



GM1365

Temperature & Humidity Data Logger

User Manual

Rev. 1.01

October 2014

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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 lithium 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. | GM1365 |
| Temperature precision | ± 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 | | $^{\circ}\text{C}$ |
| | max | See Fig 2-1 | | | $^{\circ}\text{C}$ |
| Repeatability | | | ± 0.1 | | $^{\circ}\text{C}$ |
| Response Time | τ 63% | 5 | | 30 | $^{\circ}\text{C}$ |
| Operating Range | extended | -40 | | 125 | S |
| Long Term Drift | | | <0.04 | | $^{\circ}\text{C}/\text{yr}$ |

Table 2-2 Temperature parameters

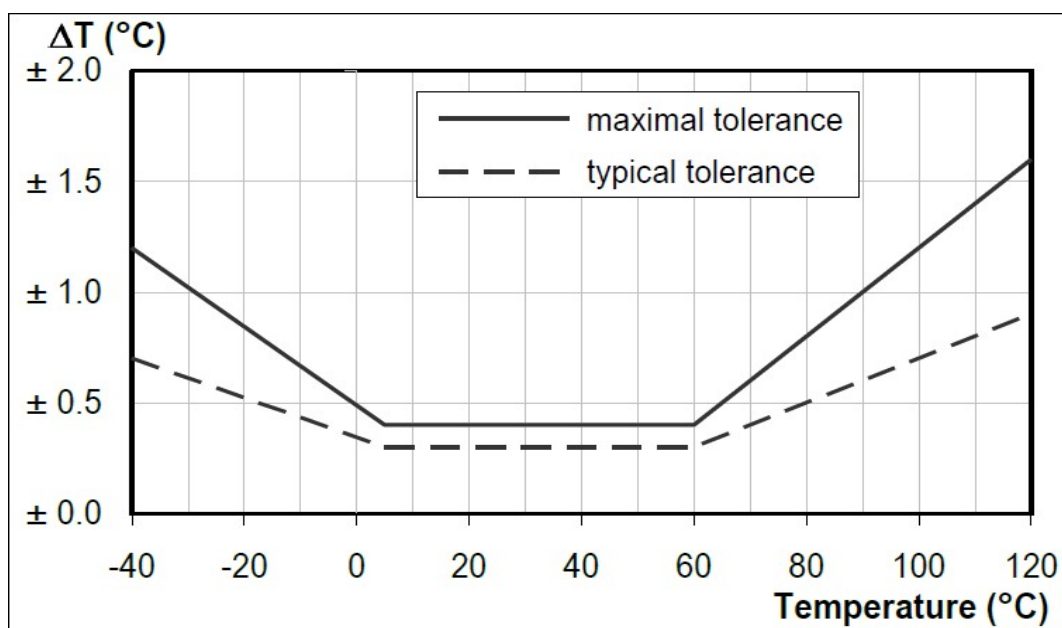


Fig 2-1 Typical and maximal tolerance for temperature

| 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

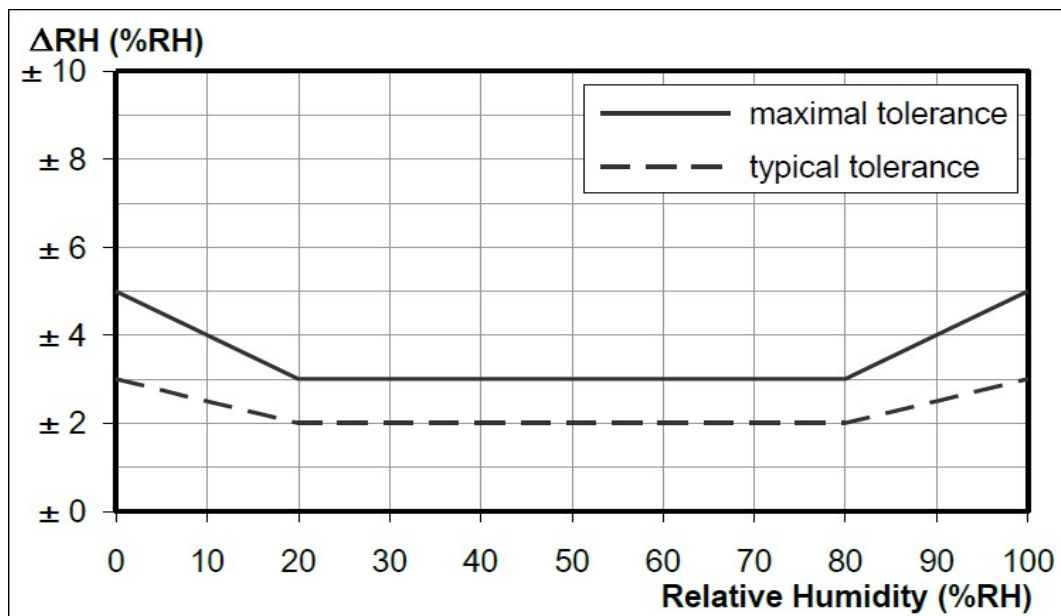


Fig 2-2 Typical and maximal tolerance at 25°C for relative humidity.

