

# BrainChild

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## XH Logger Series

### XH10/XH11

## User Manual

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*UMEXH101D EN, v4.3 (Nov 2023)*

*XH logger Firmware Version: 1.1.0*

*Data Logger Viewer Version: 1.2.0.26*

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## Terms & Policy

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## Safety

Users should read this document through before use it and refer to it whenever necessary. Pay attention to the safety instructions and warning notices to prevent from injuries or damaging to the equipment.

Follow the instructions and specification limit to operate it to avoid any dangers.

## Disposal

Users are responsible for the proper disposal of the waste generated during their work. Improper waste disposal may severely endanger the public health and/or the environment. Dispose the battery in accordance with local regulations.

## Precaution for Humidity and Temperature Sensors

Storage and Handling Instructions:

- Protection against ESD is mandatory.
- Do not use polyethylene antistatic bags.
- Do not apply board wash.
- Do not apply spray to unprotected sensor.
- Be careful exposing the sensor to VOC.
- Prevent sensor from exposure to cleaning agents.
- Cover the sensing element during coating.

## Contact Information

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**Revision History**

<b>Version</b>	<b>Description</b>	<b>Date</b>
UMXH101A	Initial release	2020/Nov.
UMXH101B	Traditional Chinese version	2022/Sep.
	Add firmware update procedure	
	Add file mode and revise memory management section	
	Content correction and function update	
UMEXH101C	Change the Version naming rules:UMEXH101- Product Spec Product Overview Product Ordering Code Battery replacement	2023/Jul.
v 4.2 EN UMEXH101D	Appearance and Dimension Battery Replacement Getting Started Product FAQ	2023/Nov
v4.3 EN	Precaution for sensor	2023/Nov

## Table of Contents

<b>1</b>	<b>INTRODUCTION-----</b>	<b>6</b>
	1.1 FEATURES -----	6
	1.2 UNPACKING -----	7
	1.3 SPECIFICATION -----	8
	1.4 PRODUCT OVERVIEW -----	9
	1.5 APPEARANCE AND DIMENSION -----	10
	1.6 ORDERING CODE:-----	11
	1.7 OPERATION MODES-----	12
	1.8 LCD DISPLAY-----	14
	1.9 SCROLLING SEQUENCE-----	15
	1.10 LED DISPLAY -----	16
	1.11 LCD MEM DISPLAY -----	16
	1.12 MEMORY MANAGEMENT -----	16
	1.13 MEMORY CLEAR -----	17
	1.14 ERROR CODE -----	17
	1.15 INSTALLATION OF MOUNTING PLATE -----	17
	1.16 BATTERY REPLACEMENT -----	18
<b>2</b>	<b>OPERATION-----</b>	<b>20</b>
	2.1 GETTING STARTED -----	20
	2.2 CONFIGURATION & DATA ANALYSIS -----	20
	2.2.1 <i>System Requirements</i> -----	20
	2.2.2 <i>Installation</i> -----	20
	2.2.3 <i>Data Logger Configuration Settings</i> -----	24
	2.3 DATA LOGGER ANALYSIS -----	24
	2.3.1 <i>Sensors</i> -----	24
	2.3.2 <i>Download</i> -----	25
	2.3.3 <i>Summary</i> -----	26
	2.3.4 <i>Parameter</i> -----	27
	2.3.5 <i>Graphic</i> -----	28
	2.3.6 <i>History</i> -----	29
	2.3.7 <i>Event</i> -----	30
	2.3.8 <i>System Configuration</i> -----	30
	2.3.9 <i>Help</i> -----	33
	2.3.10 <i>About</i> -----	33
	2.3.11 <i>Exit</i> -----	34

<b>3</b>	<b>PRODUCT FAQ</b> -----	<b>35</b>
<b>4</b>	<b>PRODUCT ANNOUNCEMENT</b> -----	<b>37</b>
4.1	BATTERIES-----	37
4.2	DISPOSAL-----	37
4.3	STORAGE -----	37
4.4	FCC WARNING -----	37
4.5	RADIATION EXPOSURE STATEMENT -----	38

## 1 Introduction

Brainchild Data Logger XH series is an ideal solution for measuring and logging the temperature and humidity of an environment at the specified intervals. The logger not only provides temperature and humidity measurement on user's demand but also has several different recording methods, analysis data and report output function, No programming skills are required to use the UI of XH series and users can easily initiate data collection.

There are two types of USB loggers;

- XH10 Data Logger is the internal sensor for both temperature and humidity, suitable for warehouse, greenhouse and any places where need to monitor the temperature/ humidity.
- XH11 Data Logger is the external sensor for both temperature and humidity, suitable for delivering boxes, refrigerators, and containers in which you need to observe the temperature/ humidity readings, however, it's not allowed to open the containers frequently.

If you want to use data logger immediately, please refer to the "Quick User Guide". In addition, all data can be captured and stored in an easy-to-read format. Our goal is to bring you to an accurate, low-cost, easy-to-use data logger that can be easily integrated into your work environment. In order to better understand your needs and provide you with better service. We welcome and appreciate your feedback. Thank you for choosing the BrainChild XH logger for your data logging needs.

### 1.1 Features

The XH logger has the following unique features.

- ❖ One click start/stop, pre-set start/stop
- ❖ USB Interface
- ❖ Logging of statistical data of temperature & humidity
- ❖ Logging of MKT temperature (refer to appendix)
- ❖ Offer°C & °F Temperature measurement
- ❖ LCD display
- ❖ Temperature and humidity Audit trail
- ❖ User configurable sampling interval
- ❖ User friendly PC Software (Data Logger Viewer)
- ❖ Long Battery Life (one year above)
- ❖ IP65 rating
- ❖ MKT. Mean kinetic temperature monitoring & recording

**MKT Temperature**

Mean kinetic temperature (MKT) is a simplified way of expressing the overall effect of temperature fluctuations during storage or transit of perishable goods. The MKT is widely used in the pharmaceutical industry.

The mean kinetic temperature can be expressed as:

$$T_K = \left( \frac{\frac{\Delta H}{R}}{-\ln \left( \frac{t_1 e^{\frac{-\Delta H}{R T_1}} + t_2 e^{\frac{-\Delta H}{R T_2}} + \dots + t_n e^{\frac{-\Delta H}{R T_n}}}{t_1 + t_2 + \dots + t_n} \right)} \right)$$

$T_K$ =Mean Kinetic Temperature,  
 $\Delta H$ =Activation Energy (in kJ mol<sup>-1</sup>)  
 R=Gas Constant (in J mol<sup>-1</sup> K<sup>-1</sup>)  
 $T_1, T_2, T_n$ =Temperature at each of the sample points  
 $t_1, t_2, t_n$ =time intervals at each of the sample points

When the temperature readings are taken at the same interval (i.e.,  $t_1, t_2 \dots t_n$ ), the above equation is reduced to:

$$T_K = \left( \frac{\frac{\Delta H}{R}}{-\ln \left( \frac{e^{\frac{-\Delta H}{R T_1}} + e^{\frac{-\Delta H}{R T_2}} + \dots + e^{\frac{-\Delta H}{R T_n}}}{n} \right)} \right)$$

Where,

n= Number of temperature sample points.

**1.2 Unpacking**

Upon receipt of the shipment, remove the data logger from the carton and inspect the unit for shipping damage. If any damage is found, contact your local representative immediately. Note the model number and serial number for future reference when corresponding with our service center. The serial number (S/N) is labelled on the box and the housing of the data logger. The package contents are as below.

- ❖ Data Logger x 1
- ❖ Mounting Plate and Fixed Sticker x 1
- ❖ Battery ER14250 (1/2AA 3.6V) x 1 (already installed in the data logger)
- ❖ Screws and Anchors x 2
- ❖ External Sensor Probe x1 ( for XH11)
- ❖ Quick User Guide x 1

### 1.3 Specification

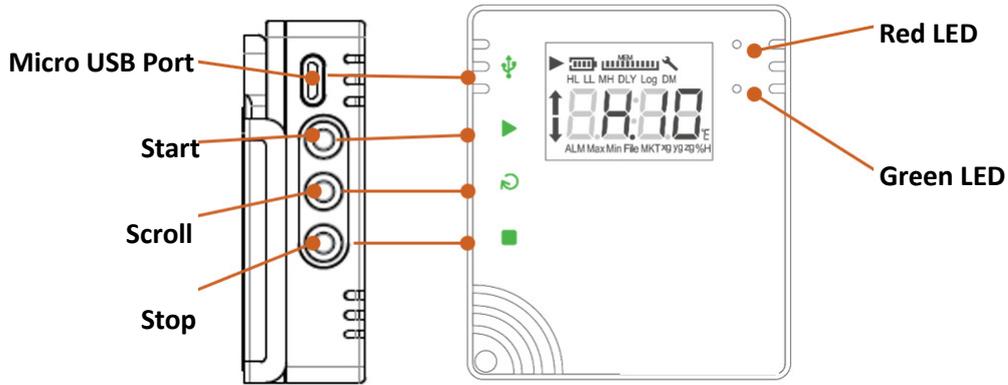
**XH10/ XH11**

Specification	Minimum	Typical	Maximum
<b>Power Supply</b>	<b>USB/Battery: 1year @1 min. interval</b>		
<b>USB supply voltage (@500mA)</b>	4.5 VDC	5 VDC	5.5 VDC
<b>Logging interval</b>	User configurable from 1 sec to 24 hrs.		
<b>Temperature display resolution</b>	0.1 °C/°F		
<b>Operating range</b>	Temperature:-10°C (14°F) ~60°C (122°F) Humidity:10% RH~90%RH		
<b>Accuracy</b>	Temperature:0°C ~ 50°C (±0.3°C), Others ±0.5°C Humidity:20%~80%@25°C(±3%RH), Others ±5%RH		
<b>Internal Memory</b>	Maximum can divide to100 files (press start and stop as one file), one file can contain maximum79,872 logs, it cankeep200,192logs in total. Please refer to section 1.12		
<b>IP Rating</b>	IP65		
<b>Dimensions</b>	65.1 x 70 x 23.25mm		
<b>Weight</b>	82.1 grams (Battery Included)		

