LoRa Sensor(TAG07/07B)

Configuration Manual V1.0.4

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1. USB RS232 Cable

The RS232 cable is modified based on the normal RS232 Cable. It can be used to configure LoRa Sensor on personal computer.
Before using configuration software, please connect our LoRa Sensor to computer via our RS232 cable. The smaller USB port connects with the LoRa Sensor USB port , the bigger USB port connects with the computer.

2. Step

1) Install. NET Framework
2) PL-2303 driver is for RS232 configuration cable,

Please install 

under windows systems (XP/Vista/Win7/Win8)

3) Connect the configuration cable to the computer.
4) Go to desktop, choose My Computer-> click right button -> choose Manager-> System Tools -> Device Manager -> Ports, you will find the port which configuration cable is using 

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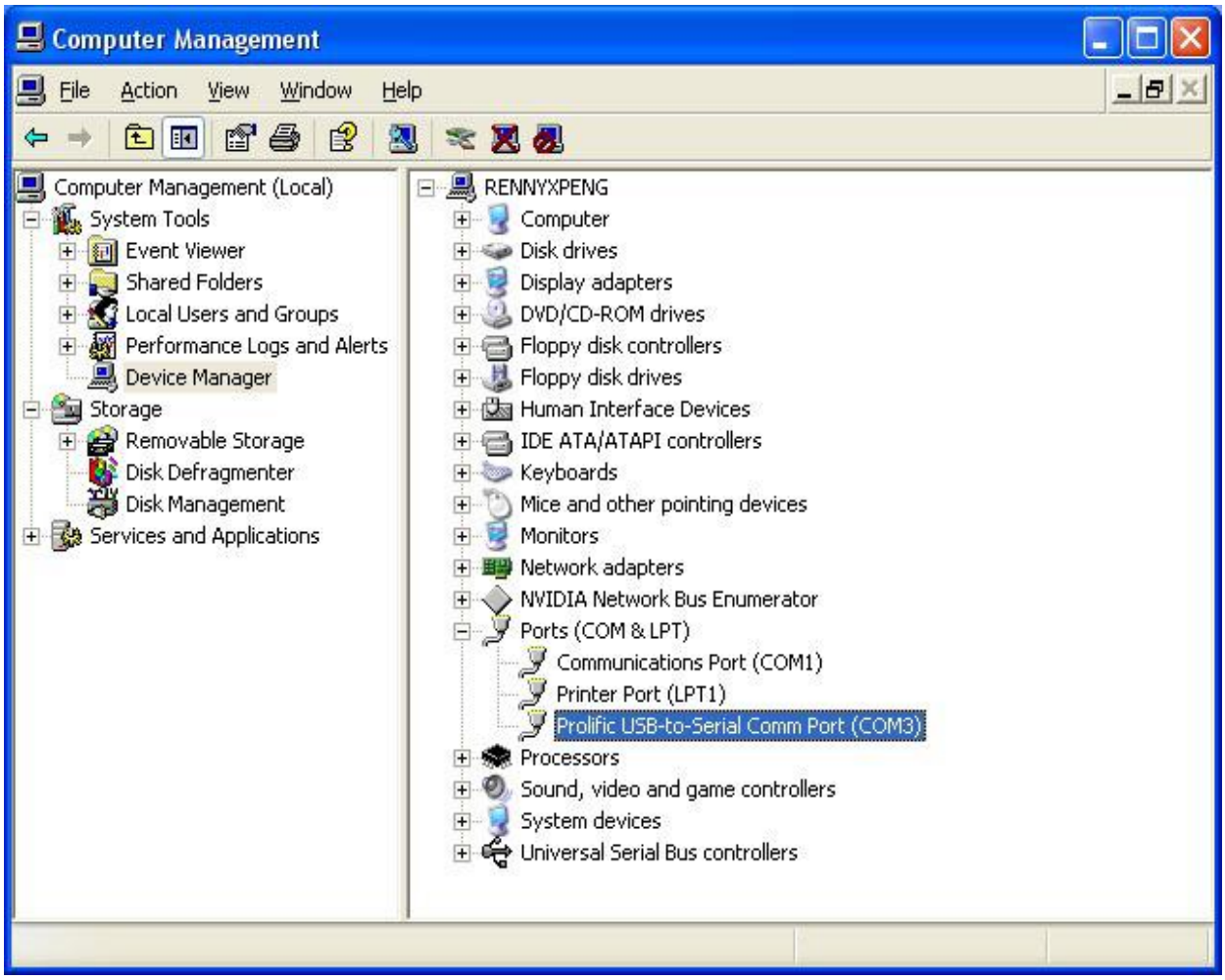
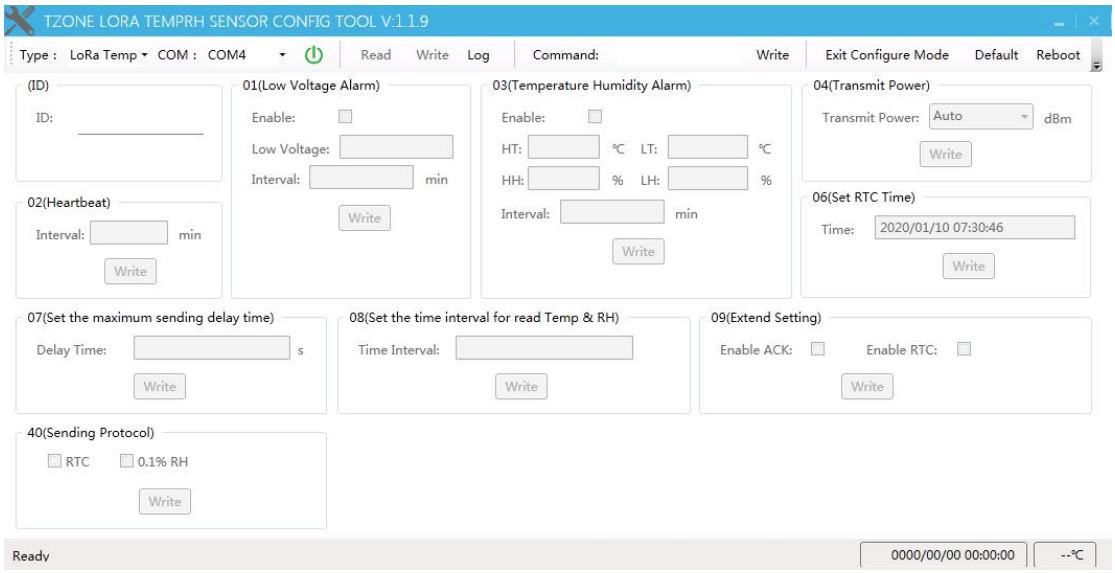


