Operation Manual of USB Data Logger

(Version: 1.30)

HUATO ELECTRONIC (SHENZHEN) CO., LTD.

Contents

1. Introduction

HE170 USB series has USB interface, enjoying elegant appearance and compact construction, specially designed for refrigerator and cold-chain transportation as well as container transport applications. HE170 USB series adopts friendly USB interface, friendly mounting bracket and the screws. HE170 USB series can show temperature/temperature and humidity simultaneously as well as the battery indication. The OK key can help to check the Max/Min/Current value and the upper and lower limits.

1.1 Features

- Waterproof and dustproof standard IP67, resisting moisture, dew-point temperature and dust.
- Temperature and humidity limit can be set. LED lights when the setting value being exceeded.
- Ultra-lower consumption design, 1/2AA 3.6V Li battery, working for 12 months and easy to install your battery.
- Transfer logging data to PC through software and can be saved as different types to ensure the existence.
- Adopt high sensitive sensor, enjoy fast response and high accuracy.

1.2 USB temperature data logger
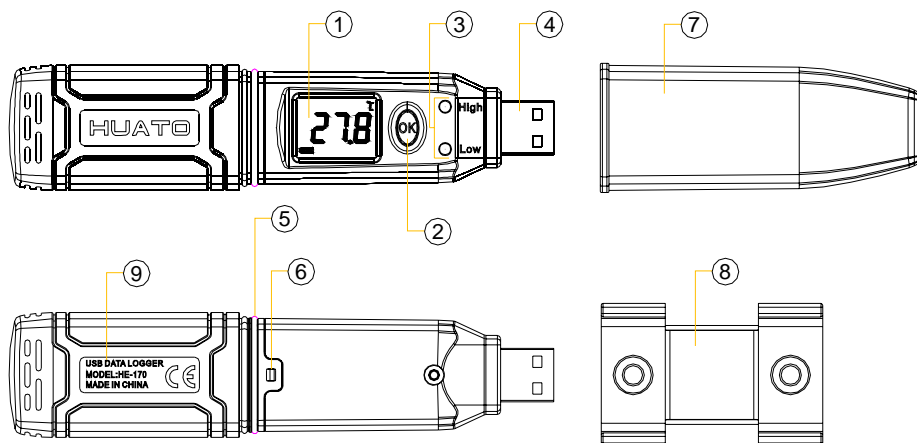

① LCD display
② Button
③ LED warming light when the temperature value exceeds the setting limits.
④ USB connection port.
⑤ Waterproof ring.
⑥ Battery replacement position.
⑦ Waterproof transparent cover.
⑧ Fixed bracket.
⑨ Product model.

1.3 USB temperature humidity data logger
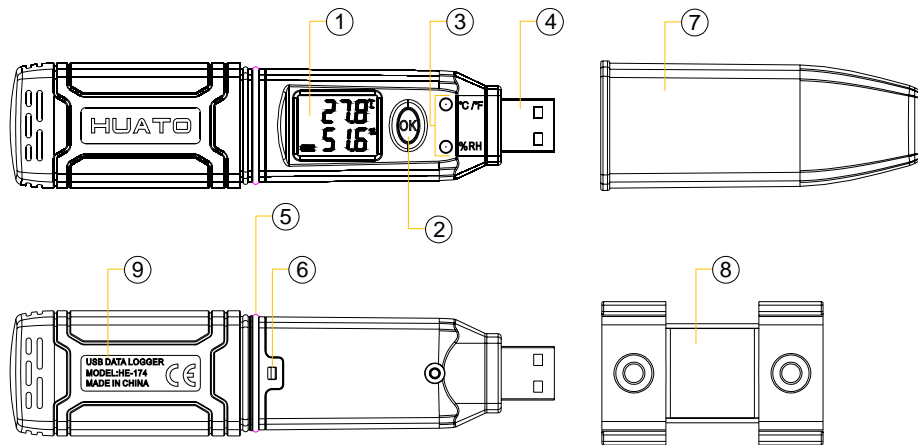
① LCD display.
② Button.
③ LED warming light when the temperature and humidity values exceed the setting limits.
④ USB connection port.
⑤ Waterproof ring.
⑥ Battery replacement position.
⑦ Waterproof transparent cover.
⑧ Fixed bracket.
⑨ Product model.