2.4 Structure

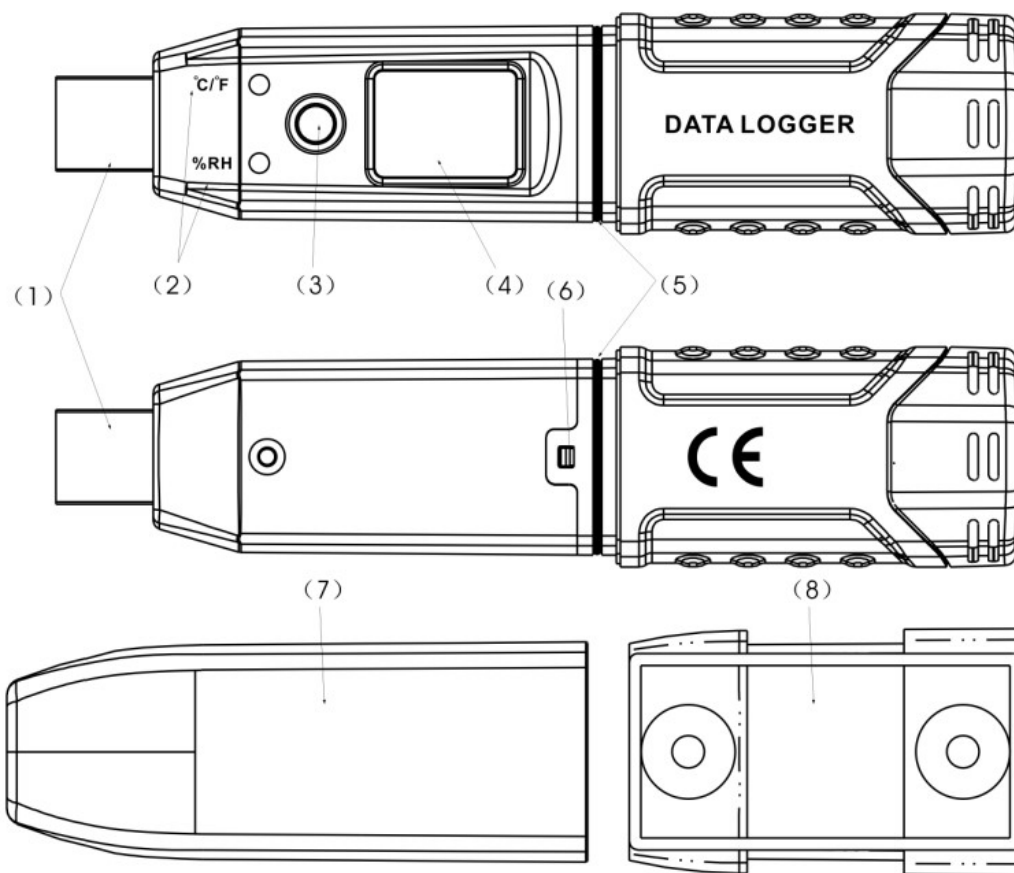


Fig 2-3 Structure of the device

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

2.5 LCD display

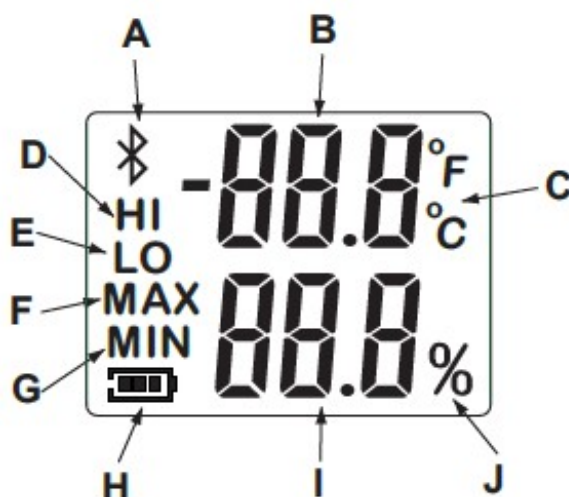


Fig 2-4 LCD display

- | | |
|------------------------|---------------------|
| A. Blue tooth | F. Max value |
| B. Temperature reading | G. Min value |
| C. Temperature unit | H. Battery volume |
| D. Up limit overflow | I. Humidity reading |
| E. Down limit overflow | 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, up limit, down limit.

2.7 Battery installing

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

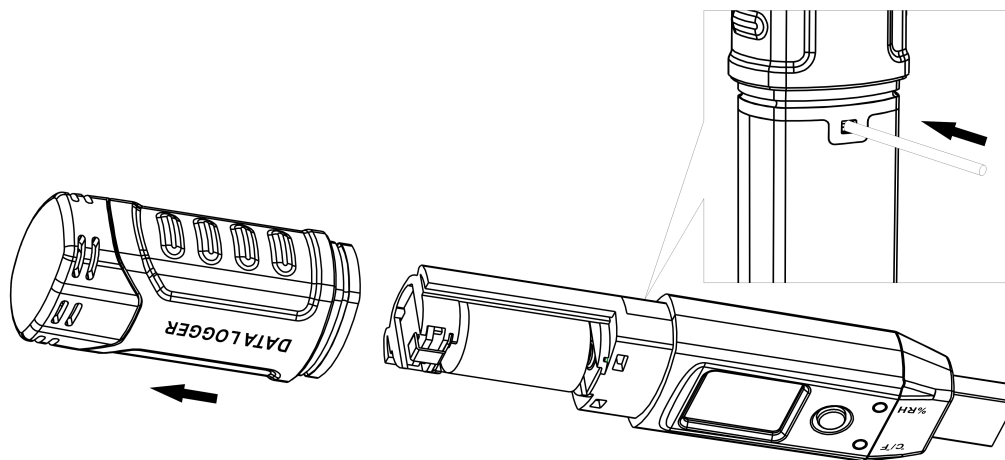


Fig 2-5 Battery installing

Chapter 3 How To Use Data-Logger

3.1 Configuration requirements of the PC

- ☆ Only be installed under Windows OS.
- ☆ With CUP 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 “[Data-Logger20190612 v2.3.exe](#)” 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.

