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## Chapter 1. Introduction

S500 series GSM temperature humidity data logger is the new generation data logger , which has been added with the GSM alarm message function based on the original S500 series. Users can dial the data logger through any mobile phone to get the temperature and humidity values, besides, the temperature humidity data logger will send alarm message to defined users automatically once the setting limits being exceeded.

### 1.1 Features

- Elegant appearance, easy to operate and reliable. Desktop and wall-mounted.
- High accuracy (0.2~0.5°C/2~5%RH) with large capacity. (65000).
- Large LCD display, temperature and humidity being showed simultaneously.
- Internal audible and visual alarm and send alarm message to mobile phone once temperature or humidity is over limit.
- Data query function via mobile phone. Get the real time data anytime at anywhere.

### 1.2 Technical Specifications

Model	Accuracy	Measuring range	Sensor type	Capacity
<b>S500-TH-GSM</b>	±0.5°C/±5%RH	-20 ~ 70°C 0 ~ 100%RH	Temperature + humidity , internal	65000
<b>S500-EX-GSM</b>	±0.5°C/±5%RH	-40 ~ 85°C 0 ~ 100%RH	Temperature + humidity , external sensor with 3 meters	65000
<b>S520-TH-GSM</b>	±0.3°C/±3%RH	-20 ~ 70°C 0 ~ 100%RH	Temperature + humidity , internal	65000
<b>S520-EX-GSM</b>	±0.3°C/±3%RH	-40 ~ 85°C 0 ~ 100%RH	Temperature + humidity , external sensor with 3 meters	65000
<b>S580-TH-GSM</b>	±0.2°C/±2%RH	-20 ~ 70°C 0 ~ 100%RH	Temperature + humidity , internal	65000
<b>S580-EX-GSM</b>	±0.2°C/±2%RH	-40 ~ 85°C 0 ~ 100%RH	Temperature + humidity , external sensor with 3 meters	65000
<b>S500-ET-GSM</b>	±0.5°C	-40 ~ 85°C	Single Temperature external sensor with 3 meters	65000
<b>S500-DT-GSM</b>	±0.5°C	-40 ~ 85°C	Dual Temperature external sensor with 3 meters	65000
<b>S500-EPT-GSM</b>	±0.5°C	-100 ~ 100°C	PT100 single temperature external sensor with 2 meters	65000
<b>S520-ET-GSM</b>	±0.3°C	-40 ~ 85°C	Single Temperature external sensor with 3 meters	65000
<b>S520-DT-GSM</b>	±0.3°C	-40 ~ 85°C	Dual Temperature external sensor with 3 meters	65000

### 1.3 Applications

It has been widely applied in agricultural research industry, food industry, medical industry, electrical industry, environment protection and laboratory fields.

