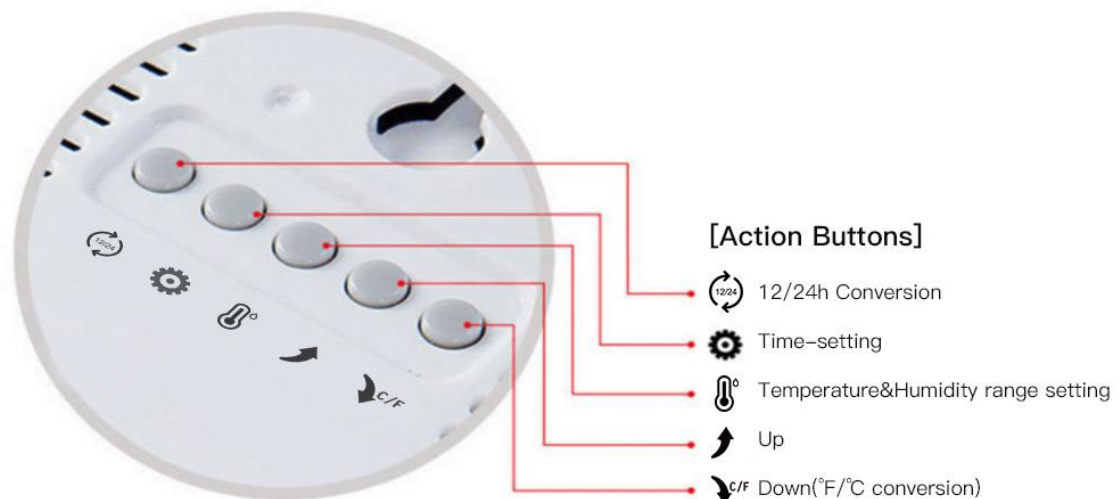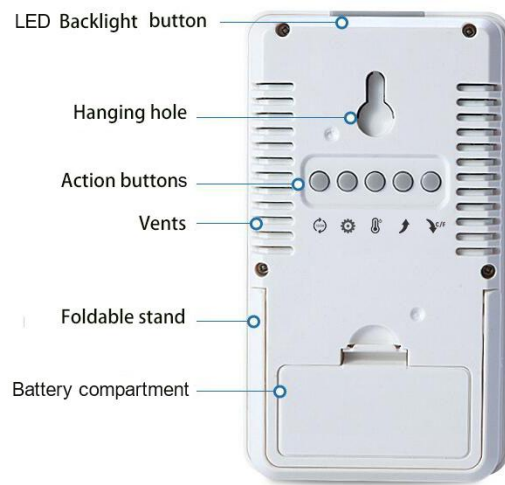# NAVIECARE

LoRa Temp&RH Sensor

LTH5200 User Manual

Version: V1.0.0

Date: 2018-9-10

1. Description

LTH5200 series is a LoRa based temperature and humidity sensor ,designed to measure temperature and humidity of it's surroundings immediately. This product integrated with high sensitivity humidity sensor and temperature sensor, optimized for low power usage which will run years on one set of batteries. The LoRa wireless connection to the internet allows widespread deployments.

2. Specification

Parameters	Specifications
Modulation	LoRa Modulation Patented by Semtech
Frequency Band	863～870Mhz or 902~928MHz,Optional
Power Supply	2*AAA 1.5V batteries
Battery life	More than 1 years@60mins transmit interval
Operating Temperature	-20~+65℃（wide range temperature module optional)
Resolution	Temperature :0.1℃ Humidity:1%RH
Operating Humidity	0%~99%RH（Non - Condensing）
Measurement Accuracy	Temperature: ±1℃, Humidity:±3%RH
Dimensions	130*75*22mm
LoRa Antenna	build in antenna.

3. Features

- **Multi-functions :**Support functions such as calendar , Temperature ,humidity , and night light .

- **LoRaWAN compatible**, communication range up to 3-5KM line-of-sight , 1~3KM in dense urban.

- **Long Battery Life** up to 1 year (depending on usage).

- **Automatic measurements** : The measurements are made at a configured frequency and automatically send to the LoRa network .

- **Real-time Alarm** : When one of the temperature sensors or humidity reaches a value outside the set range an alarm is send.

- **Cost-effective** : monitor large sites with fast and easy deployment.

- **Reduce financial loss**: ensure quality control for products and manage public health and sanitary risks.

4. Typical Application

● Indoor and outdoor environments such as home, offices, hotels, restaurants, schools , shopping malls, waiting rooms , hospitals, gardens ,greenhouses and animal husbandry.

● Cold-chain logistics, computer rooms, Workshops, laboratories and warehouses for the electronics, chemical and biomedical industries.

5. Operation Guide

5.1 Power on

Insert two AAA batteries into the battery compartment, make sure to observe the correct polarity when installing batteries in your device.

Low-Power Alert：The buzzer will bleep 4 times when power supply is insufficient. Users need to replace new battery.

5.2 Time format conversion

Short press ⟳ button to convert 12-hour time and 24-hour time

5.3 Time-setting

● Press ⚙ button 1 second to access time-setting mode , the "Hour" numbers on the digital

display start blinking. Press ➷ or ➘ C/F button repeatedly until the desired number value is shown.

long press will continuously add or subtract .

- Press ⚙ button again to set "minute", "year", "month" and "date" one by one .

- When "date" setting finished , Press ⚙ button to save your changes.

5.4 Temperature& humidity range setting

- Short press 🌡 button 1 second to access temperature and humidity range setting mode .the "Max humidity "numbers on the digital display start blinking, Press ➷ or ➘ C/F button repeatedly until the desired number value is shown, long press will continuously add or subtract .

- Press 🌡 button again to set "max temperature", "min humidity" and "min temperature" one by one .

- When "min temperature" setting finished , press 🌡 button again to save your changes.

Press ➷ button, Users can check Maximum and Minimum value of temperature & humidity .

When the temperature or humidity exceeds the maximum or minimum value , an alert is sent to the

LoRa server via the LoRa module.

5.5 Temperature format conversion

Press ➘ C/F button to convert Celsius and Fahrenheit.(℉/℃)

5.6 Switch Frequency

Press and hold ➷ button 3 seconds to switch frequency(US915Mhz/US923Mhz)

5.7 LED backlight

- Press the top button to switch on LED backlight and it will extinguish after 3 seconds when there is not operation .

- Press and hold the top button 3 second to set data uplink frequency.(uplink period range: 1~1500mins)

5.8 Reset

Press and hold (12/24) and C/F button   3 seconds to reset the device

5.9 Activation method

- **OTAA**(Over-The-Air Activation)

- **ABP**(Activation By Personalisation)

The buzzer will bleep 2 times when the device successfully connect to the network.

5.10 Payload Description

Message Type	Cmd	Description	Remark
Modify time	ff1007e20c01000000ff	2018/12/01/00/00/00	Server to Sensor
Modify data uplink frequency	FF 12 00 01 FF	00 01 represents minutes, range: 1~1500	Server to Sensor
Config sensor Temp&RH alarm limit	FF 11 46 28 1E 0A FF	46/28/1E/0A/ corresponds to maximum temperature / minimum temperature / maximum humidity / minimum humidity. Temp Value : (-20) - 90 Celsius, Humidity Value: 0-99	Server to Sensor

6. Package

Item	Package	QTY	Dimensions	G.W	Accessories
LTH5200	Giftbox	1 unit/box	148*80*34mm	150g	User Manual , warranty card