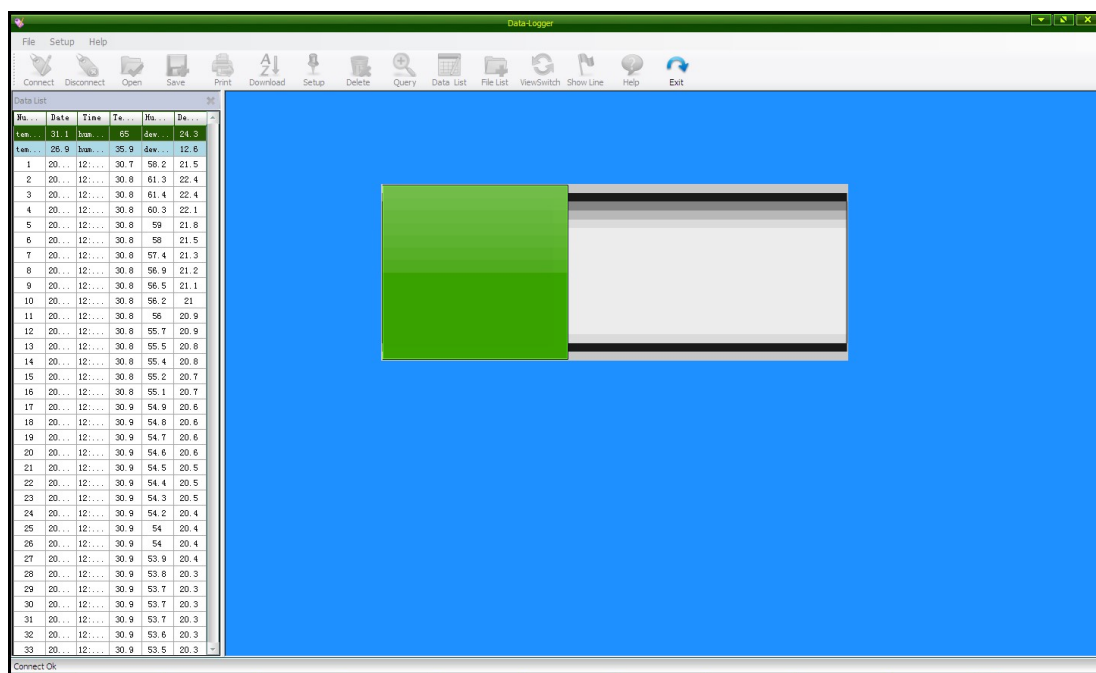


Fig 3-1 Downloading interface

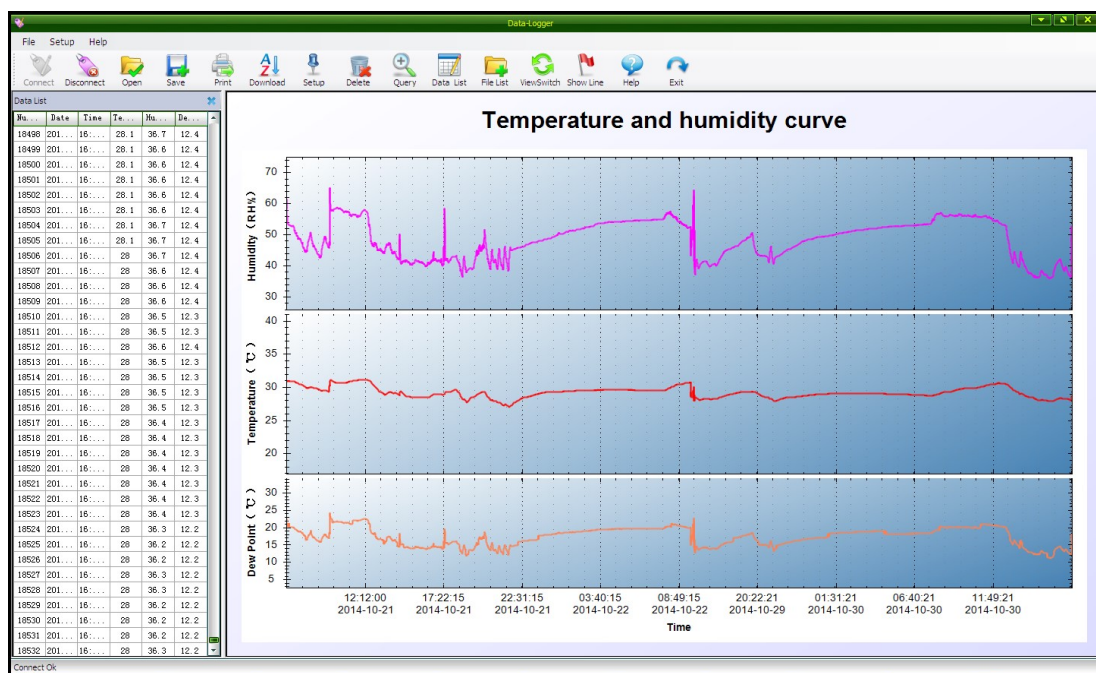

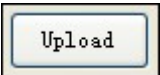


Fig 3-2 Downloaded interface

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.

The Setup interface window contains the following fields and buttons:

- Tem-Type:** A dropdown menu currently set to 'C'.
- Sample-Period:** A text input field with the value '5' and a unit 'S'.
- Record-Interval:** A text input field with the value '2'.
- Upper Tem-Limit:** A text input field with the value '35' and a unit '°C'.
- Lower Tem-Limit:** A text input field with the value '-20' and a unit '°C'.
- Upper Hum-Limit:** A text input field with the value '75' and a unit '%RH'.
- Lower Hum-Limit:** A text input field with the value '20' and a unit '%RH'.
- Buttons:** Two green buttons labeled 'Download' and 'Upload' at the bottom.

Fig 3-3 Setup interface


Below are setup range and type:

- ▲ Tem-Type: C (Celsius) /F (Fahrenheit)
- ▲ Sample-Period: 1~500S *(sampling period refers to how often sensor data is collected)*
- ▲ Record-Interval: 1~65000 *(record interval refers to the number of sampling cycles before data is recorded)*
- ▲ (Upper/Lower)Tem-Limit: -30~80°C
- ▲ (Upper/Lower)Hum-Limit: 0~100%RH


Note 1: 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.