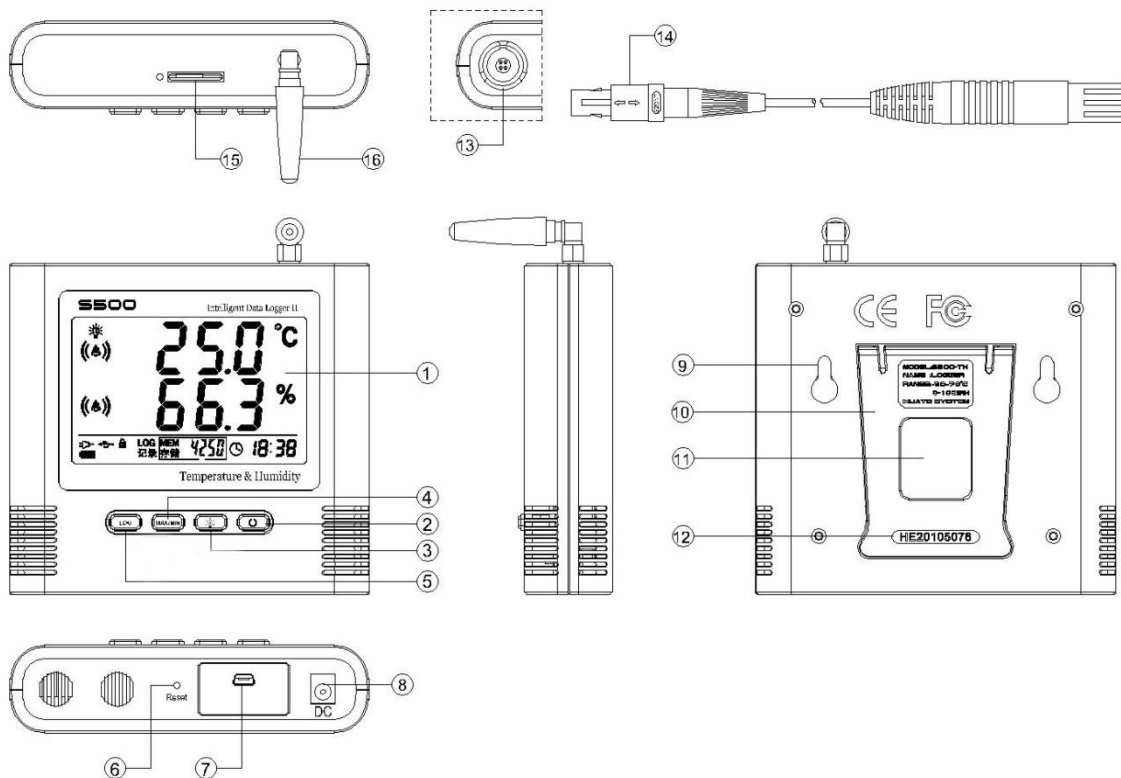
### 1.4 Installation and instructions for SIM card

- 1、 Suggest to buy GSM SIM card (SIM card without monthly rent), it must be GSM network SIM card, CDMA network is invalid.
- 2、 Install or remove SIM card should be under the sate of Power OFF
- 3、 Just call the alarm temperature humidity data logger via any mobile phone and it will respond you with message when you want to know the temperature and humidity values.

### 1.5 Notice

- 1、 Only GSM network SIM card, support 2/3/4g.
- 2、 Ensure that the SIM card is of certain amount of money for the text message fee.
- 3、 The data logger must be supported by External Adapter—DC 9V and turn on the alarm function to activate the alarm message system, otherwise it can not send message successfully.**

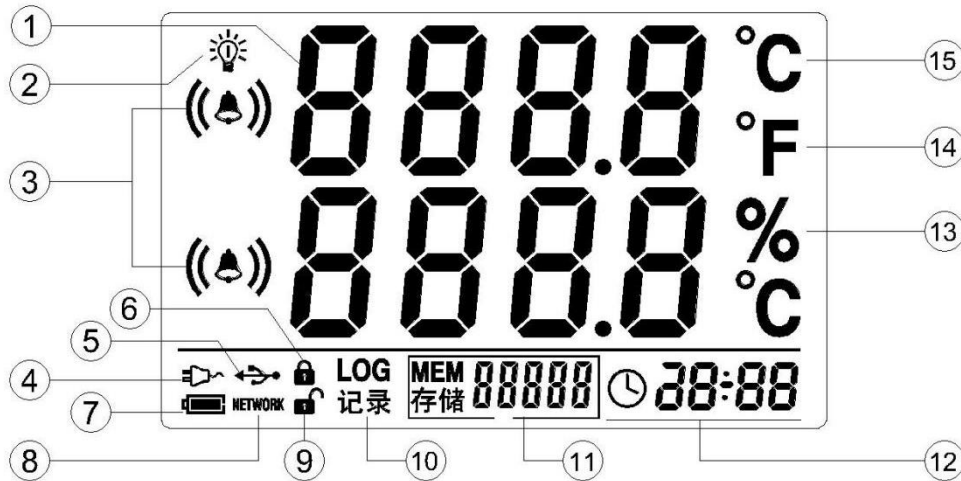
### 1.6 Product structure




- |               |  |
|---------------|--|
| ① LCD display | ⑨ Hanger (used for fixing on the wall)         |
| ② ON/OFF      | ⑩ Holder (used for desktop)                    |
| ③ Backlight   | ⑪ Battery cover (screw to replace the battery) |