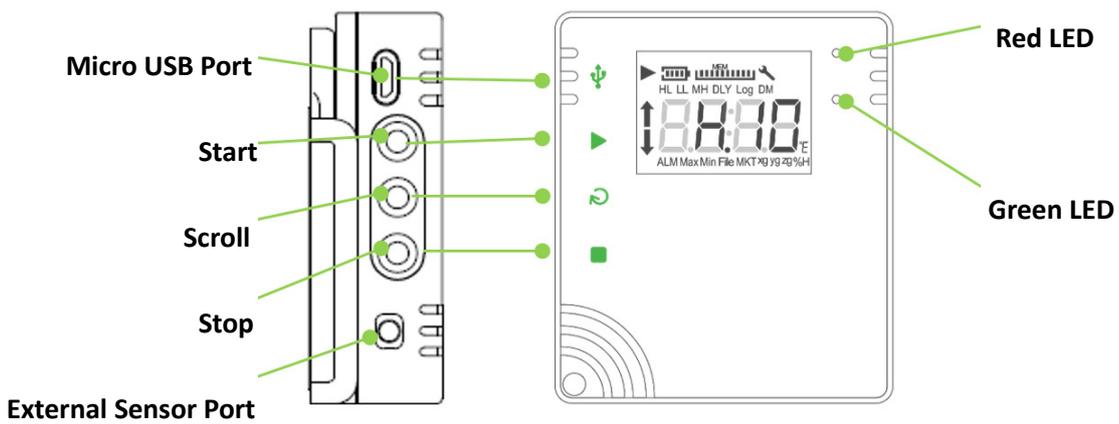
### 1.4 Product Overview

There are three keys: **START**, **SCROLL**, and **STOP** on the device and two LEDs on the upper right-hand corner. The top one is RED and GREEN is on the bottom. The below figures are listed the overview of the XH10 data logger.

#### XH10



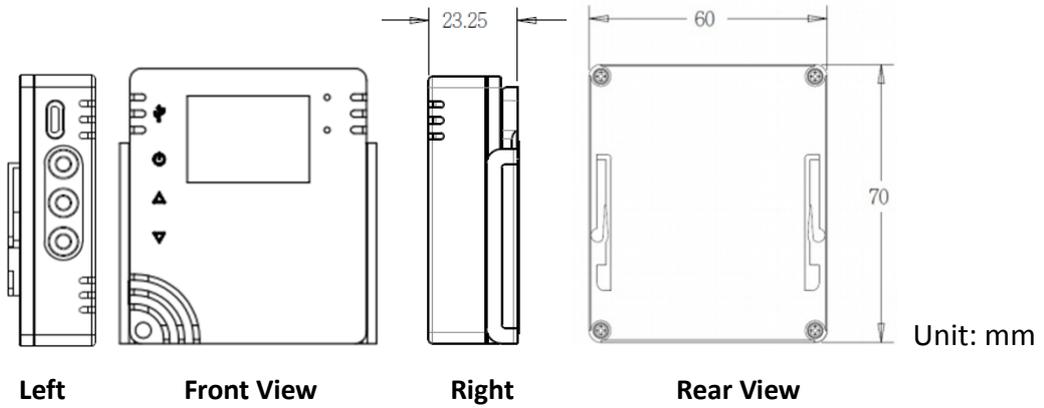
#### XH11



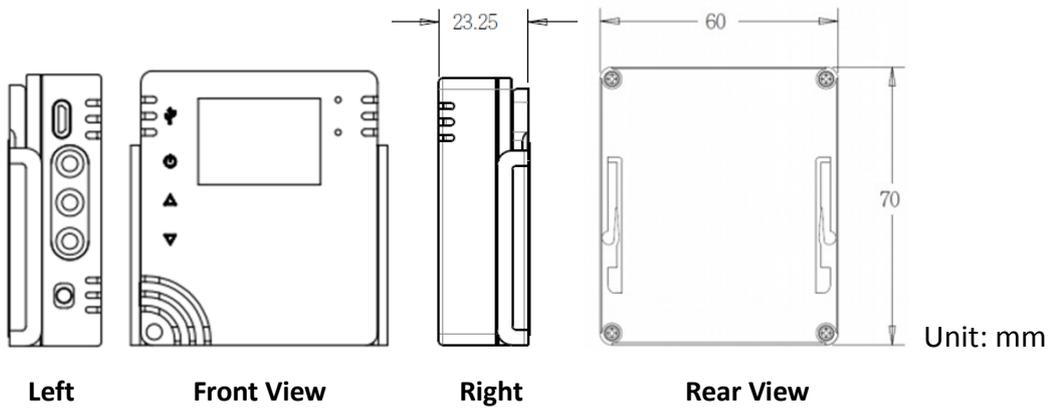
### 1.5 Appearance and Dimension

#### A. Without Mounting Plate

##### XH10

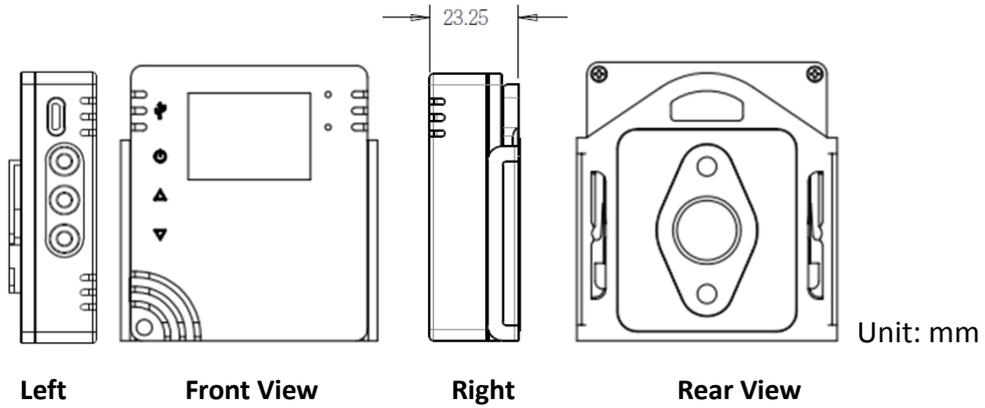


##### XH11

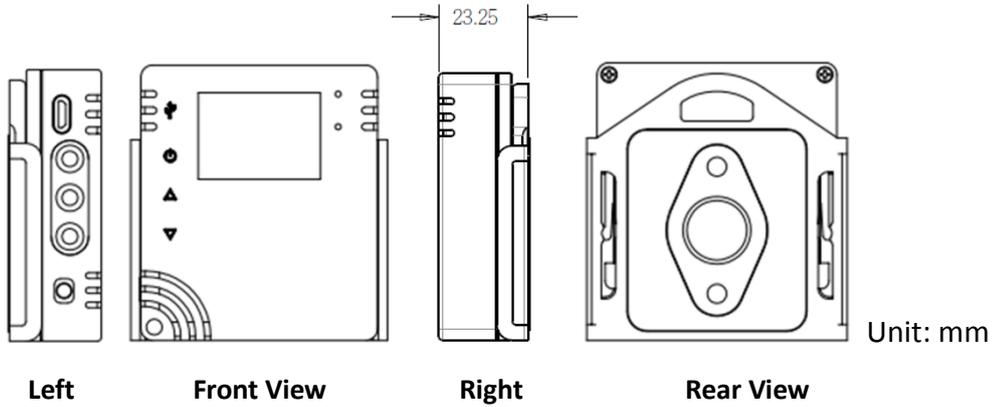


B. With Mounting Plate

**XH10**



**XH11**



**1.6 Ordering Code:**

A. Internal Sensor : XH10

B. ExternalSensor : XH11-□

└─ The length of the sensor's cord  
 1:1 M  
 2:2 M

## 1.7 Operation Modes

There are 4 types of operation modes available on this data logger. They are listed as below.

### ❖ USB mode

Once the data logger plugs to a laptop/PC the USB mode will start. This operation is mainly for a device to work with PC software. The USB mode could be coexisting with Logging as well as Monitoring mode. At this mode, the laptop/PC will generate a hard drive to show the device has been plugged into it. In the meantime, a PDF file will be generated from a few seconds to a few minutes based on the size of the records on the device. For example, it will take about 5 minutes to generate a PDF file that has 79872 records. The file name will follow the format of "XH+SeriesNumber\_Date Code". The PDF files generated by XH logger can be read or downloaded through the file manager of the computer and only the last PDF file is kept. Once removed, the PDF file cannot be regenerated. Please download the complete data through the Data Logger Viewer

### ❖ Logging mode

At logging mode, the green LED will be flashing every 4 seconds.

#### Start recording:

1. Immediate: After setting the XH logger through PC software in USB mode and unplugging the USB, it will start logging mode.
2. Button: Once the user press the  START key for more than three seconds at monitoring mode, the logging mode starts on and the LCD  will be flashing. The flashing logging icon indicates the device is waiting to be started to log, while  remaining on display means recording is in process and entering the logging mode. The measuring value is saved periodically in the flash memory at logging mode according to the preset logging-
3. Specified time: Set the specified time through the Data Logger viewer software first and then unplug the USB. The LCD logging icon will be flashing. Until the specified time is reached, it will automatically start the logging mode.

#### Stop recording:

1. None: After logging mode has started, logging mode can only be stopped from the Data Logger Viewer software.
2. Button: Once the user press  STOP key for more than 3 seconds at logging mode. It will stop recording, enter the monitoring mode and  will disappear.
3. Specified time: After logging mode starts, when the specified stop time is reached, it will automatically stop recording and  will disappear. The logging mode can only be stopped from the Data Logger Viewer software.

