

# **Temperature & Humidity Data Logger**

## **User Manual**

**Rev. 1.01**

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## **Chapter 1 Preface**

Thanks for your purchase of our product! Before use, please read this manual carefully which carries those very important information crucial to operation of this device. So please keep this manual in good storage for your future reference. If you still have the questions beyond the manual please contact us.

## Chapter 2 Introduction

Out of clusters of humidity and temperature instruments, this low power consumption Data-Logger combines the functions of signal-sampling, display, storage and analysis, widely be applied in the industries of medics, food, agriculture, laboratory, electronics, air-conditioning, weather service, archives management, archaeology study, fibre manufacturing and cold chain logistics, because this device can provide just-in-time solution of environment-monitoring, alerting and recording.

### 2.1 Features

★ IP67 design for waterproof and dustproof allowing operation in humid and dusty environments.

★ High precision and quick response.

★ Low power consumption design that powered by 1/2 AA 3.6V Li-SOCl<sub>2</sub> ER14250 battery and easy replacement of battery.

★ Allowing to set up limit and down limit for humidity and temperature alarming with LED flashing.

★ Massive memory size which allows to store data as many as 32256 pieces for humidity and temperature with reliable protection so as to prevent data loss.

★ Included analytic PC program facilitating user's operation of the device.

### 2.2 Application

Applicable in the industries of medicine, food, agriculture, laboratory, electronics, air-conditioning, weather service, archives management, archaeology study, fibre manufacturing and cold chain logistics.

### 2.3 Parameters

Model No.	---
Temperature precision	$\pm 0.3$ °C (refer to table 2-2)
Humidity precision	$\pm 2.0\%$ RH (refer to table2-3)
Max memory	32256 pieces
Measuring range for temperature	-30~80 °C
Measuring range for humidity	0~100% RH

Table 2-1 Technical parameters

Parameter	Condition	min	typical	max	Units
Accuracy Tolerance	typical		±0.3		°C
	max	See Fig 2-1			°C
Repeatability			±0.1		°C
Response Time	τ 63%	5		30	S
Operating Range	extended	-30		80	°C
Long Term Drift			<0.04		°C/yr

