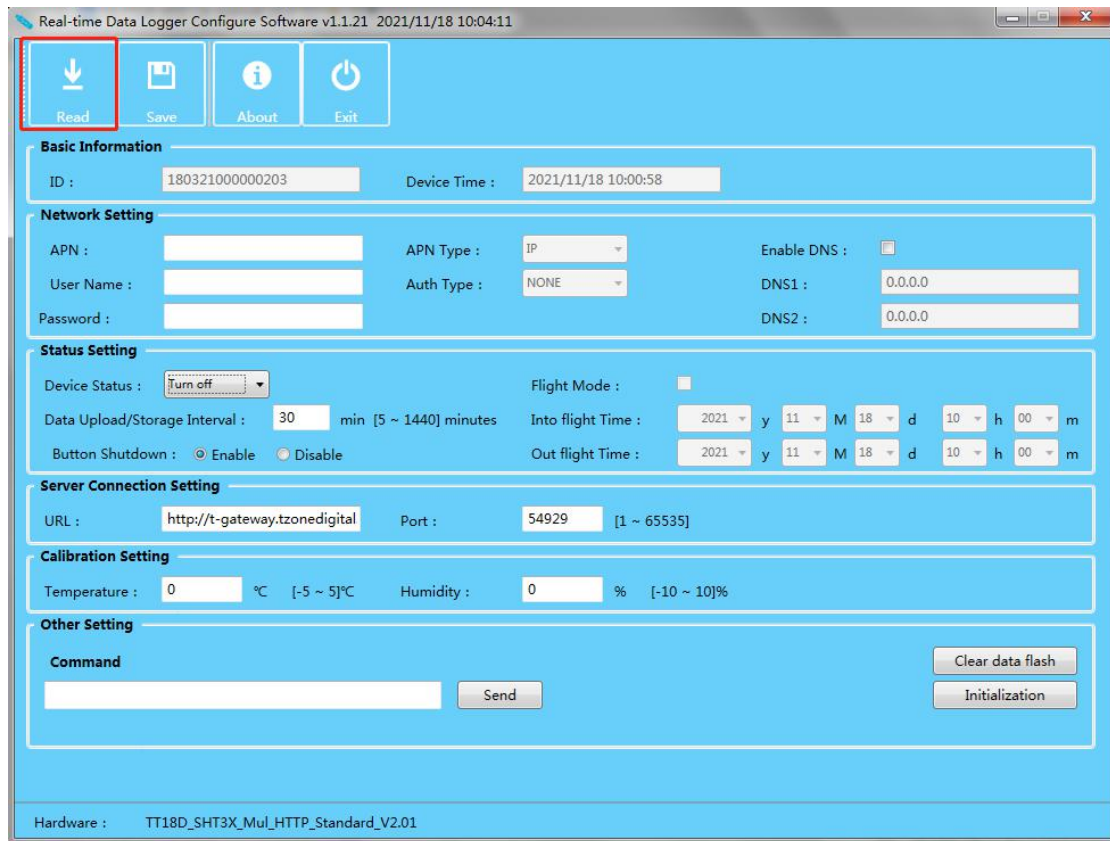
4.Please note when connect the TT18 4G USB to configure or charge, the TT18 4G will not storage or send data.