1.4 LCD symbols display instructions
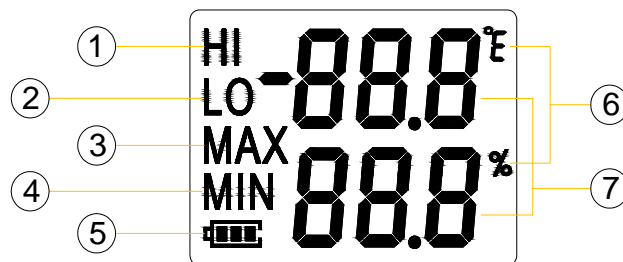
① HI symbol display shows being the temperature and humidity upper limits setting status.
② LO symbol display shows being the temperature and humidity lower limits setting status.
③ MAX symbol display shows being the maximum temperature and humidity values checking status.
④ MIN symbol display shows being the minimum temperature and humidity values checking status.
⑤ Battery power indication.
⑥ Units symbol display:

   ℃ temperature unit（Celsius and Fahrenheit）   % humidity unit

⑦ Values symbol display.

1.5 Button instructions
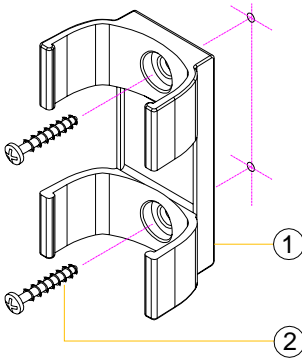
1.5.1 **OK** ：Press this button for long to 5seconds can turn on/off the logger. Press **OK** can check the MAX, MIN, High and low warming limits values as well as the current value under the working status.
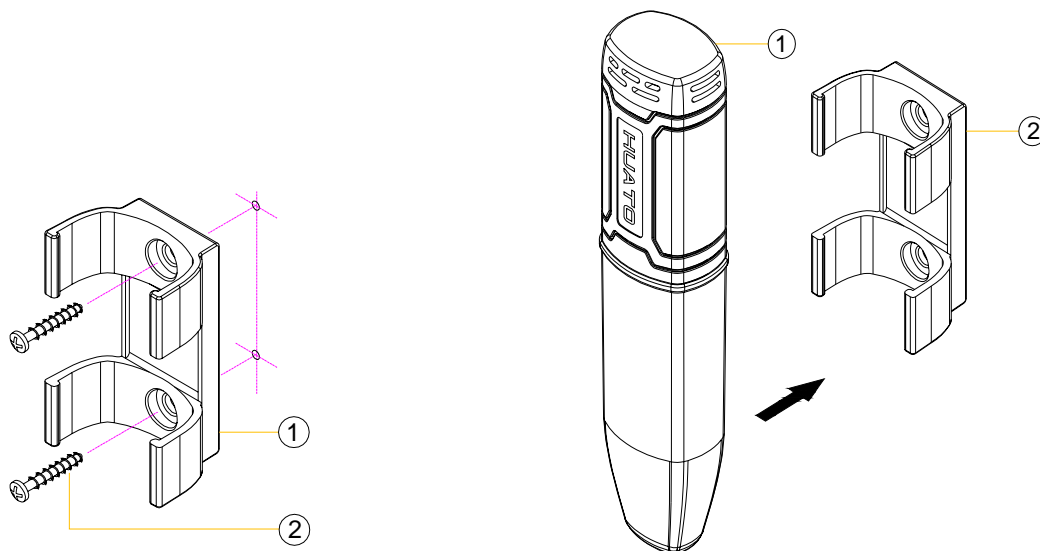
1.6 Install battery