Table 2-2 Temperature parameters

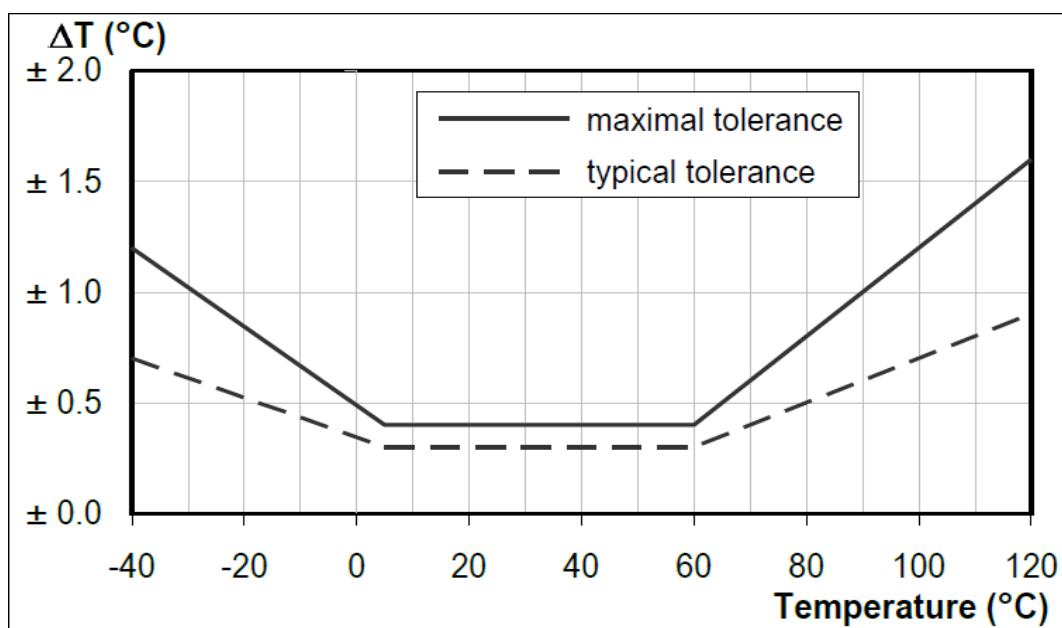


Fig 2-1 Typical and maximal tolerance for temperature

Parameter	Condition	min	typical	max	Units
Accuracy Tolerance	typical		±2		%RH
	max	See Fig 2-2			%RH
Repeatability			±0.1		%RH
Hysteresis			±1		%RH
Nonlinearity			<0.1		%RH
Response Time	τ 63%		8		S
Operating Range	extended	0		100	%RH
Long Term Drift	normal		<0.5		%RH/yr

Table 2-3 Humidity parameters

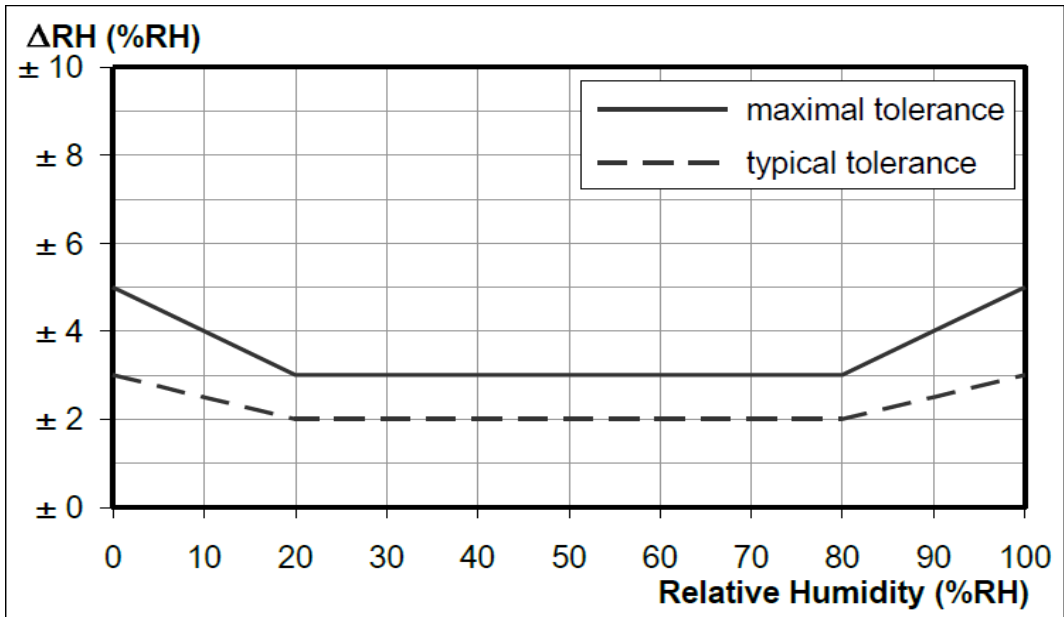


Fig 2-2 Typical and maximal tolerance at 25° C for relative humidity.