- 4 MAX/MIN checking button
- 5 LOG
- 6 Reset button
- 7 USB port
- 8 DC Power Jack (9 ~ 12V)
- 12 Serial Number
- 13 External Probe Port
- 14 External Probe
- 15 SIM card slot
- 16 Wireless antenna

### 1.7 LCD display instructions



- 1 Temperature and humidity values display.
- 2 Symbol for backlight.
- 3 Symbol for alarm, it will alarm when temperature and humidity setting limits being exceeded.
- 4 This symbol shows that data logger is being supported by external power—DC 9V.
- 5 This symbol shows that data logger is connected with PC and you can download all the recording data.
- 6 This symbol shows that all buttons are locked.
- 7 Battery indication
- 8 This symbol shows that SIM card inset well.
- 9 This symbol shows that buttons are unlocked
- 10 This symbol shows that data logger is being the recording status.
- 11 Display area for recording numbers
- 12 Display area for year/month/date/time; alternate display.
- 13 Symbol for humidity unit
- 14 Symbol for temperature unit

 Symbol for temperature unit

## 1.8 Instructions for buttons

 LOG

Log function button, turn on/off the log function.

 MAX/MIN

Maximum and minimum button.

Press to check the maximum and minimum value of all the recording data.





Backlight on/off button.



On/Off button

### Notice:

- (1) Press  and  simultaneously can lock and unlock data logger.
- (2) Data logger has alarm message system only when data logger is under logging status.

## Chapter 2. Software

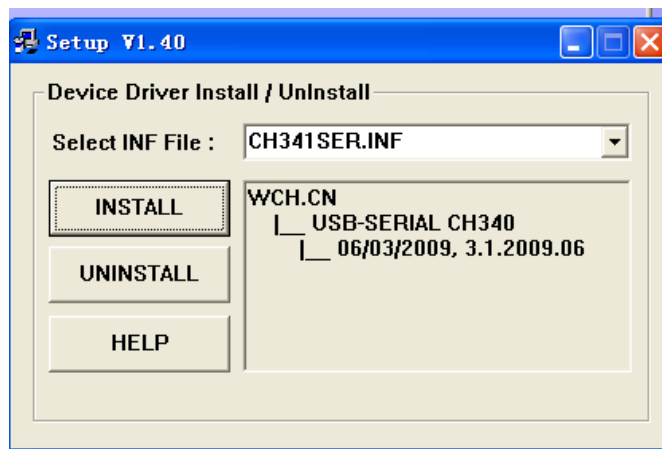
### 2.1 The Requirement of the Computer Hardware

1. OS: Windows XP/Vista/7/8 (32/64bit)
2. CPU: 1.6GHz
3. Physical Memory: 512MB
4. Hard-drive Space: 4 GB
5. USB Port: 1

### 2.2 Install Driver & Software

1. Install Driver

Notice: Windows 64bit please install 64bit-driver.