4. Recording Delay Timer DLY: Recording Delay means that the time to start recording will be delayed by the DLY setting, and the flashing ► indicates that the unit is waiting to start recording.

#### ❖ **Monitoring mode**

Once the user presses the ■ STOP key for more than three seconds while the device is at logging mode, the monitoring mode starts, stops recording and ► will disappear. Red LED will be flashing every 4 seconds and the LCD screen will still show the current measuring value of temperature and humidity, but it won't be saved in flash memory, with a sampling rate at 10 seconds. If a device's LCD is not at the home screen, i.e., (at alarm screen), the screen will stay up to 8 seconds, and then changes itself to the home screen to show the current measurements.

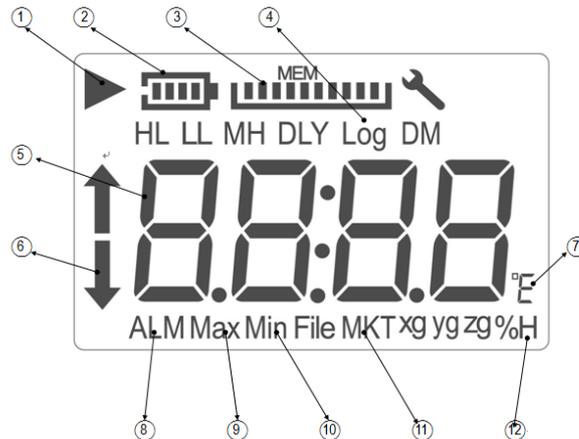
#### ❖ **Shutdown mode**

The shutdown mode can only be entered via a device is at monitoring mode. Once the user press ■ STOP key for more than three seconds while the device is in Monitoring mode, the device enters the shutdown mode. This will turn off LCD, LED, and all circuits except real-time clock (RTC) function at the device. If the device is operating under this mode, the battery life can exceed years. Since this is the most power-saving mode for the device, only the RTC circuit is running and all other features will be shut down. After replacing the battery and restarting the power supply, the device must be connected to the computer. After the Data Logger Viewer updates the date and time, the user can use the logging function. The user can press any key to bring the device back to monitoring mode. If the unit does not respond, perform a system restart.

#### ❖ **System restart**

If somehow, a device can't respond to a user, the user can press START, SCROLL and STOP three keys for more than 1 second simultaneously and then release, the system will restart. If you start it too fast and the restart fails, the screen will stop updating and you need to restart the system again.

## 1.8 LCD Display



1. The symbol indicates that the unit is recording. Flashing indicates a delayed start or the recording function will start when the timer matches the configuration settings. When the logging is complete, it disappears and the wrench tool symbol indicates that an error has occurred.
2. Battery capacity displays as a scale
3. Remaining memory capacity maximum 200,192 records, each grid represents 200,192 records displayed in proportion
4. Log Interval
5. Real-time temperature or humidity value
6. When temperature or humidity value is in alarm condition (HL or LL)
7. Temperature unit °C/°F
8. When temperature or humidity value is in alarm condition
9. Maximum temperature or humidity value
10. Minimum temperature or humidity value
11. MKT stands for Mean Kinetic Temperature
12. Relative Humidity

The LCD display is for read only operation. The display will show model number as well as firmware version for up to 2 seconds respectively after a reset operation. The XH logger firmware release version will be a three-digit formatted numerical display as "A.B.C". The below are the abbreviations of the symbols on the LCD display.

1. HL: High Alarm Limit set by PC software.
2. LL: Low Alarm Limit set by PC software.
3. M D: Month and Date
4. H M: Hour and Minutes
5. DLY: Delay timer before start logging, if any. Shown in H:M setup from PC.
6. Log: means logging interval measured in "H:M". If the logging interval is than or equal to 1

minute, then “H:M” will be shown. If the logging interval is less than 1 minute, then “H:M” won’t be seen and it displays total seconds instead.

7. ALM: Indicate the accumulative alarm duration. It will be displayed in HH:MM (99:59) format. If the duration is more than 99:59, HH: HH will be shown instead. A user can use PC software to know further alarm duration accuracy in seconds or alarm information when HH: HH is reached.
8. ↑ : this means there is an alarm over HL.  
↓ : this means there is an alarm below LL.
9. MAX and MIN show the current logging highest and lowest values on this device; it covers both temperature and humidity.
10. File: specifies the file number of the current file stored in the flash memory. The total log space available in the system is 200,192 logs, which can be used for up to 100 log files. The size of each file (up to 79,872 records) depends on the user's record.
11. MKT is the mean kinetic temperature via an MKT formula.
12. %H the display unit for humidity.
13. °E can be set to °C or °F via PC software.

## 1.9 Scrolling Sequence

The LCD display will cycle thru the following value from item 1 to item 23. The user can set the scrolling display or the most used item as the “Home” display via PC software. Once the user has not touch LCD function for eight seconds, the display will jump to the “Home” display.

1. Temperature (°C or °F)
2. Humidity (%RH)
3. Temperature & Humidity
4. ALM HL Temperature time (99:59, HH:MM format)
5. ALM LL Temperature time (99:59, HH:MM format)
6. ALM HL Humidity time (99:59, HH:MM format)
7. ALM LL Humidity time (99:59, HH:MM format)
8. MAX Temperature (°C or °F)
9. MAX Humidity (%RH)
10. MAXMIN Avg. Temperature (°C or °F)
11. MAXMIN Avg. Humidity (%RH)
12. MIN Temperature (°C or °F)
13. MIN Humidity (%RH)
14. File Number
15. MKT Temperature (°C or °F)
16. HL Temperature (°C or °F)
17. HL Humidity (%RH)

18. LL Temperature (°C or °F)
19. LL Humidity (%RH)
20. DLY time (Delay start recording time)
21. Log Time (Logging Interval) measured in H:M or seconds
22. M:D (Month: Date for real-time clock)
23. H:M (Hour: Minute for real-time clock)

The parameters of items 8, 9, 12, and 23 are set by PC. The rest of the items are dynamically generated by the device.

### 1.10 LED Display

- Logging mode: When the device is logging both temperature and humidity, the Green LED will be flashing every 4 seconds. If there is any error occurs, then Red LED will be flashing every 2 seconds. In this case, the GREEN LED will not flash, since there is a warning.
- Monitoring mode & USB mode: The Red LED will be flashing every 4 seconds.
- At shutdown mode, LED will not flash.

Flashing red LED indicates one of the following cases:

1. The device is working at the monitoring mode.
2. Either a High/ Low Limit (HL, LL) is exceeded; it will trigger an alarm.
3. When there is no battery bar icon at the LCD display, it indicates that the battery level is extremely low.
4. The usage of entire device memory has reached 95% of its total capability.
5. There is an error on the device.

### 1.11 LCD MEM Display

It shows memory consuming percentage on the current file with respect to the maximum available capacity of a logging file (i.e., 200192 readings). Each bar in the MEM icon represents 10% (20019 records) of the maximum capacity of a file. For example, if there are only 4 bars on the MEM display, it means the total memory consumption of the current file is approximately 60%. When the memory is full and cannot continue to record, the user can clear all memory data through the Data Logger Viewer software.

### 1.12 Memory Management

The total memory of the system is 200,192 records, which can be used for up to 100 file records. The size of each file (up to 79,872 records) depends on the user's record. The management of memory space is as follows.

File mode: single mode

Record up to 79,872 records in a single file and stop recording

Once 100 files are used up for logging, the system will automatically stop recording. Before stop logging, the system will issue an alarm when the available files are less than 5. Please download and back up the file records from the Data Logger Viewer software, and then execute the file deletion.

When the total number of records reaches 200,192, the system will automatically stop recording. (Before stop logging, the system will issue an alarm when the available memory space is less than 5% ), the recording cannot be started because the memory is full. Please download and back up the file records from the Data Logger Viewer software, and then execute the file clearing.

### 1.13 Memory Clear

Before the user updates the configuration to the device through the Data Logger Viewer software, if the memory space is insufficient for logging, the system will prompt the user that all the existing file data will be deleted in the device before prompting to start recording. The clear data function from Data Logger Viewer software can clear all files and records.

### 1.14 Error Code

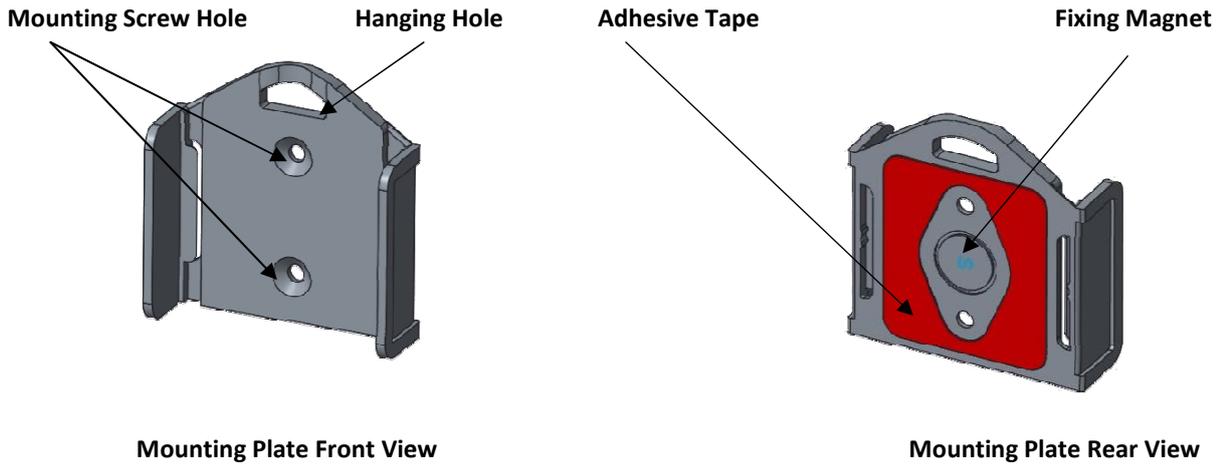
LCD display will flash the current measured value and error code alternately at an every two-second interval. If there is an error  symbol will appear on LCD screen. If there is no error, the  will not appear on the LCD display

Error code	Reason
Er06	Sensor failure, please contact our local representative
Er07	Device time stamp not available. Please use Data Logger Viewer to update parameters
Er08	The no of file exceeds 100 and the memory is full, please clear all file data
Er09	Execute start recording without setting parameters. When XH logger as brand new one, please link with Data Logger Viewer to setup required parameter, referring to section 2.3.4.