1.6.1 Firstly, use your tool ① to open the battery back cover ②, then install your battery ③.
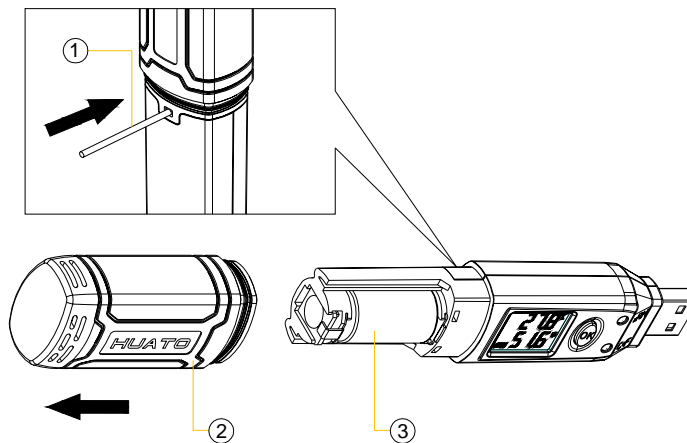
1.7 Install USB data logger

1.7.1 Use screw ② to fix the bracket① onto the wall and then install the data logger as follows:

2. Quick Start

Follow the procedure below to quickly start using your data logger:

1. Connect the data logger to a free USB port on the computer.
2. Start ToAnalyzer U software on the PC.
3. From the toolbar select Connect.
4. Then you can setup or download data, delete data from the logger.
5. Unplug the cable from the logger, and then the logger is in stop mode.
6. Press **OK** for about five seconds, the logger will be power on (LOG mode) or off (OFF mode).

Note: The logger has three modes:

1. **LOG**: In the mode, the logger samples and records data timely.
2. **OFF**: In this mode, the logger stops to sample and record, and the LCD display is off.

3. Connecting the Logger to PC

To connect the logger to the computer, follow these steps:

1. Connect the USB cable to the logger and to a free USB port on the computer.
2. If you are connecting the logger to the PC for the first time, the logger will automatically be recognized and installed on the computer.
3. Start ToAnalyzer U analysis software.

4. Click the icon from the toolbar, then ToAnalyzer connects to the logger.

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

Note: The windows operating system can not 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 ToAnalyzer.

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4.Setting Up the Logger to Record Data

To set the logger to start recording data, click the [Setup] button on the toolbar, or select Setup from the menu.

The setup options window is shown below.

Configuration	
1. Name	
2. Type.	
3. Model	
4. Serial No.	
5. LOG Interval(s)	0
6. Log Count	
7. Memory Capacit	
8. Temperature Un	
Start Mode	
1. Start Mode	
2. Delay/Timer	
Threshold	
1. Ch1 High	
2. Ch1 Low	
3. Ch2 High	
4. Ch2 Low	
Offset	
1. CH1 Offset	
2. CH2 Offset	
3. CH3 Offset	

● : Get current setup information from the logger. Click this button, and then the old setup information is shown below.

Configuration	
1. Name	usb_logger
2. Type.	Logger
3. Model	USB-TH
4. Serial No.	HUATOS0001
5. LOG Interval(s)	10
6. Log Count	0
7. Memory Capacit	43000
8. Temperature Un	F
Start Mode	
1. Start Mode	No delay
2. Delay/Timer	0
Threshold	
1. Ch1 High	40
2. Ch1 Low	-10
3. Ch2 High	85
4. Ch2 Low	30
Offset	
1. CH1 Offset	0.0
2. CH2 Offset	0.0
3. CH3 Offset	0.0

● : Synchronize the new setup information and current PC time to the logger. After changing the configuration, **do not forget** clicking this button to make sure that the new configuration is wrote to the logger.

● : Synchronize the PC time to the logger.

● Name: Gives a name to the logger.

● Type: The device type.

● Model: The device model.

● Serial No: Every logger has a SN with 10 characters. The length must be 10.

● LOG Intervals(s): The interval of recording.

● Log Count: The count of the logs that the logger has recorded.

● Memory capacity: The total capacity of the logger memory. One reading includes time and three channels' data.

● Temperature Unit: The selection of C and F.

● Start Mode: There are three start modes: No Delay / Delay / Timer.

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No Delay: The logger will start to log immediately.