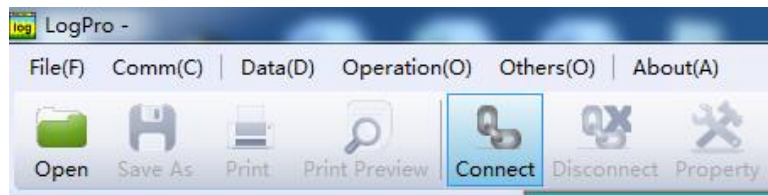


2. Install Logpro Software

Notice: Please Install Logpro Software in D:\

### 2.3 Setting the logger's properties to start a new measurement.

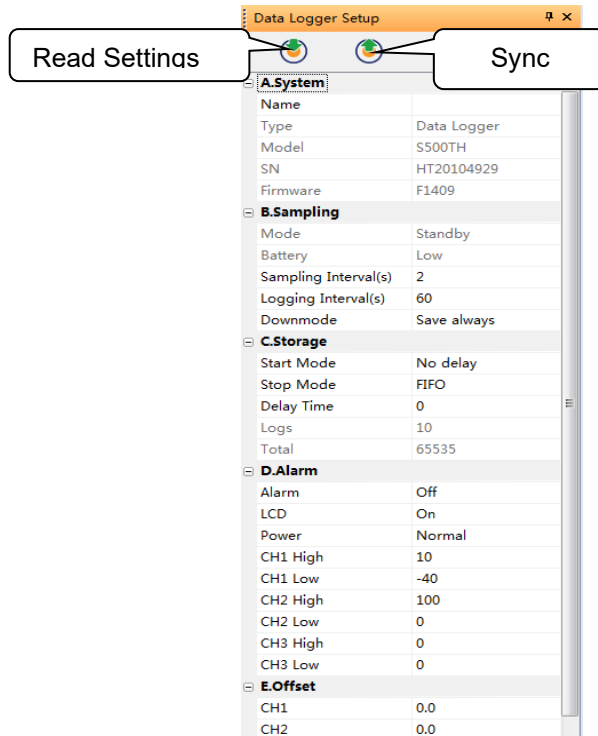
1. Connect the data logger to the computer.<sup>1</sup>
2. Running Logpro software on the PC.
3. From the toolbar select Connect.<sup>2</sup>



4. Read the logger's properties.
5. Set the properties.
6. Sync the properties & time. (The PC time will be synchronized to the logger as well.)

<sup>1</sup> The windows operating system cannot handle USB devices being unplugged and plugged back too fast. When unplugging the logger, wait for about 5 seconds before plugging it in again. If you unplug and plug back a device too quickly, the computer may stop recognizing any USB devices on that port. If this happens you will have to restart the computer. This is a windows USB problem and is not related to Logpro.

<sup>2</sup> If more than one logger is connected to your computer at the same time, the program will ask you to choose COM port manually.