## 2.4 Structure

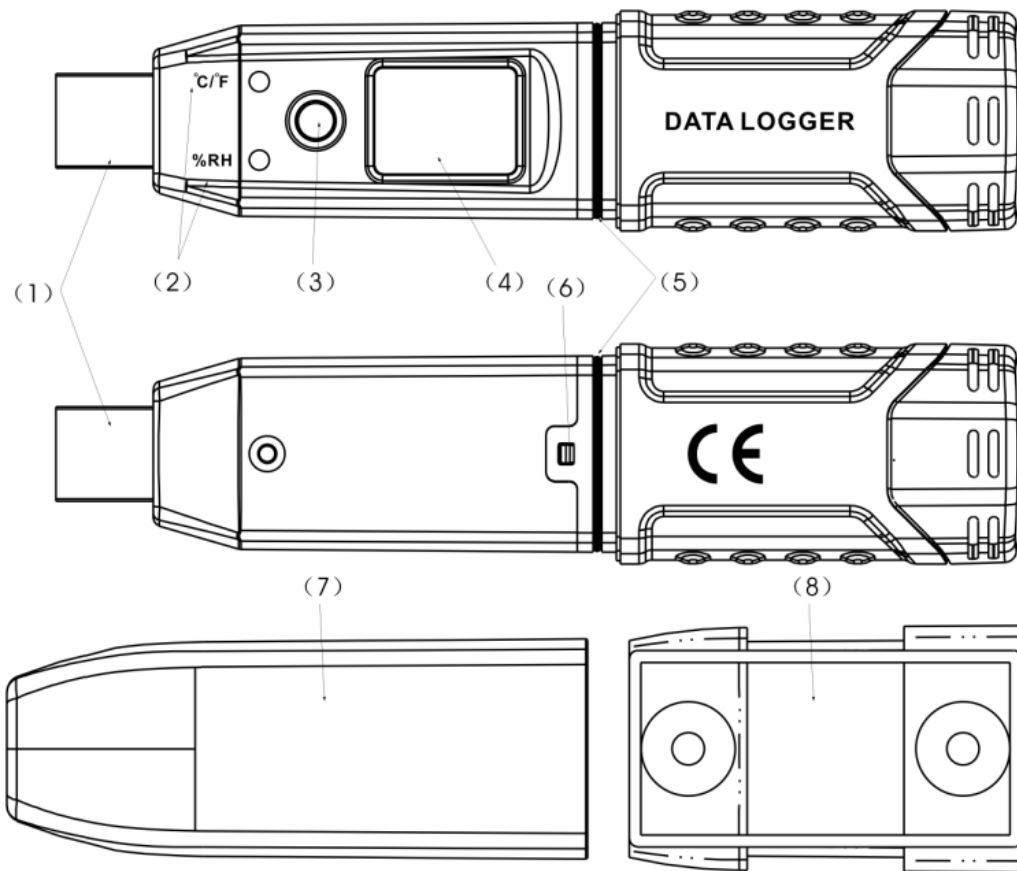


Fig 2-3 Structure of the device

- (1)USB interface
- (2)Overflow alarm LED
- (3)Key
- (4)LCD
- (5)Waterproof rubber ring
- (6)Position for battery replacement
- (7)Transparent waterproof cover
- (8)Bracket

## 2.5 LCD display

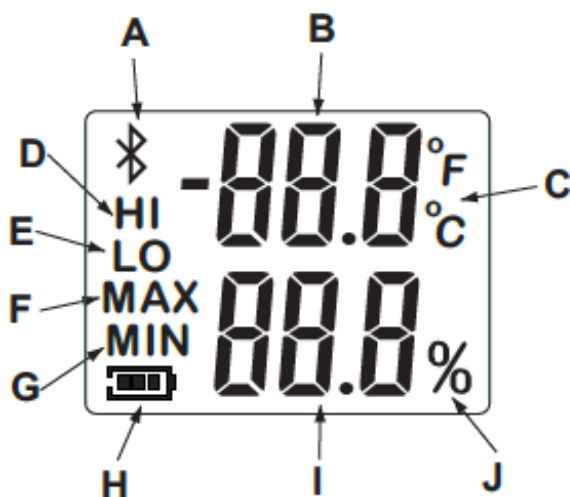


Fig 2-4 LCD display

- A. Blue tooth
- B. Temperature reading
- C. Temperature unit
- D. Upper limit overflow
- E. Lower limit overflow
- F. Max value
- G. Min value
- H. Battery volume
- I. Humidity reading
- J. Humidity unit

## 2.6 The key operation

Pressing on the key for 2 seconds is to turn on/off the device. After powering on, click on the key to review the current reading, max reading, min reading, upper limit, lower limit.

## 2.7 Battery installing

Open the battery door with a tool and insert the battery as shown below.