Delay: The logger will start to log after a delay time.

Timer: The will start to log at a specific time.

Note: If the logger is OFF, the logger cannot record any logs.

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. ToAnalyzer 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.

- CH1 offset: The offset of channel one.
- CH2 offset: The offset of channel two. (If the logger is temperature logger, the CH2 and CH3 are useless.)
- CH3 offset: The offset of Dew Point.

5.Download data from the logger.

To get the recorded logs from the logger, connect the logger to your computer and click the ![Download] button on the toolbar. Once the data is transferred from the logger to the PC, the data graph and data listing windows will be displayed.

The graph display will be blank if there are not any logs.

Note: Push left mouse button down, and then move to select a rectangle area, when the left mouse button is up, the graph will be redraw with the data in the selected rectangle area. Click right button, then the graph will be redrawing with all the data in the logs file.

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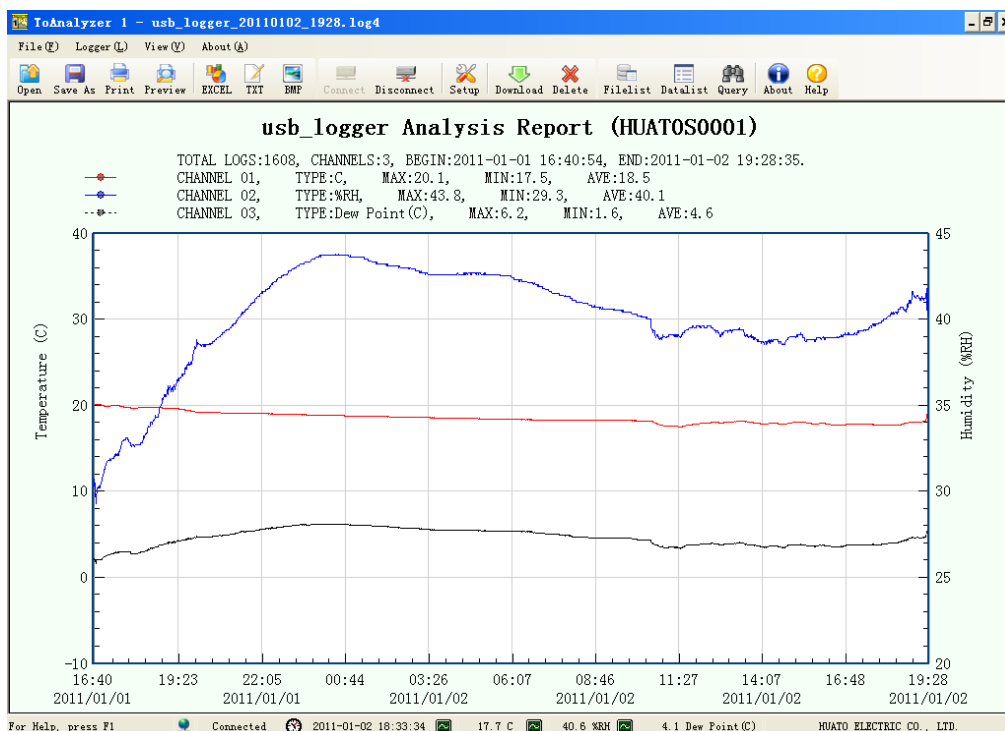
6. Delete all the logs from the logger.

To erase all data from the logger, connect to the logger, and then click ![Delete] button on the toolbar.

7. Data Listing Window

Click ![Datalist] button on the toolbar, and then the data listing window is shown below.