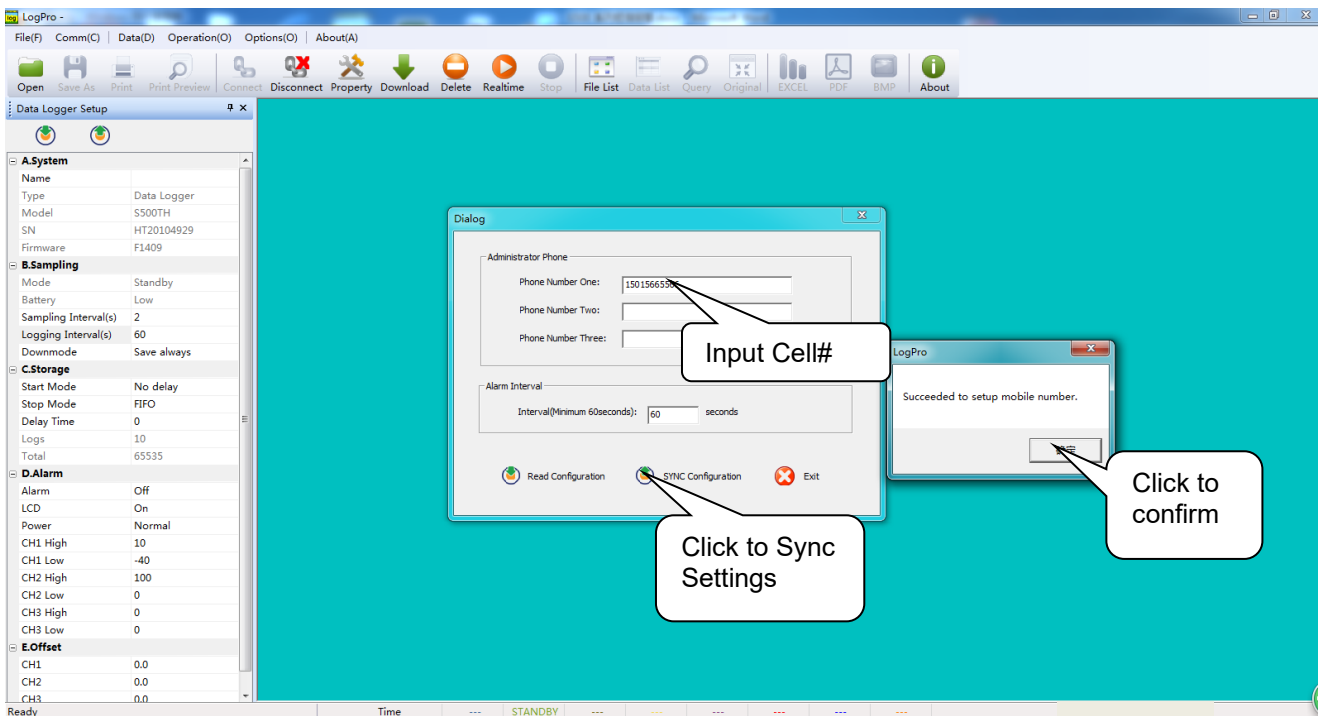
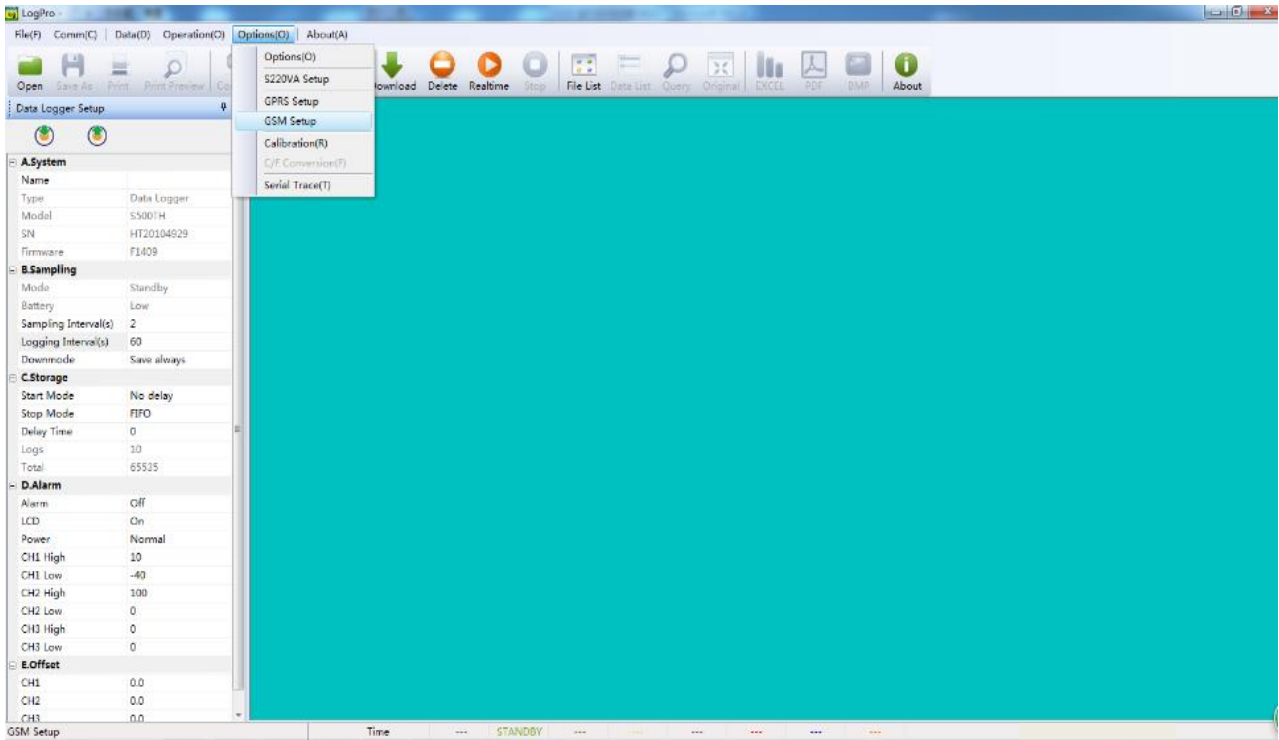