### 1.15 Installation of Mounting Plate

The mounting plate can be mounted by one of the below options.

- ❖ Hang it on a screw with the hanging hole
- ❖ Screw it by using the mounting screws
- ❖ Fix it with any metal base by using the magnetic base on the mounting plate
- ❖ Fix it by peeling the adhesive sticker on the mounting plate.



Mounting Plate Front View

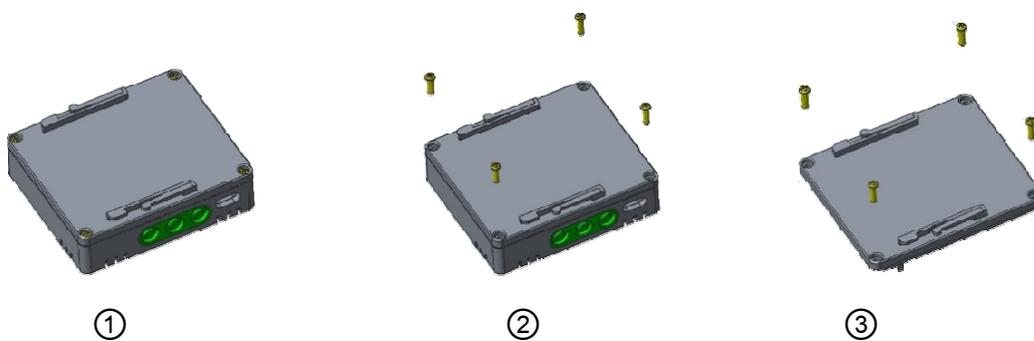
Mounting Plate Rear View

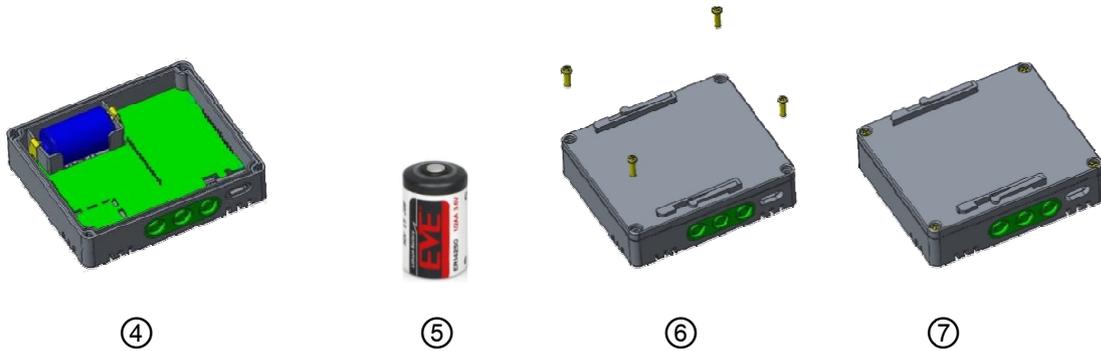
### 1.16 Battery Replacement

The XH Logger has two types of power supply, USB powered and battery powered. When battery powered being used, the battery life cycle varies depending on how it is used, maximum up to 1+ year battery life. When USB-power used, the battery will not consume power during operation. When the battery power shown low, please replace a new one sooner. If the battery is completely drained (failed to wake it up by pressing any button on the device), it is recommended to plug to USB port of PC during the process of the battery replacement and also linked with Data Logger Viewer software during replacement.

After new battery replacement, press 3 keys <Start><Scroll> and <Stop> more than 1 sec simultaneously and release. For device version older than V1.1.0.33, after battery replacement, should long press and hold the 3 keys more than 5 sec to reboot the system to avoid auto locking.

If the battery is not inserted or replacement needed then insert the battery provided, following the instructions below.





①~③ Loosen and remove 4 screws

④ Open and remove the back panel

⑤ Replace the disposable lithium battery (ER14250 1/2AA 3.6V)

⑥~⑦ Install the back cover and tighten the screws.

Be aware of the direction when covering the back panel, and be aware of the waterproof rubber ring, if it is properly located. Tighten the screws on the back panel but not excessively, the locking torque: 1Kg-cm (not more than 1.5Kg-cm).

Note:

1. If the XH logger couldn't wake up by pressing any button, should plug with the USB with the Data logger Viewer software during the battery replacement.
2. If the XH logger couldn't wake up and it didn't plug the USB during the battery replacement, after user changed the battery, the XH logger will booting but it will shut down. In this situation, user can press the Start, Scroll and Stop keys at the same time and connect the XH logger to the Data Logger Viewer software to synchronize the RTC.

## 2 Operation

### 2.1 Getting Started

- \* Unpack the data logger and insert the battery, then install it where you want it to operate. The user can use the magnets, double-sided tape or screws of the wall mounting plate to secure the data logger.
- \* Use a Micro USB cable to connect both ends to the device and computer.

### 2.2 Configuration & Data Analysis

Download the Data Logger Viewer software from the manufacturer’s website. The PC Software can be used for configuration of the data logger, viewing and analysing of historical data.

#### 2.2.1 System Requirements

Item	Minimum Requirements
System	IBM PC compatible computer with Intel Pentium IV or above
Operating System	Windows 7 Service Pack 1 or above
Memory	1 GB
Hard Disk	50 GB Free Space on the hard disk
Communication Ports	Micro USB Port

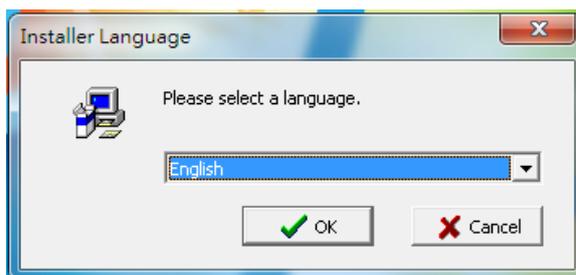
**NOTE:** If Windows 7 operating system is used then service pack1 is necessary for the software to be installed properly, otherwise error messages such as "Block Issues" will appear.

#### 2.2.2 Installation

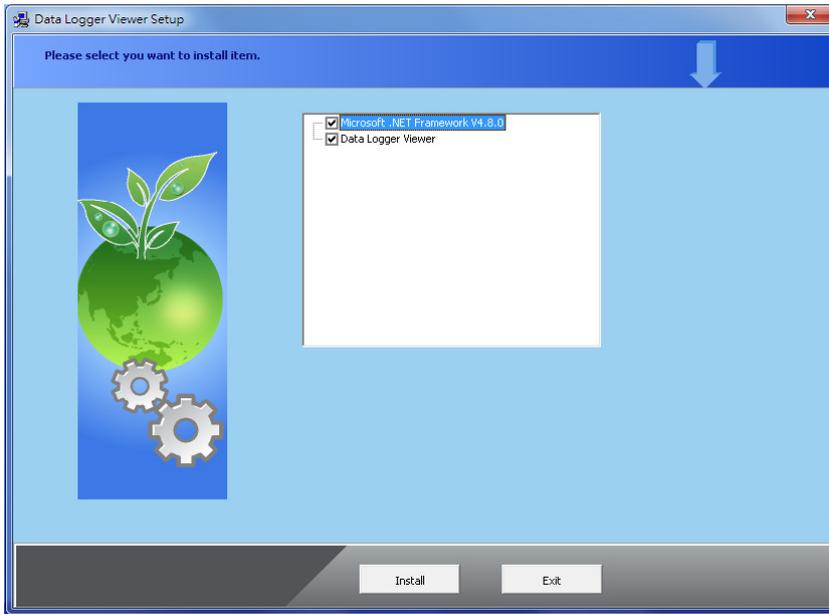
1. Download the Data Logger Viewer software form the manufacturer’s website.
2. Double click " Setup" wizard



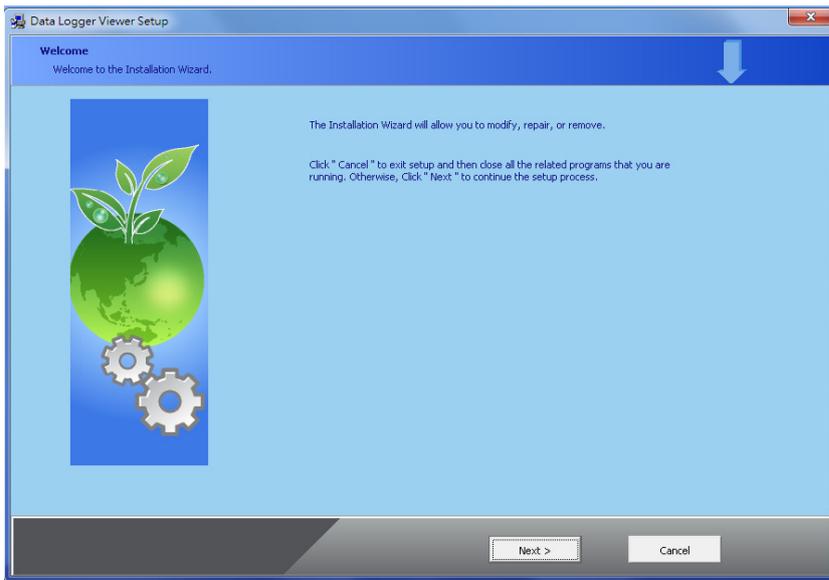
3. Select the language for installation, " English" then click "OK"