Note 2: date and time setting: after connecting the device with the supporting computer software, click the upload setting in the setting interface, the parameters set will be updated to the device, and the time of the computer will be updated to the meter. Each time the battery is newly installed or replaced, or the battery becomes loose due to vibration, falling and other reasons, the date and time information will be restored to 0:00, 0min and 0sec on January 1, 2005 to start the timing, and the date and time shall be reset.

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:

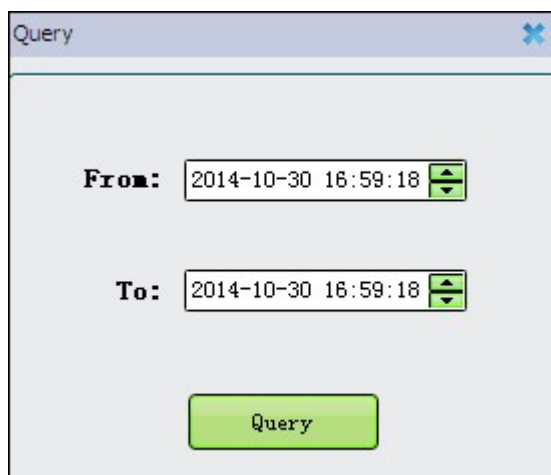


Fig 3-4 Review condition

Query

From: 2013-10-30 16:59:18

To: 2015-10-30 16:59:18

Query

Query information

Starting time: 2013-10-30 16:59:18


End time: 2015-10-30 16:59:18

Number From 1 To 18543

Totle 18543

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:

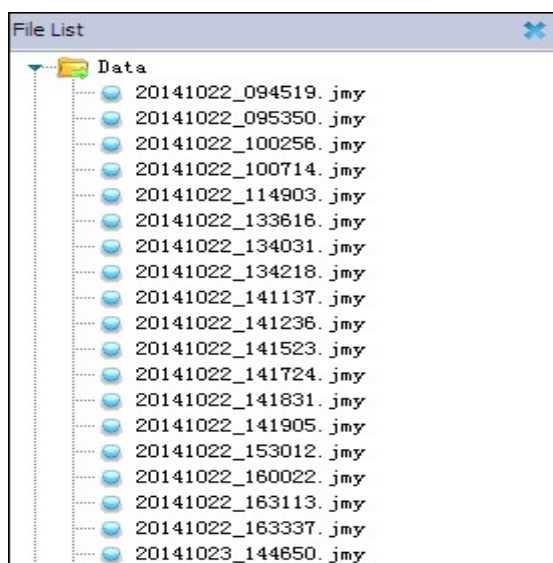



Fig 3-6 File List

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:

| Data List | | | | | |
|-----------|------------|----------|-------------|----------|-----------|
| 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:

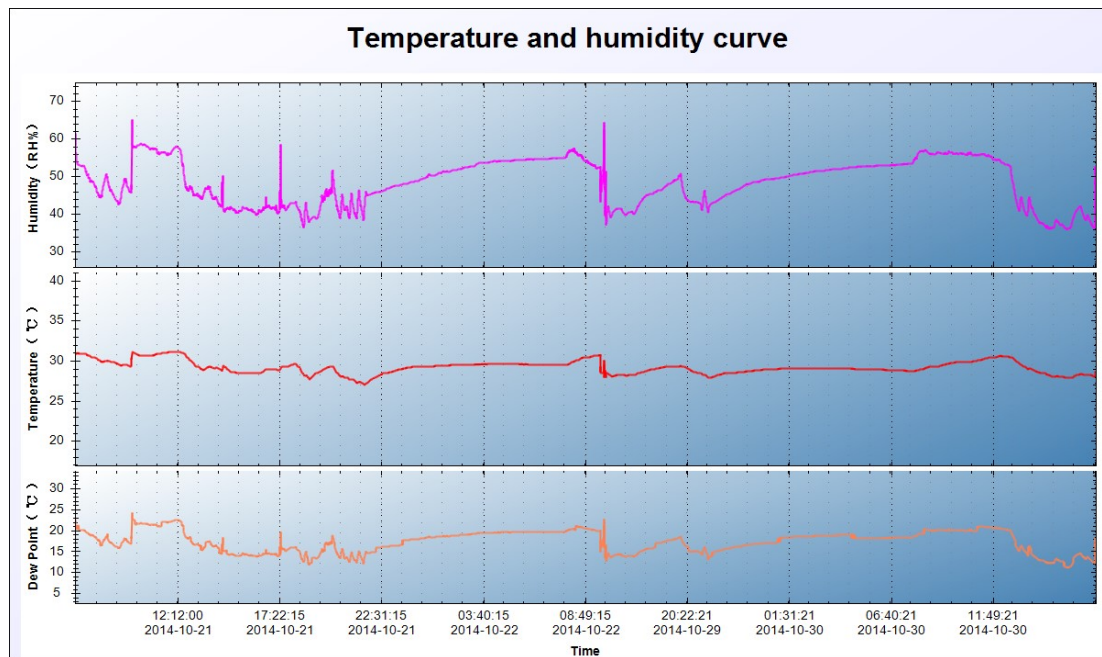


Fig 3-8 Table of the first interface of curves of temperature and humidity

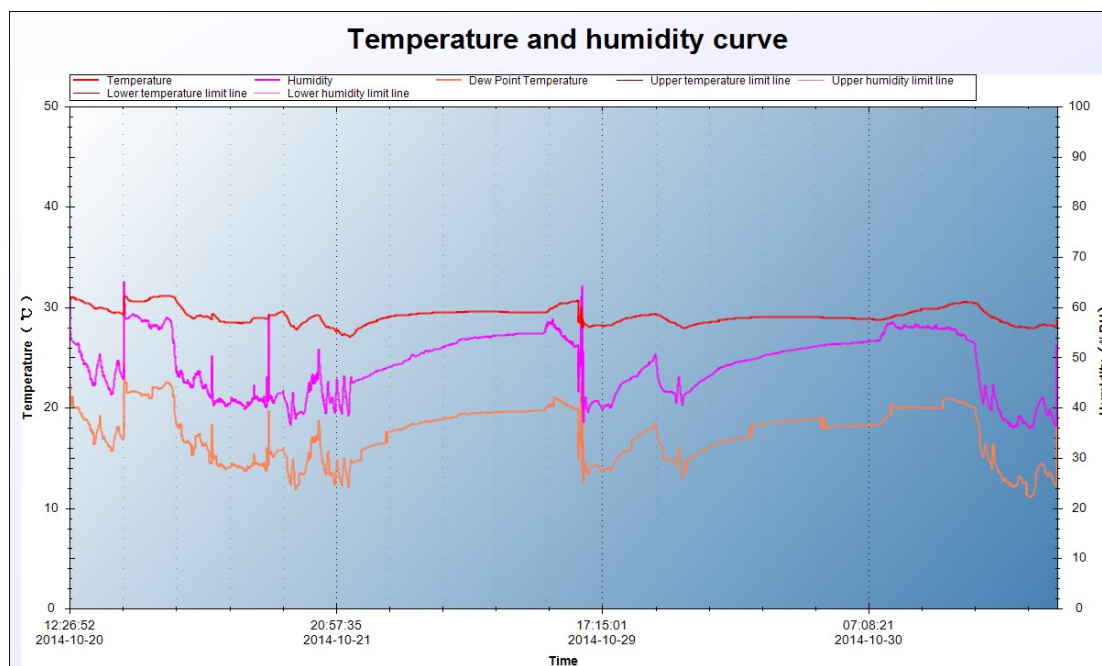


Fig 3-9 Table of the second interface of curves of temperature and humidity

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.

② Error Code (If the following code appears, please contact the after-sales service.

The instrument may need maintenance)

This instrument has an internal error detection function. When the error is detected after starting up, the "Err" and error code will be displayed. The details are as follows:

1~9 clock error

20~29 sensor error

60~69 record storage error

Chapter 5 Contact Us

Company Name: Shenzhen Jumaoyuan science & technology Co., Ltd.

Website: www.benetechco.com

Company Address: 6th floor G block Guanlong first industrial zone Xili sub-district
Nanshan district, Shenzhen city, Gaungdong province cn,China.

Sales Line: 86-755-2695 6881 / 2695 6891

Fax: 86-755-2695 6896

Email: sales@benetechco.com

Post Code: 518055

Products In Business: infrared thermometer, digital anemometer, digital sound level meter, ultrasonic thickness gauge, film/coating thickness gauge, vibration meter, high voltage insulation tester, digital lux meter, pressure manometer, micro power monitor, combustible gas detector, wood moisture meter, ground resistance tester and leakage switch tester etc.