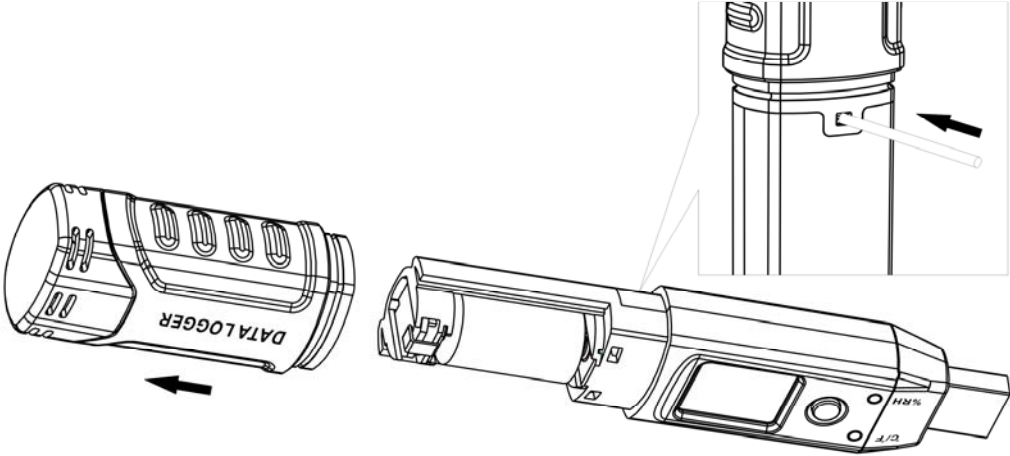


Fig 2-5 Battery installing



## Chapter 3 How To Use Data-Logger

### 3.1 Configuration requirements of the PC

- ☆ Only be installed under Windows OS.
- ☆ With CPU frequency above 1.6Ghz and inner memory above 256M.
- ☆ At least one USB interface is required.

### 3.2 Data-Logger installing

☆ Put the disc into the drive and run the file “Setup.msi” to install the program. If it is failed to install the program, please install first this program “Microsoft.NetFramework 3.5” and reinstall the program.

☆ Operate as the alerted by the installation wizard to finish the installation.


*Note: It is not recommended to install the program in the OS partition of the PC so as to protect the file be lost in case of reinstall the OS program for PC.*

### 3.3 Data-Logger operation


#### 3.3.1 Steps of Data-Logger operation

① Connect the device with PC with USB port.





② Click the icon  on the desk to enter into Data-Logger and then click the




icon  in the tool bar to make communication between the PC and the device, if the connection succeeds there will be a icon indicating Connected shown on the left bottom the status bar, which means the operation of download, setup, clear, review and print can be performed.



③ To click the icon  and icon  to exit the Data-Logger program, and then take out the device.

#### 3.3.2 Data-Logger downloading



After connection with Data-Logger, click the icon  to download the data stored in the device with maximum memory to 32256 pieces of readings. The following are figs of downloading interface and downloaded interface.