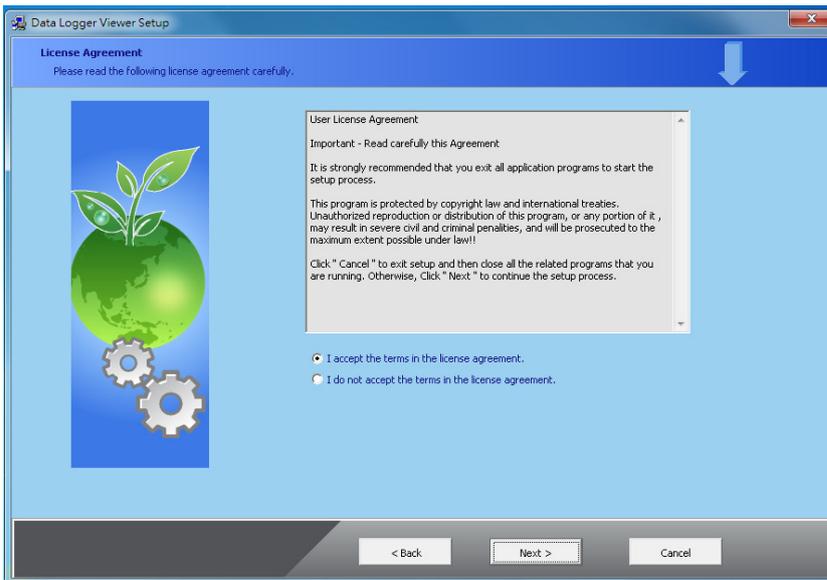
4. Click "Install".



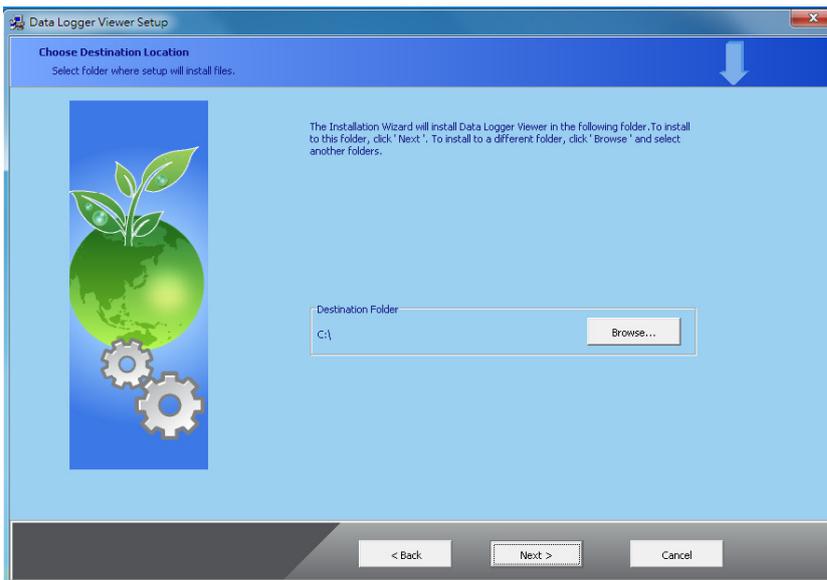
5. Click "Next".



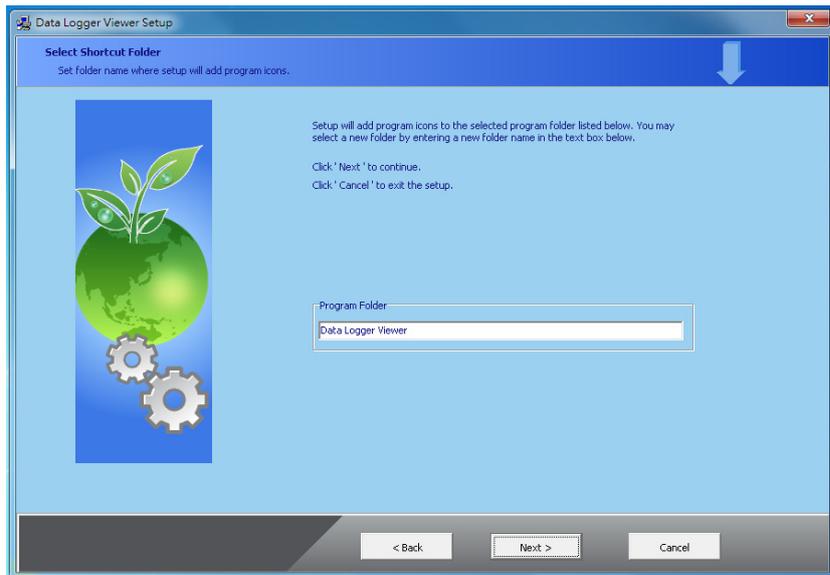
6. Select accept and click "Next"



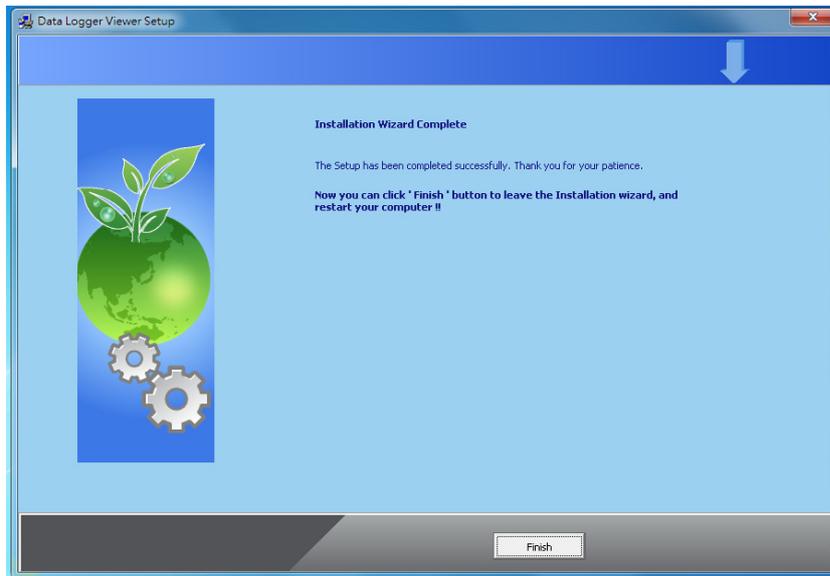
7. Browse to the location you want to install and click "Next"



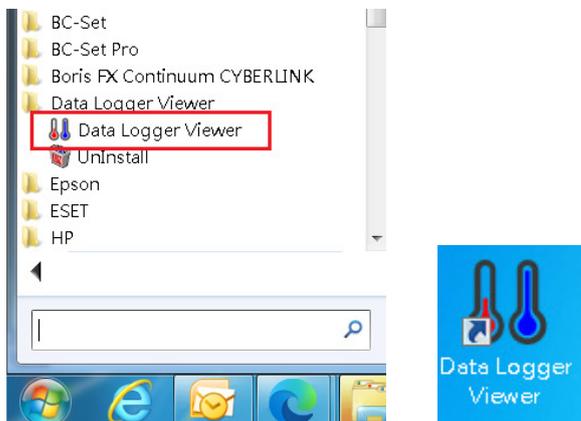
8. Click "Next"



9. Click "Finish"



10. After installation is successful, the shortcut for Data Logger viewer software will be created on the desktop. Or search the program from the start menu.



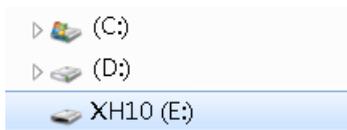
### 2.2.3 Data Logger Configuration Settings

#### Execute Application Program

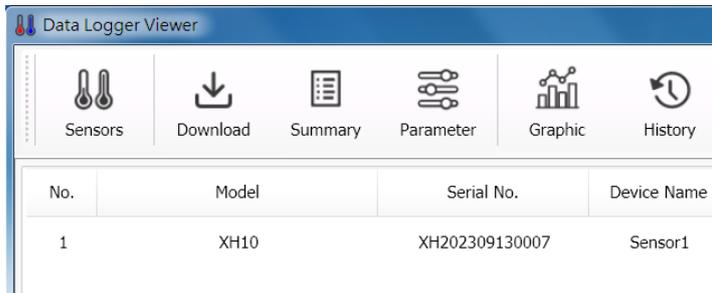
1. Ensure the battery is properly installed.
2. Insert the data logger into an available USB port on your PC.
3. Double click on the Data Logger Viewer icon  on Windows™ desktop to download the XH logger configuration and data to the software for viewing historical data, data analysis, graphic display, configuration settings and other functions.

### 2.3 Data Logger Analysis

1. Insert the data logger into an available USB port on your PC. Double click on the Data Logger Viewer icon

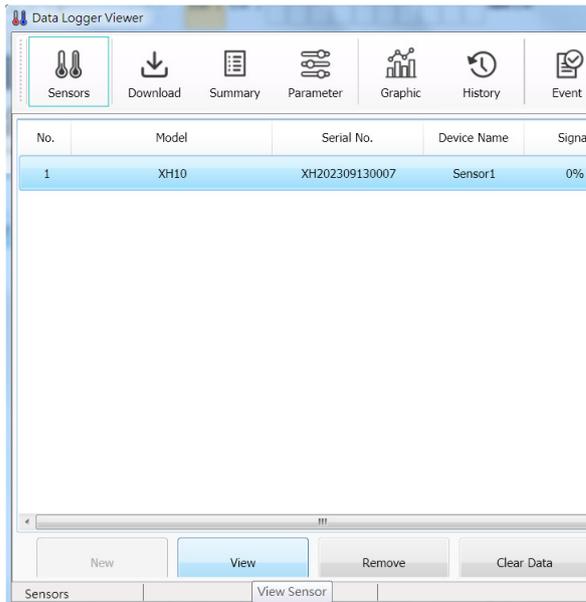


2. After opening the program, the software will add devices, provide download and analysis of recorded data, view previously saved data in graphical format, and check the current status of the attached data logger (including serial number).