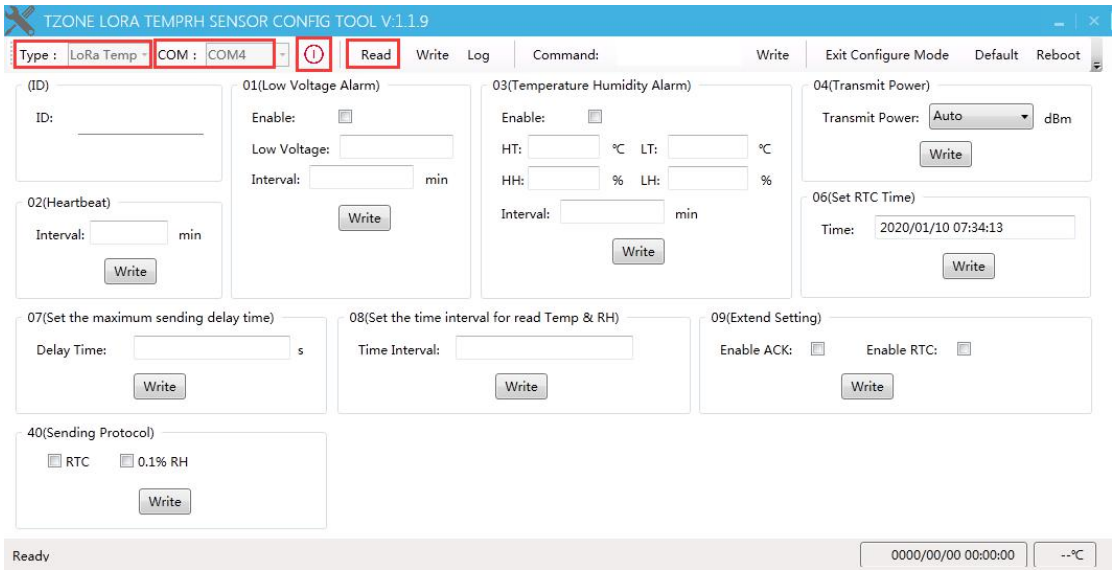
5) Connect LoRa Sensor with computer via the configuration cable.