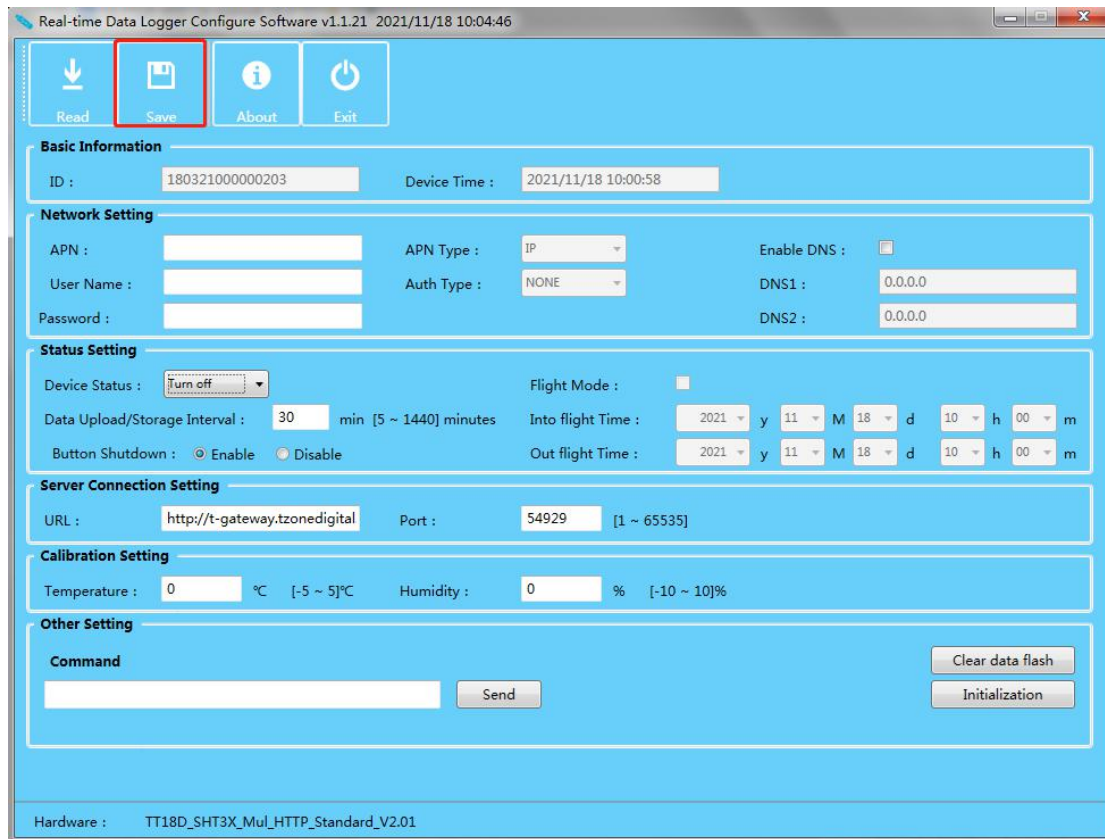## Ⅰ.Configure the TT18 4G via configure software

1. please use the USB cable(which along with the TT18 4G),to connect the TT18 4G with windows computer to configure.
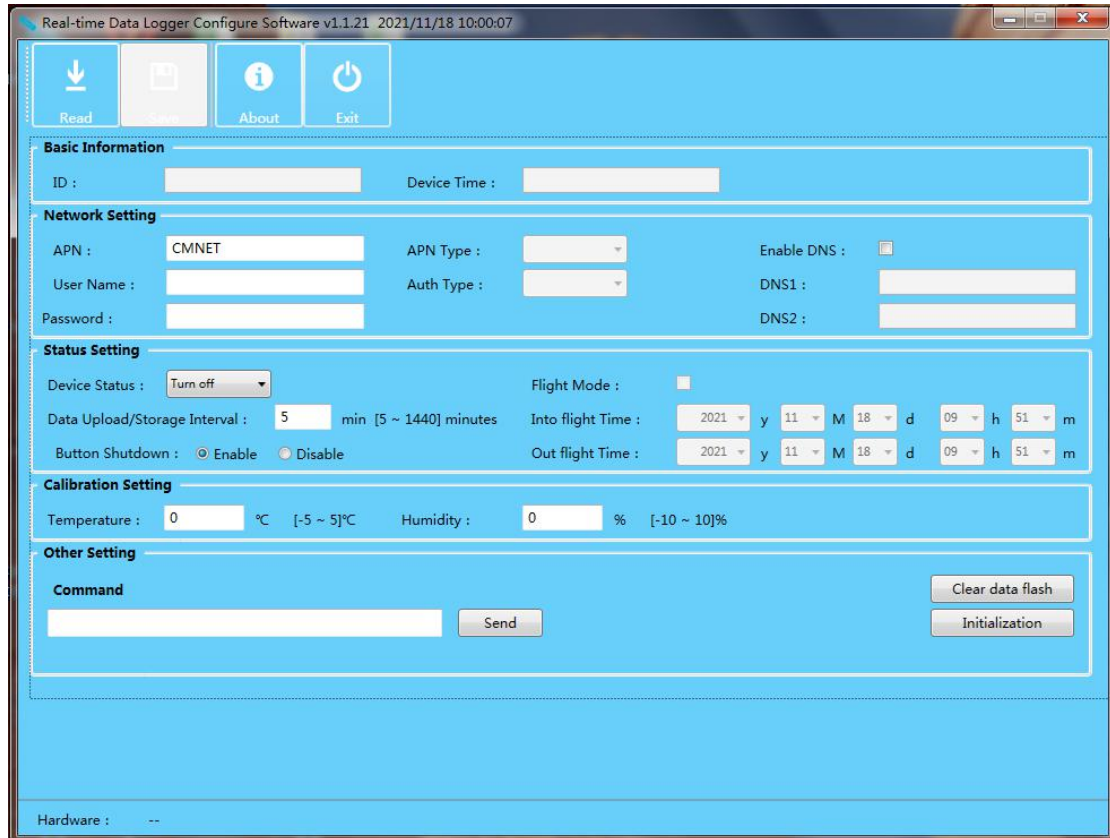
2. click "Read" to read all of the configuration information of TT18 4G.