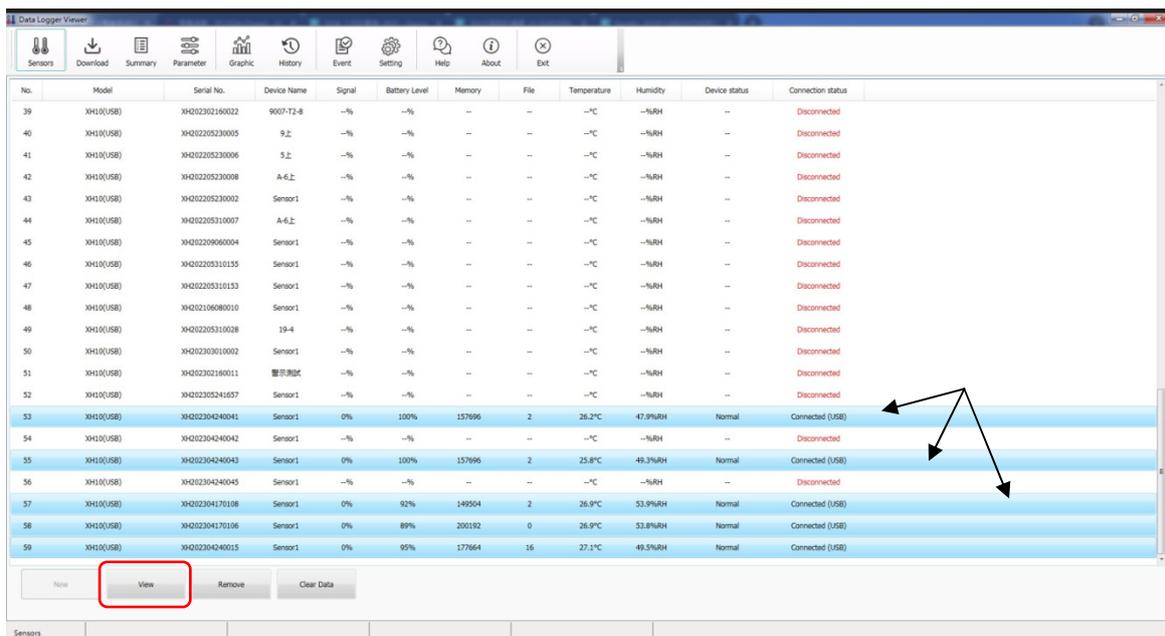


#### 2.3.1 Sensors

1. Click the sensors icon  to display the device list and related connection information. Double click the device or click "view" to enter the summary.



2. Select the device and click on "Remove", the device information of the sensor will be deleted.
3. Select the device and click on "Clear", all files and records in XH logger will be cleared.



**Notice!**

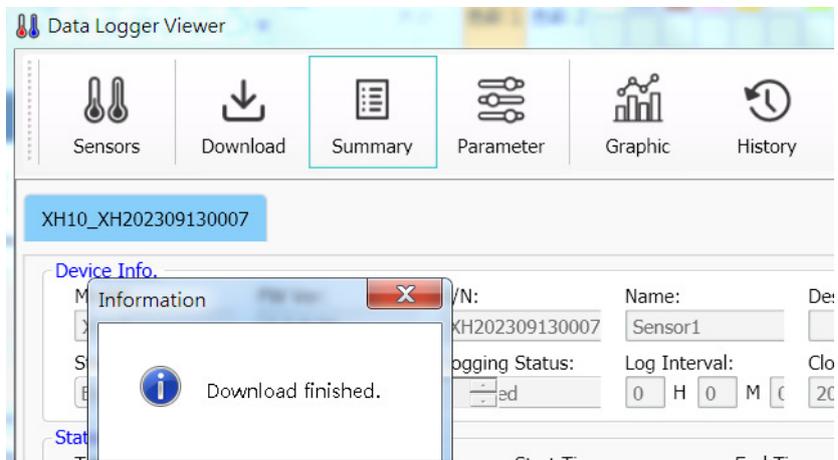
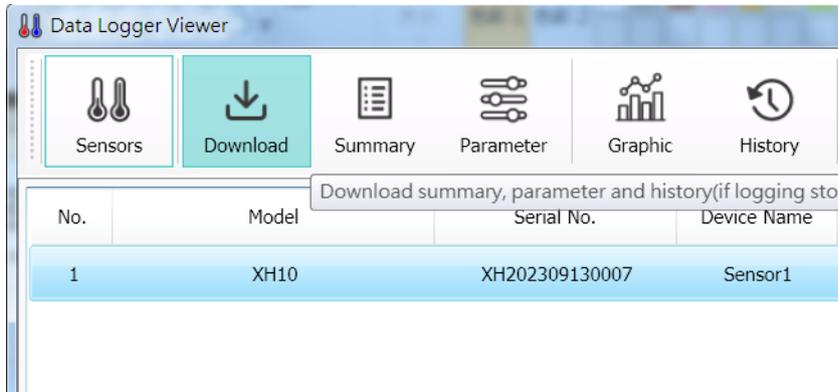
When there are multiple XH loggers connected to Data Logger Viewer, press and hold the key "Ctrl" and click on the device you want to configure or view the data, then click on "View" tab on the bottom.

**2.3.2 Download**



1. Select the device and click on the  icon to download the data from data logger to PC. The software will prompt the user for the confirmation to download. The user can choose Yes to

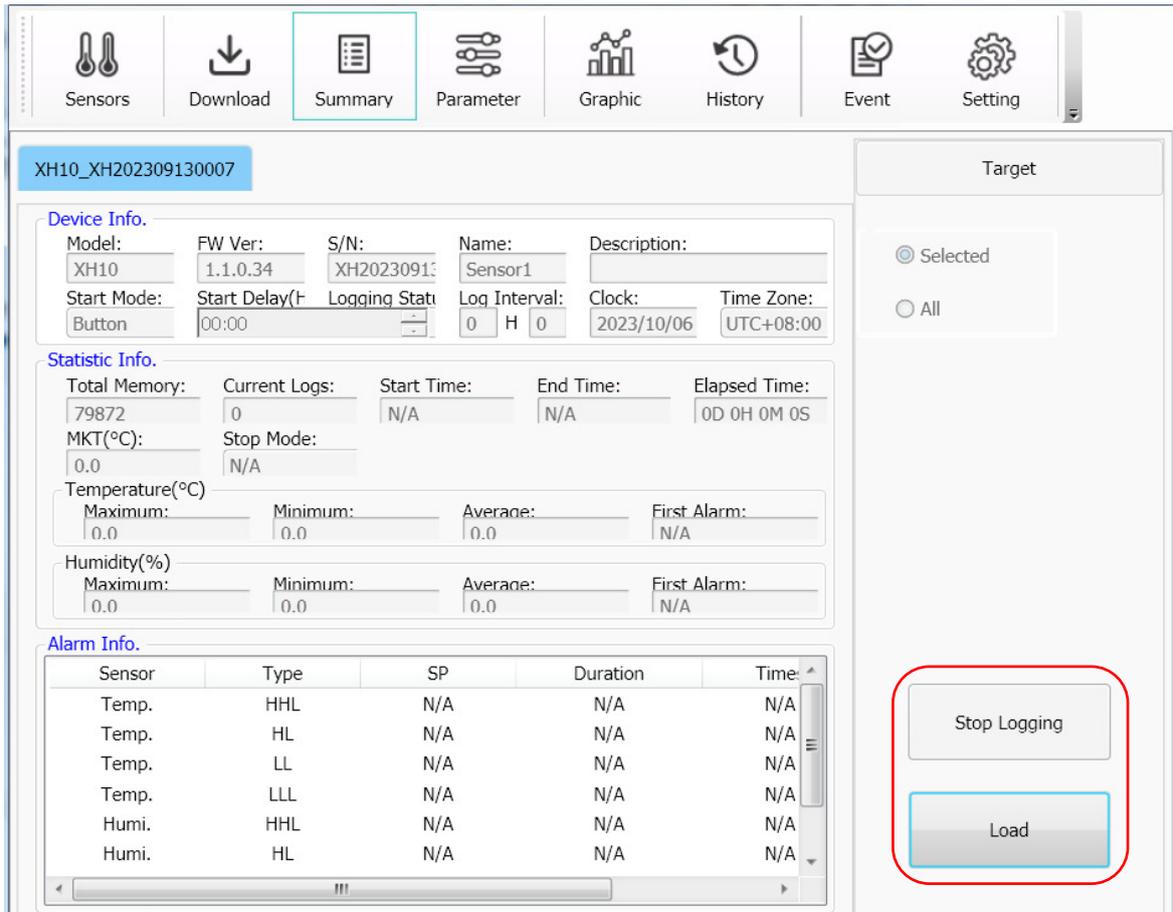
download the data and No to cancel the operation. Once the data downloaded from data logger, the software informs the user with successful message.



**2.3.3 Summary**

Here users can view device statistics, configuration information such as temperature, humidity and alarms. The fields from top to bottom are

1. Device Info includes Model, Firmware Version, S/N, Name, Description, Start Mode, Start Delay, Logging Status, Log Interval, Clock and Time Zone.
2. Statistic Info includes Total memory, Current logs, Start time, End time, Elapsed time, M KT, Stop mode Temperature and Humidity Maximum value, Minimum value, Average value and First alarm.
3. Alarm Info includes information about alarms.
4. On the right side, Stop Logging is used to stop the current recording mode of the XH logger, and Load can be used to reload the configuration.