Property	Text	Description
Name	English Letters or Numbers	Name of the logger
SN	10 Characters	Must be the same as the one in the label of logger.
Sampling Interval (s)	Number from 1 to 240	Sampling frequency in LCD screen
Logging Interval (s)	Number from 2 to 86400	Logging frequency.
Down Mode	Save Always	Do not clear the Logger's memory after download
	Delete after download	Clear the Logger's memory after download
Start Mode	Start Now	Start log when the Logger was turn ON.
	Delay Start	Wait Delay Time then start log.
	Timing Start	Start log when Delay Time: HHMMSS e.g. 170000 means 17:00:00
Delay Time		Input a Delay Time or Timing Time.
Stop Mode	First In First Out	When recording memory is full, the logger will delete the earliest data
	Stop When Full	When recording memory is full, the logger will stop record new data
Logs		The count of records in the memory.
Total		The total capacity of the logger's storage.
Alarm		Turn ON / OFF the Data Logger's Buzzer.
LCD		Please choose ON
Power		Please choose Normal
High & Low Limit	CH1: Temperature CH2: Humidity / Temperature2	When the value over the limit, the buzz will sounds an alarm.
Offset <sup>3</sup>		Input positive number to decrease the value. Input negative number to increase the value.

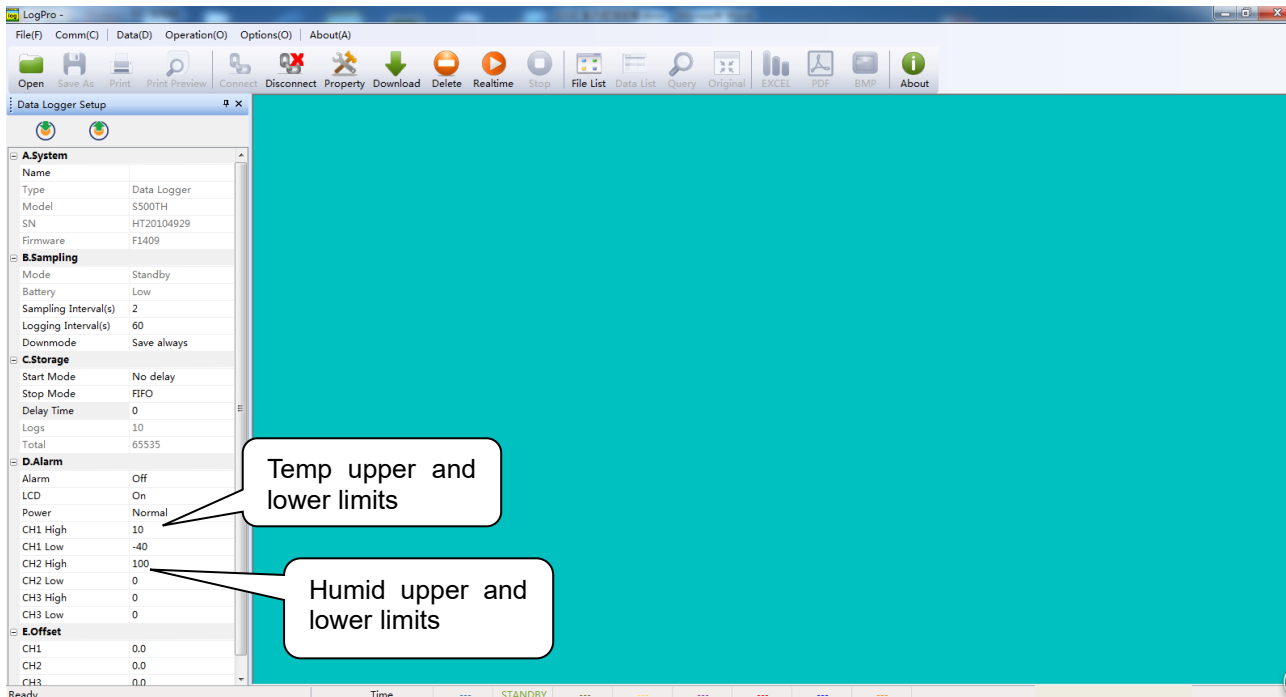
<sup>3</sup> Calibrate the logger: The logger is factory calibrated to an accuracy given in the device specifications. However, there may be times when you wish to adjust the calibration of your logger. Logpro provides you with the ability to perform a single point offset calibration. This calibration can be used to increase the accuracy of the logger for a restricted data range.