3. After finished configuring, please click "Save" to save the setting：

4. Configuration parameters：

（1）**Basic information：**
ID：Unique ID of device
Device time：the computer time

（2）**Network Setting：**
APN/User name/Password/APN Type/Auth Type：
Some simcard need set the APN/User name/Password/APN Type/Auth Type to work. Please confirm with your simcard supplier about it, or you can contact with Tzone for help.
DNS：Domain name resolution

（3）**Status setting**
Device Status：Can set turn on or turn off the device
Flight Mode：Can set the TT18 4G into or quit flight mode.
Please note only when the device status is turn on, then can set the flight mode.
Data upload/storage interval：can be set from 5 to 1440 mins, the default is 30 mins
Button Shutdown：to set the TT18 4G enable/disable to be turned off via physical button.

（4）**Server connection setting：**
IP/Domain：you can set your server Ip or domain
The Tzone server domain is:http://t-gateway.tzonedigital.cn:54934/tt/tt18d/json
port：you can set your server port，the port range is from 1 to 65535

（5）Calibration setting：

Temperature： temperature calibration, range from -5 to 5℃,

Humidity： humidity calibration, range from-10 to 10%;

（6）Other settings：

command： can follow the command list below to set

For example：*000000,018,10#

Clear data flash： clear all of the data stored in TT18 4G

initialization： recovery the device to factory setting

Ⅱ. Server downward commands setting

Format of server downward commands：

Start bits（1byte）+ Type of data（X1）+ Delimiter（1byte）+ Command（X2）+ Delimiter（1byte） + Stop bits（1byte）+ End mark（2byte）

1. **Start bits：@；**
2. **Type of data：CMD；**
3. **Delimiter：,；**
4. **Command：refer the commands list below；**
5. **Delimiter：,；**
6. **Stop bits：#；**
7. **End：\r\n(0x0D,0x0A)；**

For example：@CMD,*000000,018,10#,#
Set the data upload/ storage interval

Down command instruction: the server should send the down command along with the subscribe

Server down command format:

{

    "sta": 0, //Status number, 0 represents normal; 1 represents wrong

"data": {

"downcmd": ""//Downward command, such as*000000,008,0000001#

    },"error": ""//"If wrong, you can return the error details"

}

TT18D Base station type format after receiving the downward command

    {

"msgtype": 4, //Type to determine different data

"hw":"0407",//"Hardware mode",
"fw": "",//"Firmware version (format: 0.0.0.0)",
"imei": "",//"Uniquely identifies (those are IMEI, SN, ID)",
    "data": {
    "resdowncmd": {
                "cmd":"",//Received commands, such as*000000,008,0000001#
                "cmdtype":"",//Command type; set is to set command; read is to read command
                "sta":"",//Set the command execution result
                "par":""//Read command result
        }
      },
    "rtc": "2021/09/09 03:42:04",
    "sn": 1
    }

Example:
Downward:
{"sta":0,"data":{"downcmd":"*000000,008,1110000#"},"error":""}
Reply：
{"msgtype":4,"hw":"0407","fw":"02.00.00.00","imei":"699999999999999","data":{"resdowncmd":{"cmd":"*000000,008,1110000#","cmdtype":"set","sta":"OK"}},"rtc":"2021/09/14 03:26:10","sn":5}