### 2.3.4 Parameter

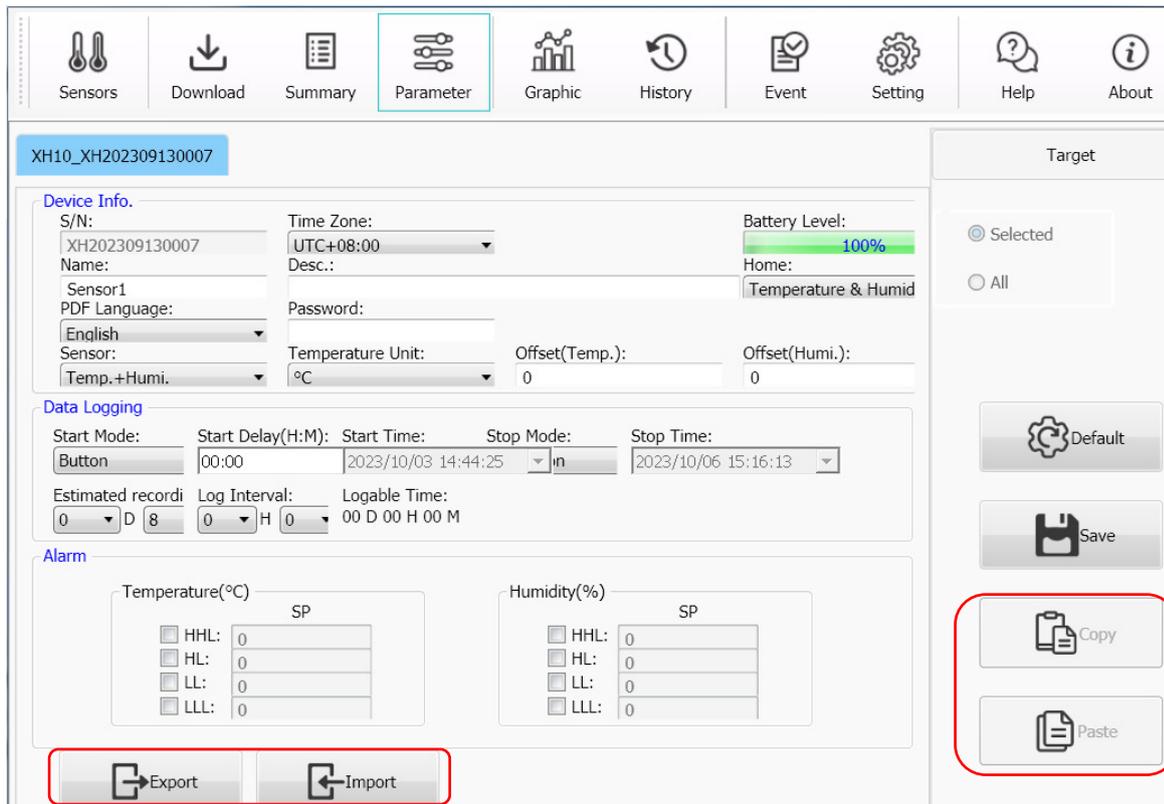
The device parameters can be configured in the parameter tab. Users can set the parameters of the device not only data logging, alarms and also save the input or output data with other configuration information.

The fields from top to bottom are

1. Device content - S/N, Time zone (UTC), Battery life, Battery level (%), Name, Desc., PDF language, Password (download data or PDF use), Sensor, Temperature unit (Celsius or Fahrenheit), Offset (Temp.) and Offset (Humi.).
2. Data Logging - Start Mode (Immediate, Button, Specified Time), Start Delay (00:00), Start-time, Stop mode (None, Button, Specified time), End time, Estimated recording time (D/H/M), Recording interval (H/M/S), Log-able time, File mode (Single), Circular logging (No).
3. Alarm temperature and humidity set point and delay time.

In the lower bottom, Export and Import icons can back up the existing parameters or read the parameters of the past backup.

Click on the factory value on the right to restore the factory default parameter value and save the parameter.



- Copy/ Paste Tab– Support shortcut for fast copying parameters, and pasting to the XH logger connected with Data Logger Viewers. Select all to paste all parameters of several XH loggers.
- Export/ Import Tab– Export all settings and import/paste settings to other XH logger

### 2.3.5 Graphic

Users can view temperature and humidity records at different times here.

"Trend" Graphic displays recorded data

"Values" displays all recorded data, including date, time, temperature, humidity

"Summary" includes the configuration of the logging file and alarm log etc.

Trend area:

"X-axis" expands graph by timeline or item"

"Sensor" displays temperature, humidity or temperature and humidity

Lower area:

"Export data" to export file data in PDF or Excel format to a computer

"Filter" to view the temperature and humidity data of a specific period and set the data interval  
1~100 points to expand the graph"



Click "Jpeg" on the upper right corner to export trend.

### 2.3.6 History

Click on the data you want to view in the file list, then click View Data or double-click the Data ID field to view the historical data. If you click on Delete Data, it will go to the chart to browse the historical data, and if you click Delete Data, the file will be deleted. Select the data file to be viewed and select the From and To period of the data on the right side and click view data to view the data.

Data Logger Viewer

Sensors Download Summary Parameter Graphic **History** Event Setting Help About Exit

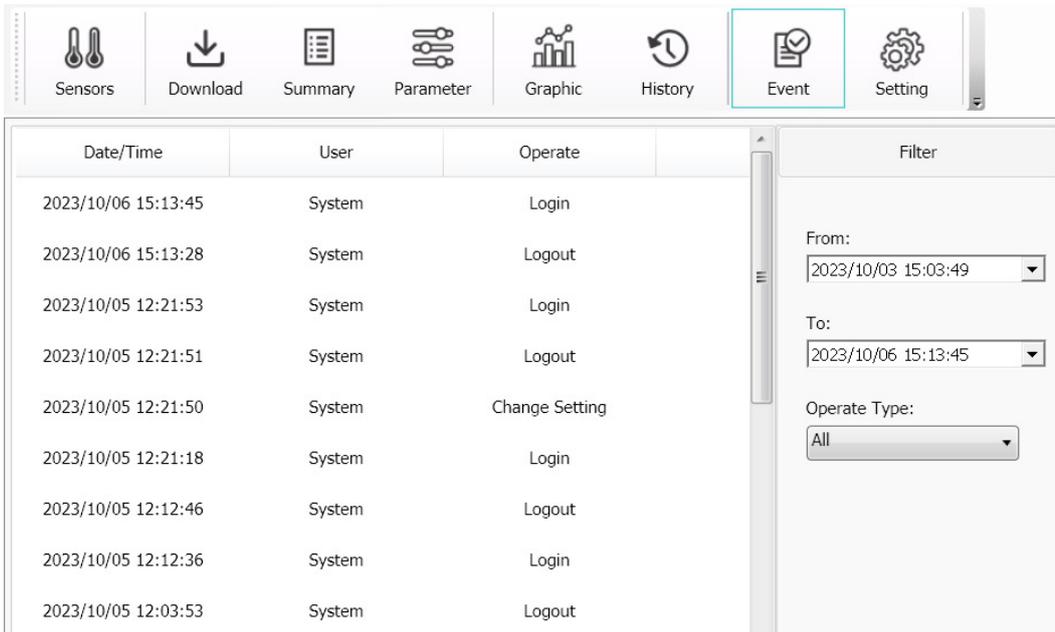
Data ID	Start Time	Device Name	Total Memory	Current Readings	Max. Temp.	Min. Temp.	Max. Humi.	Min. Humi.	Status	Filter
XH202201010020_20220719132039	2022/07/14 16:00:00	Sensor20	79872	37801	158.4°F	-22.4°F	92.2%	0.0%	Alarm	From: 2022/06/23 08:00:00 To: 2022/07/14 16:00:00  View Data Delete Data
XH202201010020_20220719132038	2022/07/13 13:20:00	Sensor20	79872	1541	30.7°C	27.8°C	57.1%	42.0%	Alarm	
XH202201010020_20220719132036	2022/07/11 11:35:00	Sensor20	79872	2976	31.5°C	27.6°C	59.4%	41.5%	Alarm	
XH202201010020_20220719132032	2022/07/08 09:50:00	Sensor20	79872	79872	34.4°C	26.7°C	64.6%	41.3%	Alarm	
XH202205310013_20220627094740	2022/06/23 08:00:00	Sensor1	79872	5867	9.4°C	5.1°C	78.8%	54.3%	Normal	

Double click to view data!