7. Choose **【GSM Setup】** to setup cell phone number to receive alarming message.



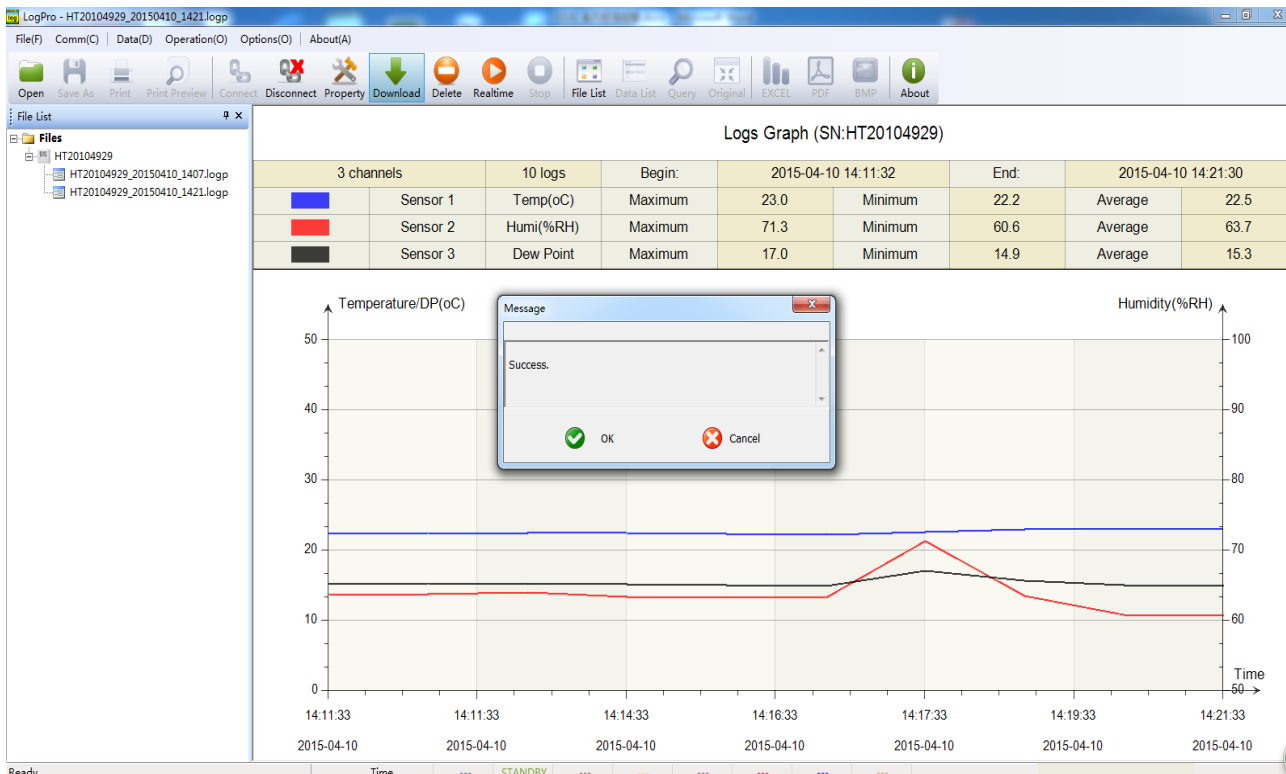
8. Setup the temperature and humidity upper and lower limits.