Downward：
{"sta":0,"data":{"downcmd":"*000001,008,1110000#"},"error":""}
Reply：
{"msgtype":4,"hw":"0407","fw":"02.00.00.00","imei":"699999999999999","data":{"resdowncmd":{"cmd":"*000001,008,1110000#","cmdtype":"set","sta":"Err"}},"rtc":"2021/09/14 03:31:10","sn":7}

Downward：
{"sta":0,"data":{"downcmd":"*000000,040,008#"},"error":""}
Reply：
{"msgtype":4,"hw":"0407","fw":"02.00.00.00","imei":"699999999999999","data":{"resdowncmd":{"cmd":"*000000,040,008#","cmdtype":"read","sta":"OK","par":"1110000"}},"rtc":"2021/09/14 03:40:29","sn":11}

Downward：
{"sta":0,"data":{"downcmd":"*000000,040,088#"},"error":""}
Reply：
{"msgtype":4,"hw":"0407","fw":"02.00.00.00","imei":"699999999999999","data":{"resdowncmd":{"cmd":"*000000,040,088#","cmdtype":"read","sta":"unvalid"}},"rtc":"2021/09/14 03:52:58","sn":3}

Ⅲ. Command list

NO.	Instruction	Format	Note
005	Set working model	*000000,005,X#	X=0, Turn off (default); X=1, Turn on;
006	Set RTC time	*000000,006,year,month,day,hour, minute,second#	Set the device RTC time . For example： *000000,006,16,01,11,10,46,30# Year:16 Month:1 Day:11 Hour:10 Minute:46 Second:3 Note:Must be set to UTC time
008	Extend setting	*000000,008,ABCDEFG#	C=0,disable button power off function C=1,button power off function (default) **Note:** The device send data to the server every time, the server must respond @ACK,Packet index (Hex converted into decimal)# to the device, then the device will continue to send next data to the serve, please refer to the data protocol for packet index. A/C/D/E/FG=0，B=1
011	Set APN,Username,Password	*000000,011,Apntype, Authtype, APN,Username,Password#	Apntype: 0-IP(default), 1-IPV6, 2-IPV4V6, 3-Non-IP, Authtype: 0-NONE(default), 1-PAP, 2-CHAP APN : APN string (must < 28 chars) User name: Your username (must < 28 chars) Password: Your password (must

			< 28 chars)
			* If there is no username or password, please left it blank. For example:
			*000000,011,CMNET,,# (There is no username or password)
014	Set DNS	*000000,014,X,DNS1,DNS2#	X=0, disable DNS function (default), X=1, enable DNS function, DNS:Domain Server; xxx.xxx.xxx.xxx
015	Set IP Address & port number	*000000,015,X,IP,PORT#	X=0 Using IP to connect the server X=1 Using DN to connect the server IP : xxx.xxx.xxx.xxx DN: (domain name) www.xxx.com PORT : [1,65535] Default IP port：http://t-gateway.tzonedigital.cn:54934/tt/tt18d/json,54929
018	Set the data reporting intervals in turn on or flight mode	*000000,018,X#	X:[5,1440] The data reporting interval (Unit: min,default:30)
019	Set the GPRS mode	*000000,019,X#	X=0, Use the UDP mode X=1, Use the TCP mode(default)
050	Temperature and humidity calibration	*000000,050,X ,A,B#	X=0,disable this function(default); X=1,enable A:Temperature calibration value, B:Humidity calibration value positive number means plus the calibration value; negative number means minus the calibration value; the temperature unit is ℃ , the humidity unit is %
060	Set Flight mode	*000000,060,X,Y,Z#	X=0,Disable this function; X=1, Enable this function Y:into flight mode time, Unit:min,[0,65535]; The device will turn to flight mode after this setting time； Z:Out of flight mode time, Unit:min,[0,65535];

			The device will turn out from flight mode after this setting time
			Note:When the device turn to flight mode, it will unable the network connection, but still recording the temperature,humidity and light information
500	Clear data flash	*000000,500#	Clear history in the flash memory
990	Initialization	*000000,990,099#	Turn the device to be factory default settings
991	Reboot	*000000,991#	The device will reboot