6) Run the configuration software LoRa TempRh Sensor.exe



7) Turn on LoRa Sensor .

Please select the correct Type/COM port. Then click[ ] button on the software. If the port connects successfully, it will show [ ] that the serial port is opened, please press and hold the button for 10 seconds,then the Green led will always on, the means sensor into configuration mode, you can configure the machine, if the green light doesn't on, you need to press the button again for 10 seconds:



8) Click [Read Config] button , the

[Read Successful] will be shown on, read all the parameter.

9) Click [Write Config] button, it will be shown

[Write Successful], write all the parameter.

10) Click [Log], can open the log mode

11) Com port data stored [Save]

12) Clear com port data [Clear]

13) Stop com port data [Pause]

14) Running com port data[Run]

15) Refer to the instructions of the instruction list, the white strip which input you want to send the instructions and click on send, this feature can configure your machine faster.

Command:

Command:

[Write] Send the current command

	Instruction	**Format**	**Note**
1	Low voltage alarming function	*01,A,X,Y#	A=0: disable this function A=1: enable this function (default) X: low voltage threshold, [2200-3600], unit:1mV, default:2200 Y: transmit interval after low voltage alarming, [1-60], unit:min, default:30
2	Set heartbeat packet interval	*02,X#	X: [1-1140], unit:min, default:15
3	Set high/low temperature alarming function （TAG07）	*03,A,X,Y, Z#	A=0: disable this function (default) A=1: enable this function X: high temperature threshold, [-55-125], unit: ℃, default:100; Y: low temperature threshold, [-55-125], unit:℃, default:0; Z:transmit interval after temperature alarming, [1-1440], unit:min, default:1
3	Set high/low temperature/ humidity alarming function(TAG07B)	*03,A,X,Y, M,N,Z#	A=0: disable this function (default) A=1: enable this function X: high temperature threshold, [-55-125], unit:℃, default:100; Y: low temperature threshold, [-55-125], unit:℃, default:0; M: high humidity threshold, [0-100], unit:%, default:100 N: low humidity threshold, [0-100], unit:%, default:0

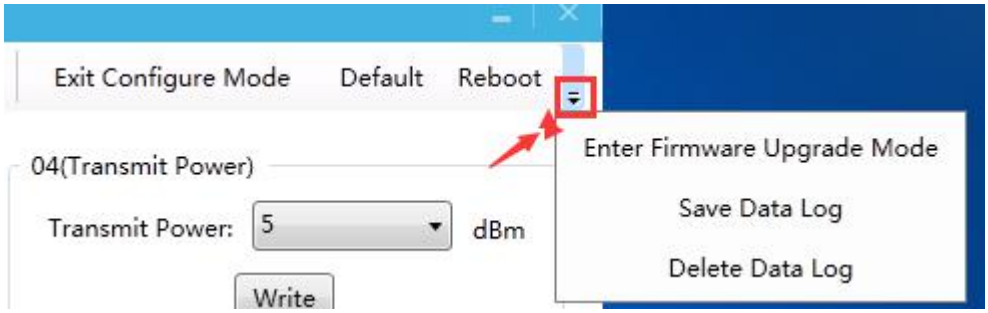
			Z: transmit interval after temperature/humidity alarming, [1-1440], unit:min, default:1
4	Set transmit power	*04,X#	X: 15=20dbm,default; 14=19dbm; 13=18dbm; 12=17dbm; . . . 3=8dbm; 2=7dbm; 1=6dbm; 0=5dbm 255=Automatic adjustment(default);
5	Set the RTC time	*06,Year,Month,Day,Hour,Minute,Second#	For example: *06,18,08,13,12,19,56#
6	Set the maximum data sending delay time	*07,X#	X: delay time, [0,300], unit: second, default: 180
7	Set the time interval for reading temperature and humidity	*08,X#	X: [0,65535], unit:second, default:0 0 indicates that temperature and humidity data are taken at irregular intervals, and temperature and humidity data are not obtained until the transmission interval
8	Extend setting	*09,ABCDEFGH#	A=0, disable ACK function (default); A=1, enable ACK function, it must be used with the gateway B=0, sending data does not include RTC time (default); B=1, sending data including RTC time (this is recommended when you enable ACK function); B only works if command 40=0 C=0; D=0; E=0; F=0;
9	Set the sending protocol	*40,X#	X=0,Not included RTC time, humidity unit is %(default); X=1,Including RTC time,humidity unit