9. Then sync the setup with loggers after finish setup.

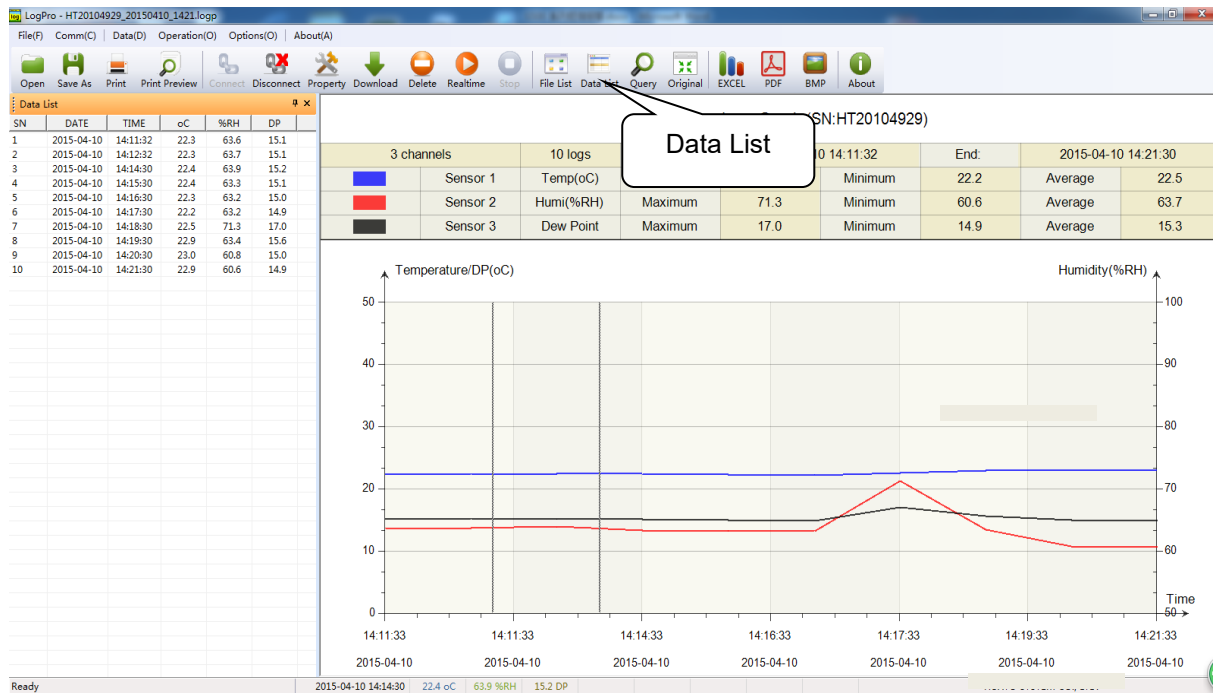
**2.4 Data Analysis**




1. Click on **【Download】** to download data to the computer, it will be automatically saved and will generate reports and data list.



2. Click on **【Data List】** to display downloaded data on the left.

## Operation manual for GSM temperature humidity data logger



- Click on  EXCEL to save the data in the Excel format; or click on  PDF to save the data in a PDF file; or click on  BMP to save data in a picture.
- Click on **【Delete】** to clear the data logger's flash chip.

## Chapter 3. Attention

- S500 Series Data Logger are not waterproof. Do not connect loggers with computer when the logger is on water.
- S500 Series Data Logger plastic shell is ABS, flame retardant, not resistant to acid and alkali.
- If repair is needed, only authorized technician could do the repair.
- The instrument configuration by 1 x 6LR61 alkaline battery (9V) is not rechargeable.
- USB power supply (5V) cannot let the Data Logger work.

## Chapter 4. FAQ

### 4.1 LCD Screen Dim

Reason:

- Insufficient battery or the environment temperature is too low or too high.

Solution:

- In the case of insufficient battery, please replace the battery. If resulted from environment temperature, please immediately take the logger out of the environment.

### 4.2 Recording (LOG) are Automatically Stop

Reason:

- When the battery level is low, there will not be sufficient power to support recording function of the logger.

Solution:

- Replace the battery.

### 4.3 Software "Runtime Error"

Reason:

- OS forbid software creating files.

Solution:

- Run the program (software) as an administrator.
- Install software in Disk D:\
- A data logger name cannot contain any of the following characters: \ / : \* ? " < > |
- Software's installation path cannot include Chinese character or garbage character.

### 4.4 Check COM Port Number

- Press "Win" + "R" in keyboard -> Run "devmgmt.msc" to Open "Device Manager" in Windows-> Expand "Ports (COM & LPT)" -> "USB-SERIAL CH340 (COM No.)" is the Data Logger