SN	DATE	TIME	CH 1
1	2011-01-01	16:40:54	20.0
2	2011-01-01	16:41:54	20.0
3	2011-01-01	16:42:55	20.1
4	2011-01-01	16:43:55	20.1
5	2011-01-01	16:44:55	20.1
6	2011-01-01	16:45:55	20.1
7	2011-01-01	16:46:55	20.1
8	2011-01-01	16:47:55	20.1
9	2011-01-01	16:48:55	20.1
10	2011-01-01	16:49:55	20.1
11	2011-01-01	16:50:55	20.1
12	2011-01-01	16:51:55	20.1
13	2011-01-01	16:52:55	20.1
14	2011-01-01	16:53:55	20.1
15	2011-01-01	16:54:55	20.1
16	2011-01-01	16:55:55	20.0
17	2011-01-01	16:56:55	20.0
18	2011-01-01	16:57:55	20.0
19	2011-01-01	16:58:55	20.0
20	2011-01-01	16:59:55	20.0
21	2011-01-01	17:00:55	19.9
22	2011-01-01	17:01:55	19.9
23	2011-01-01	17:02:55	19.9
24	2011-01-01	17:03:55	19.9
25	2011-01-01	17:04:55	19.9
26	2011-01-01	17:05:55	19.8
27	2011-01-01	17:06:55	19.8
28	2011-01-01	17:07:55	19.9
29	2011-01-01	17:08:55	19.9
30	2011-01-01	17:09:55	19.9
31	2011-01-01	17:10:55	19.9
32	2011-01-01	17:11:55	19.9
33	2011-01-01	17:12:55	19.9
34	2011-01-01	17:13:55	20.0
35	2011-01-01	17:14:55	20.0
36	2011-01-01	17:15:55	20.0
37	2011-01-01	17:16:55	20.0
38	2011-01-01	17:17:55	20.0
39	2011-01-01	17:18:55	20.0
40	2011-01-01	17:19:55	20.0
41	2011-01-01	17:20:55	20.0
42	2011-01-01	17:21:56	20.0
43	2011-01-01	17:22:56	20.0
44	2011-01-01	17:23:56	20.0

The data pane lists the data samples collected by the logging device.
The column width of each column is adjustable by using the left mouse button and dragging the column the desired width.

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8. Exporting Logger Data

You can use ToAnalyzer to export sample data to a text file or to a Microsoft Excel file or BMP file.

- **EXCEL**: Export sample data to an Excel file.

- **TXT** : Export sample data to a text file.

- **BMP** : Export graph to a BMP file.

9. File List

The file list pane lists all the files in the directory Logfiles which is located in the installed directory of ToAnalyzer.
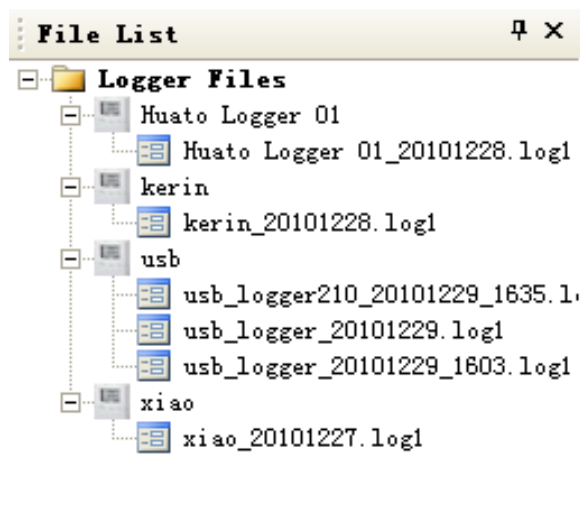
- Double click left mouse button, then the selected file is opened.
- Click right mouse button, a popup menu is shown as below, you can rename or delete a log file.

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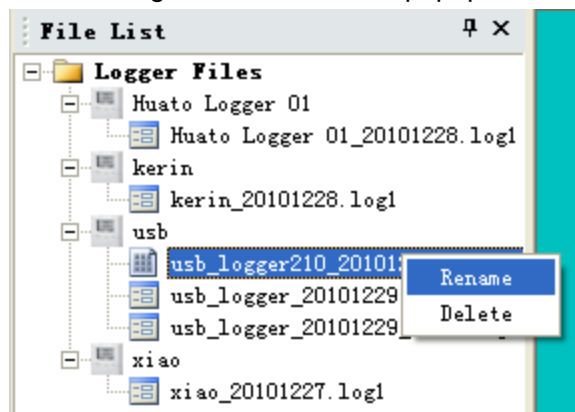
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