			is %; X=2,,Not included RTC time, humidity unit is 0.1%； X=3,Including RTC time,humidity unit is 0.1%;
10	Set the temperature and humidity calibration value	*42,A,X,Y#	A=0, Disable calibration;(default) A=1, Enable calibration; X:Temperature calibration value; If the calibration value is added to the temperature, it begins with +; If the calibration value is reduction to the temperature, it begins with -; Can support to one decimal point, unit: ℃ Y:Humidity calibration value; If the calibration value is added to the humidity, it begins with +; If the calibration value is reduction to the humidity, it begins with -; Can support to one decimal point, unit: %
11	Save command	#DS	
12	Search single command	#D5X	X: command
13	Search all commands	#DE	
14	Query current temperature and humidity	#DT	
15	USB to read recorded log data	#DP	Automatically delete log data after reading
16	Delete recorded log data	#DA	
17	Query current time	#DB	
18	Quit configuration	#DQ	
19	Factory reset	#DO	
20	Reboot device	#DR	
21	Into firmware upgrade mode	#DU	

16) Click [Exit Configure Mode], the tag will exit configure mode

17) Click [Default],initialization configuration,except the 04 05 21 command

18) Click [Reboot],restart the machine



19) Click[Enter Firmware Upgrade Mode] into upgrade mode

20) Click[Save Data Log],save the TAG recorded data in CSV file,the TAG recorded data is deleted after reading

21) Click[Delete Data Log],delete the TAG recorded data

22) Click[0000/00/00 00:00:00],read TAG current time

23) Click[--℃],read TAG current temperature

3. Configure Software

Choose the port which configuration cable is using. The port name is “Prolific USB-to-Serial Com Port”, then press “Connect” button.

Each instruction can be separately read and written.

ID

ID: Sensor ID is fixed and cannot be modified

Low Voltage Alarm (01)

Enable: Enable Low voltage alarm function
Low voltage: it is the low power alarm voltage, [2200-3600],unit:1mV, default:2200
Interval: The Low voltage alarm time interval[1,1440]/min,default:30

Heartbeat (02)

Interval: The Sensor data time interval[10,1440]/min,default:15

Temperature humidity Alarm(003)

TAG07:

Enable: enable TAG alarm function

If sensor's temperature exceed Temp_H、under Temp_L alert.

HT:high-temperature threshold (-55~125,unit:℃, default: 100);
LT:low-temperature threshold(-55~125,unit:℃,default: 0)
Interval:temperature&humidity alarm data time interval,[1-1440], unit:min, default:1

TAG07B:

Enable: enable TAG alarm function

If sensor's temperature exceed Temp_H、under Temp_L、humidity exceed RH_H、under RH_L alert.

HT:high-temperature threshold (-55~125,unit:℃, default: 100);
LT:low-temperature threshold(-55~125,unit:℃,default: 0)
HH:high-humidity threshold(0~100,unit:%,default: 100)
LH:low-humidity threshold(0~100,unit:%,default: 0)
Interval:temperature&humidity alarm data time interval,[1-1440], unit:min, default:1

Transmit Power(04)

Transmit power: select the Transmit power(5~20dbm,default:255,automatic adjustment),the larger the value, the farther the distance, the greater the power consumption.

Set RTC time (06)

Set RTC time: Click "write" to configure the current UTC time,It is also possible to modify the local time.

Set the maximum sending delay time(07)

Delay time: Set the tag maximum sending delay time,[0,300], unit: second, default:180, if set 0, the means tag don't delay).

Set the time interval for read Temp&RH (08)

Time interval:Set the time interval for read Temp&RH,[0,65535], unit:second, default:0, the means read based on heartbeat interval time,if set 1,means read every min.

Extend Setting (09)

Enable ACK: When enable ACK function,if the sensor does not receive an ACK reply from the LORA Gateway, the data will be stored. when the sensor receives an ACK reply from the LORA Gateway, the stored data will be sent out
Enable RTC: when enable RTC time function, the sensor data received by the LORA Gateway is the current time of the sensor,otherwise, it is the time of the LORA Gateway

Set the sending protocol (40)

RTC: Including RTC time, otherwise not included RTC time
0.1% RH: humidity unit is 0.1%, otherwise humidity unit is %;