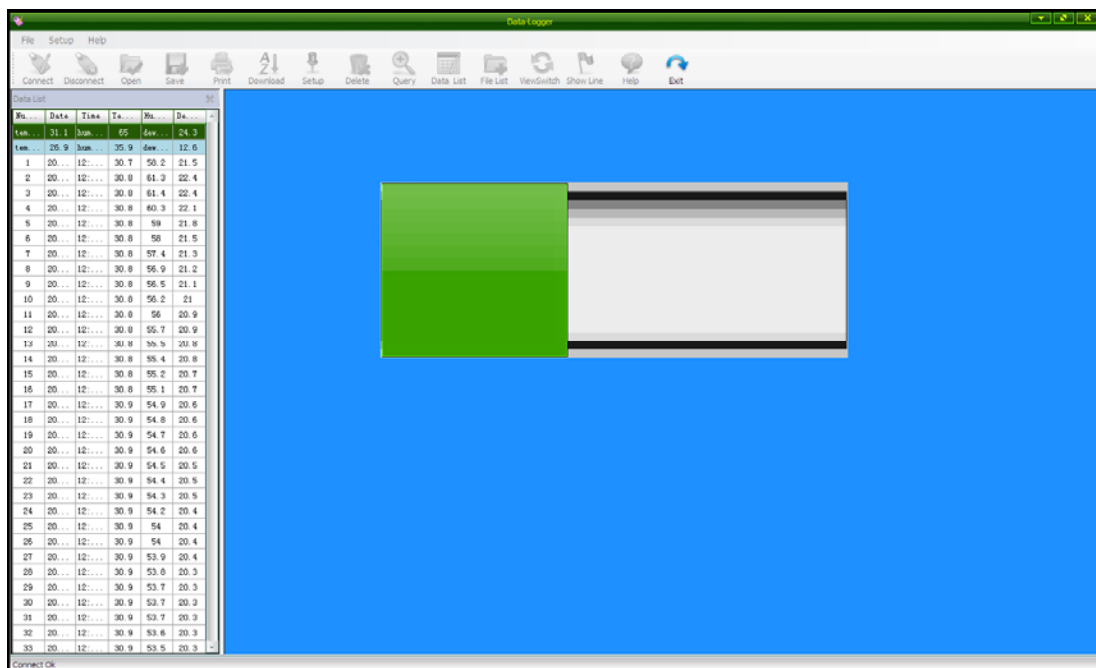


Fig 3-1 Downloading interface

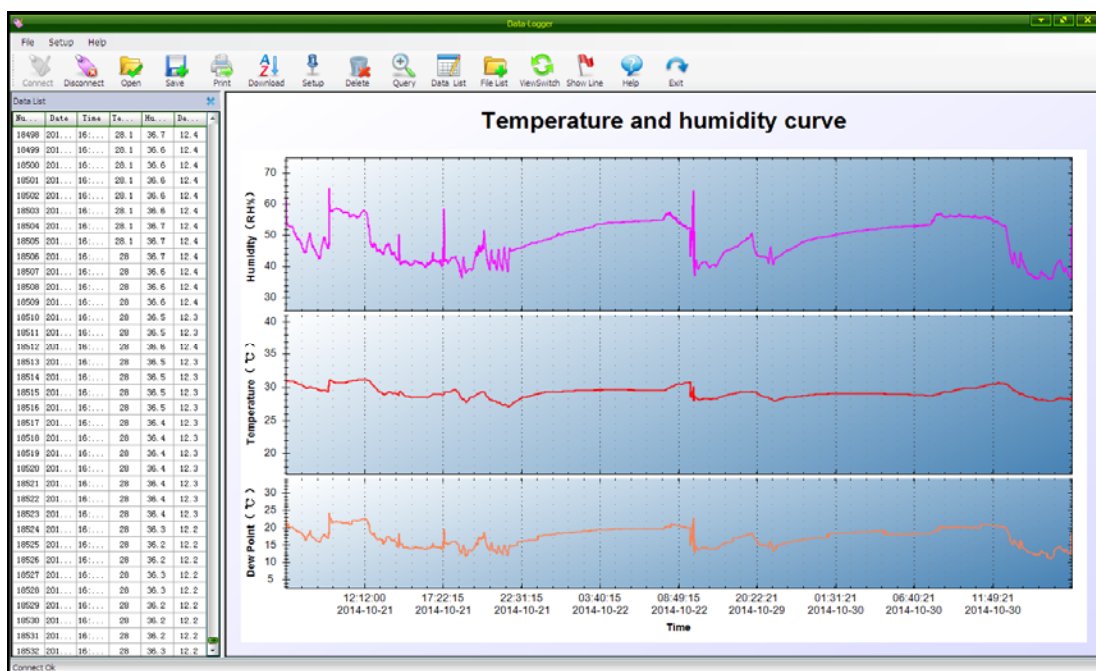

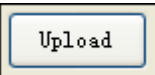


Fig 3-2 Downloaded interface

### 3.3.3 Data-Logger setup

After connection between the device and the PC, click the icon  to set up the parameters in the device, and click the icon  to upload the parameters having been set to the device.

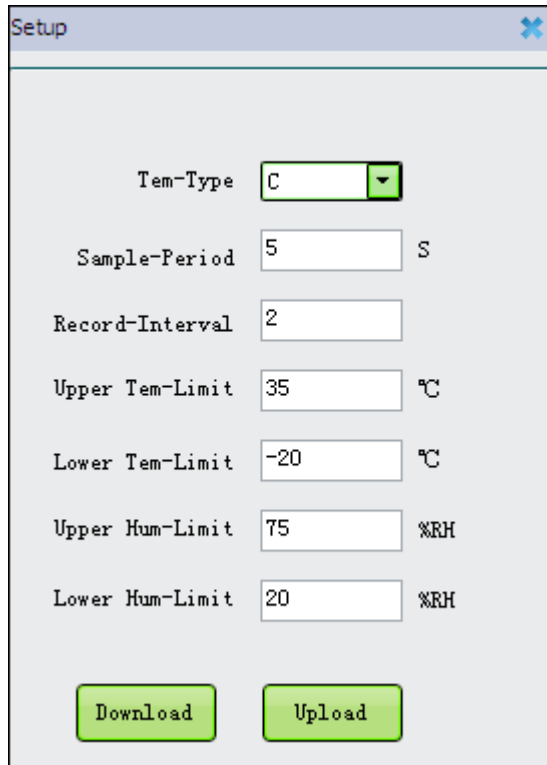



Fig 3-3 Setup interface

Below are setup range and type:


- ▲ Tem-Type: C (Celsius) /F (Fahrenheit)
- ▲ Sample-Period: 1~500S
- ▲ Record-Interval: 1~65000
- ▲ (Upper/Lower)Tem-Limit: -30~80°C
- ▲ (Upper/Lower)Hum-Limit: 0~100%RH

*Note: The up limits of the temperature and humidity must be set above their respective down limits, otherwise all the parameters set cannot be written into the device.*

### 3.3.4 Clear operation in Data-Logger

After connection between the device and the program, click the icon  to clear all the data stored in the device.

### 3.3.5 Review operation in Data-Logger

After downloading, click the icon  to review the data stored in the device. The review condition and result will be shown as in following:

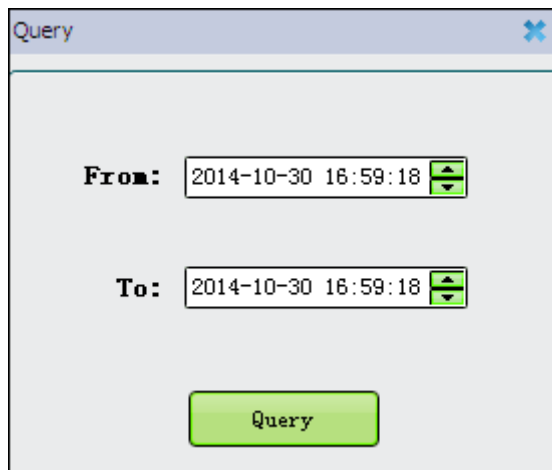


Fig 3-4 Review condition

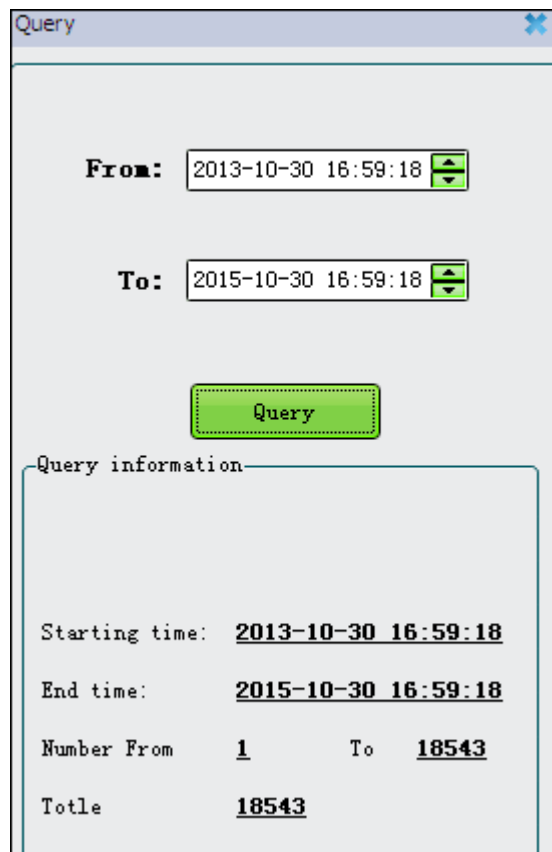



Fig 3-5 Review result

### 3.3.6 Check File List in Data-Logger

After connection between the PC and the device, click the icon  to review the data stored in the device as shown below:

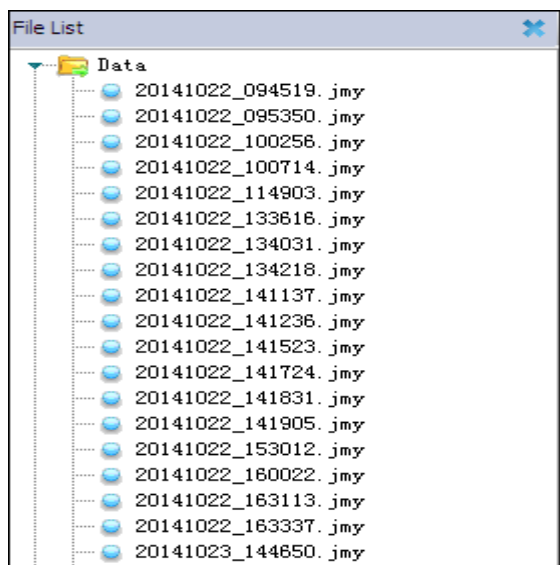



Fig 3-6 File List

### 3.3.7 Check Data List in Data-Logger



After data downloading, click the icon  in the tool bar to check the data stored in the device in the form below:

Number	Date	Time	Temperature	Humidity	Dew Point
1	2014-10-20	12:26:52	30.7	58.2	21.5
2	2014-10-20	12:26:56	30.8	61.3	22.4
3	2014-10-20	12:27:00	30.8	61.4	22.4
4	2014-10-20	12:27:04	30.8	60.3	22.1
5	2014-10-20	12:27:08	30.8	59	21.8
6	2014-10-20	12:27:12	30.8	58	21.5
7	2014-10-20	12:27:16	30.8	57.4	21.3
8	2014-10-20	12:27:20	30.8	56.9	21.2
9	2014-10-20	12:27:24	30.8	56.5	21.1
10	2014-10-20	12:27:28	30.8	56.2	21
11	2014-10-20	12:27:32	30.8	56	20.9
12	2014-10-20	12:27:36	30.8	55.7	20.9
13	2014-10-20	12:27:40	30.8	55.5	20.8
14	2014-10-20	12:27:44	30.8	55.4	20.8
15	2014-10-20	12:27:48	30.8	55.2	20.7
16	2014-10-20	12:27:52	30.8	55.1	20.7
17	2014-10-20	12:27:56	30.9	54.9	20.6
18	2014-10-20	12:28:00	30.9	54.8	20.6
19	2014-10-20	12:28:04	30.9	54.7	20.6
20	2014-10-20	12:28:08	30.9	54.6	20.6
21	2014-10-20	12:28:12	30.9	54.5	20.5

Fig 3-7 Data List

### 3.3.8 Interfaces switch in Data-Logger

In case that there is display of the curves of the temperature and humidity, click



the icon in the tool bar to review the temperature and humidity as shown below:

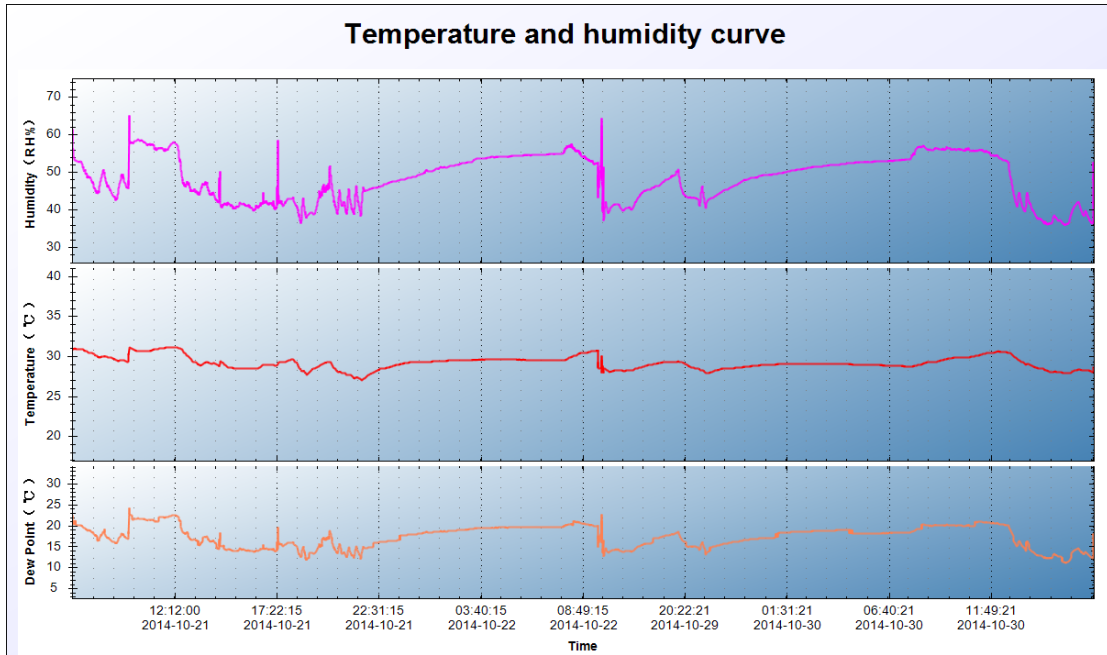


Fig 3-8 Table of the first interface of curves of temperature and humidity

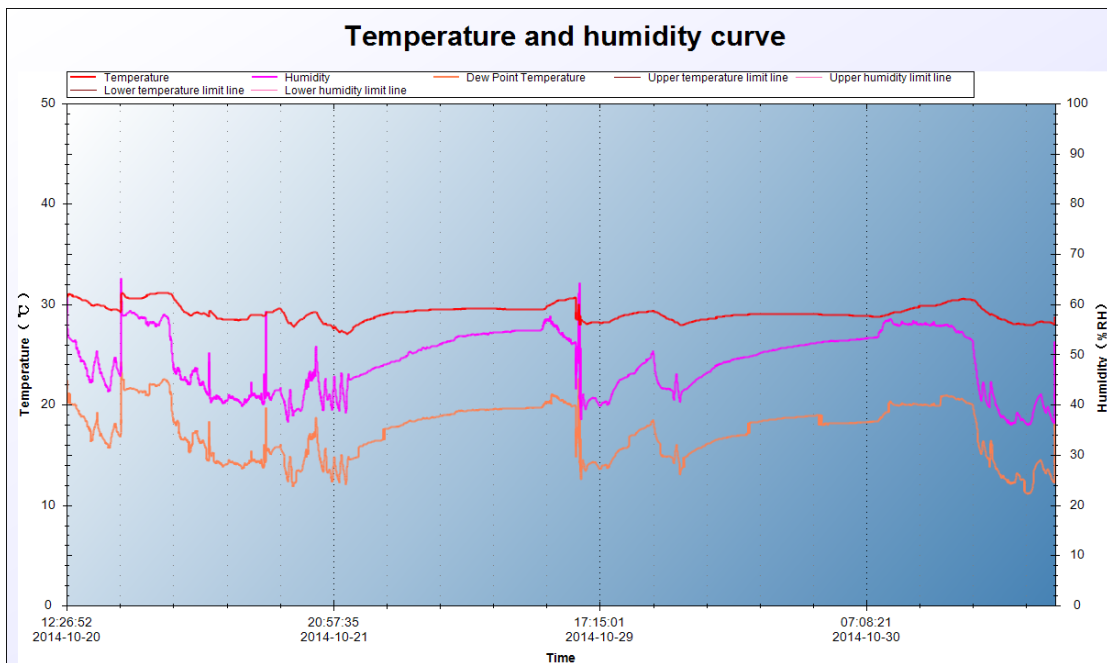


Fig 3-9 Table of the second interface of curves of temperature and humidity

## Chapter 4 Attentions

### 4.1 Attentions

- ▲ This device cannot be used in liquid as its waterproof level is IP67 only.
- ▲ The cover of this device is made of ABS which is vulnerable to the erosion of chemicals such as acid or alkaline.
- ▲ If there is any malfunction appears, please ask the authorized technicians to repair it. Please strictly follow the steps specified in the manual when dismantling the device or replacing the battery.
- ▲ The lithium battery of 1/2 AA 3.6V equipped is not rechargeable and short-circuited. Please abide by the local law if the old battery is to be discarded.

### 4.2 FAQ

① Why does the device become dim display or have slow response? --- low battery or the operating temperature is too low or too high.

Solution: replacing the battery immediately or taking out the device from the surrounding environment.

## Chapter 5 Contact Us

**Email:** [luckyarco@qq.com](mailto:luckyarco@qq.com)