History 5 items

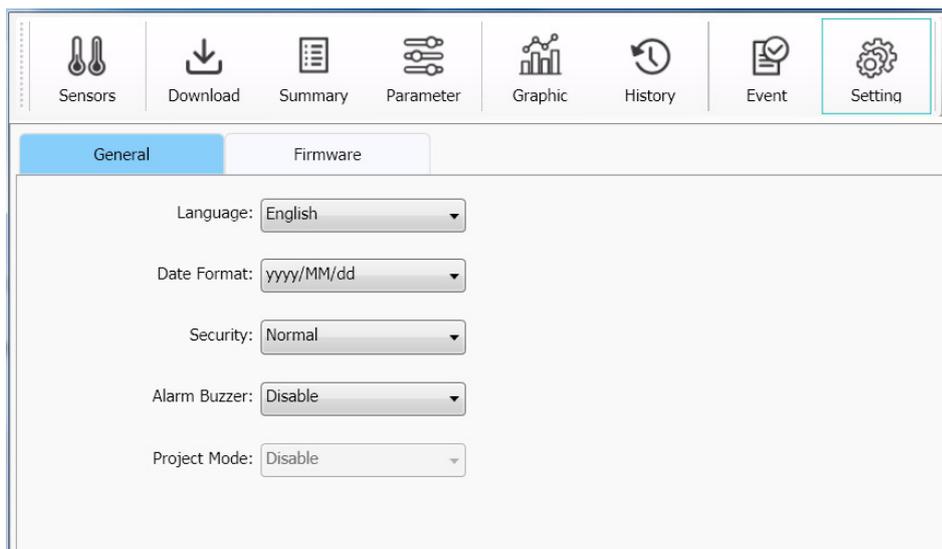
### 2.3.7 Event

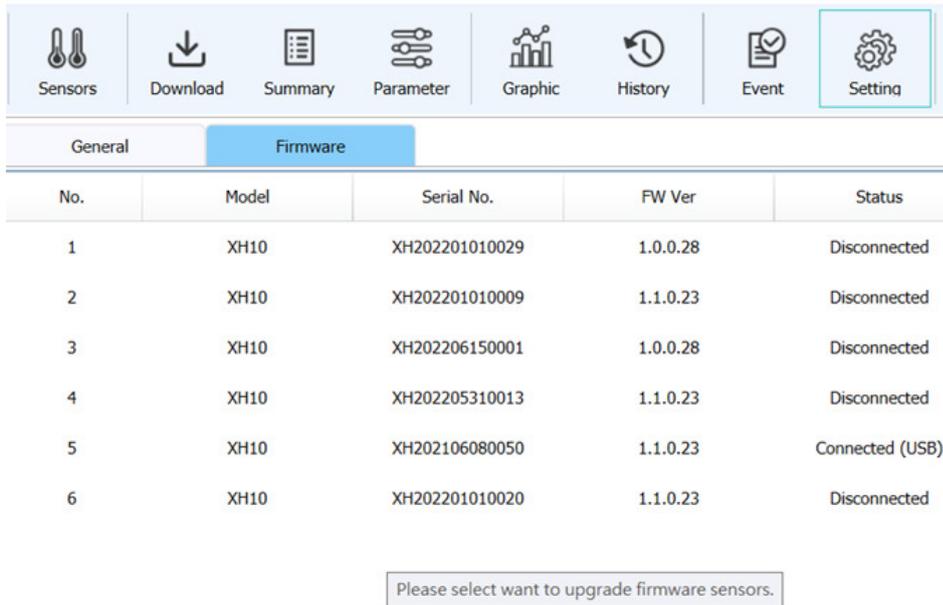
Click on Event to view a log of event, such as login and logout times. The historical events can be filtered using the <From> and <To> period, Operation type and User selection on the right side.



### 2.3.8 System Configuration

1. Click the icon Setting on the top. The General tab allows the user to configure the system language, date format, security mode and the alarm buzzer.
2. The date format can be selected from yyyy/MM/dd, yy/MM/dd, dd/MM/yyyy, dd/MM/yy, yyyy-MM-dd, yy-MM-dd, dd-MM-yyyy, dd-MM-yy.





No.	Model	Serial No.	FW Ver	Status
1	XH10	XH202201010029	1.0.0.28	Disconnected
2	XH10	XH202201010009	1.1.0.23	Disconnected
3	XH10	XH202206150001	1.0.0.28	Disconnected
4	XH10	XH202205310013	1.1.0.23	Disconnected
5	XH10	XH202106080050	1.1.0.23	Connected (USB)
6	XH10	XH202201010020	1.1.0.23	Disconnected

Please select want to upgrade firmware sensors.

### 2.3.8.1 Firmware Update

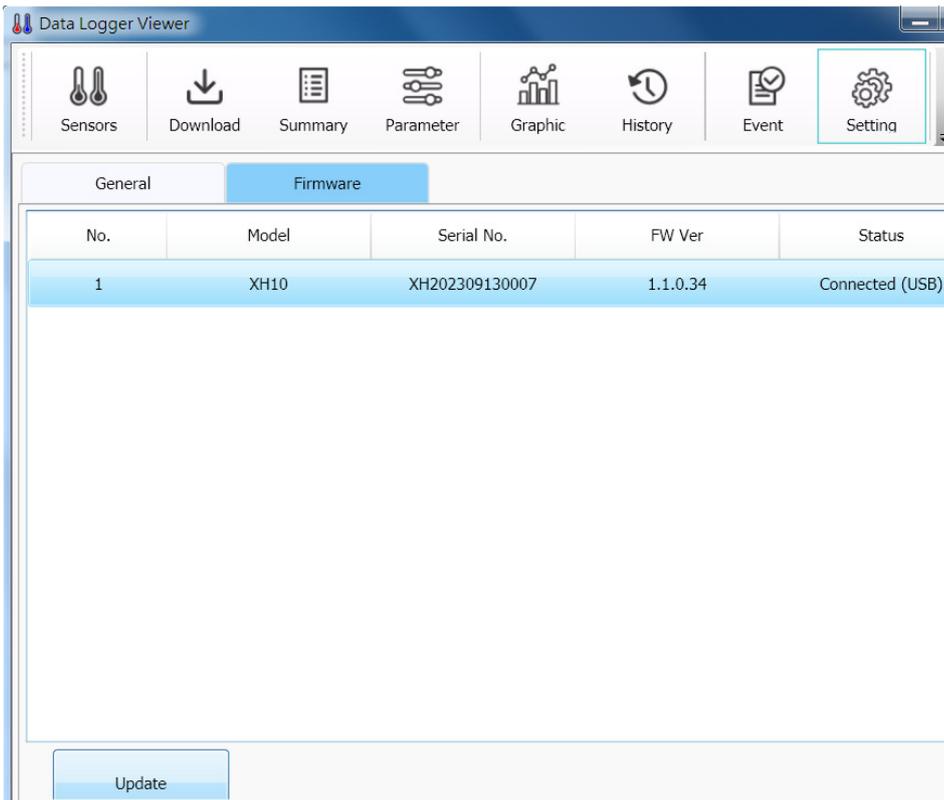
In the device list, you can browse the firmware version number of the device, select the device and click Update to update the firmware.

Please download the latest firmware from BrainChild's official website.

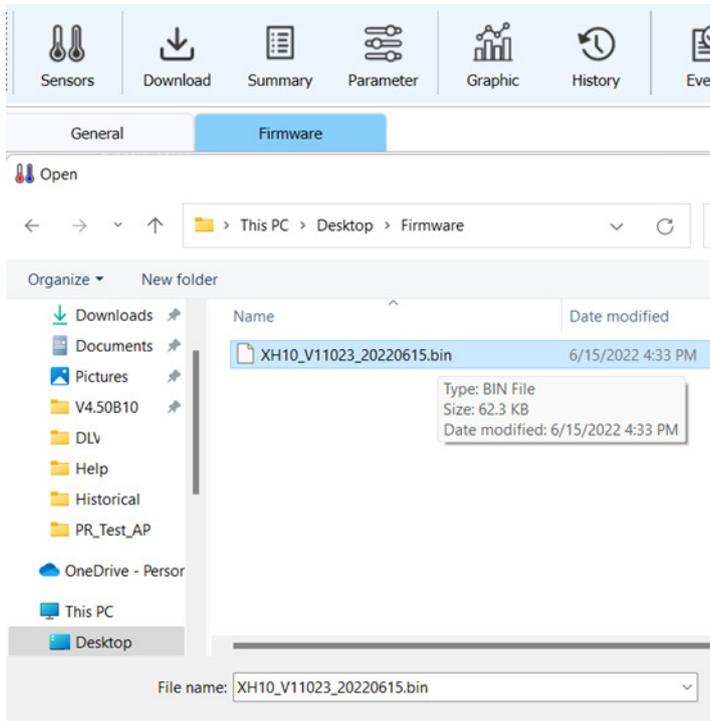
Firmware Update procedure as follows:

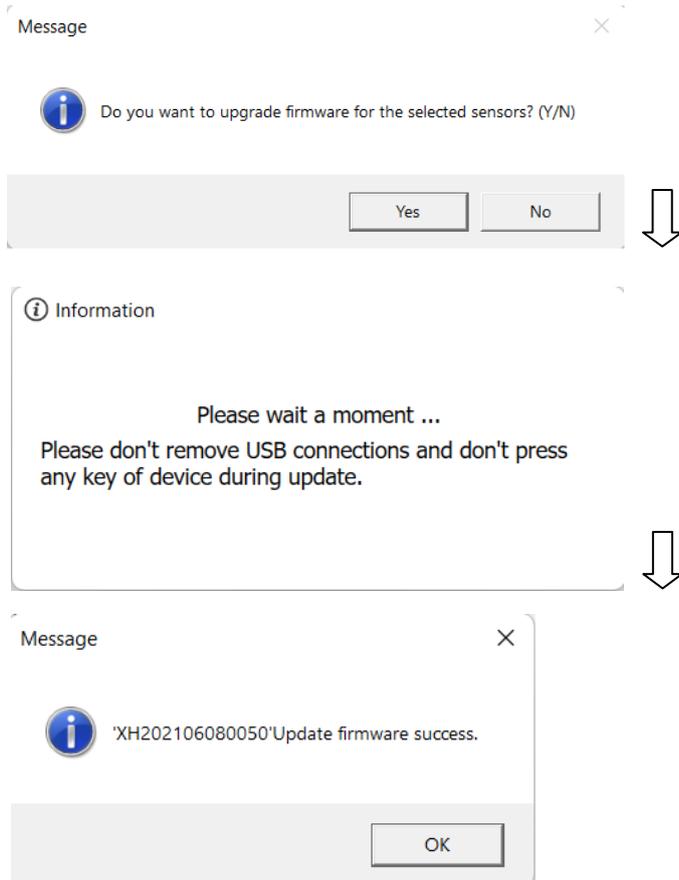
Connect the XH logger device to the Data Logger Viewer ->System-> Firmware ->

Click the device to be updated ->Click the Update button ->Select the firmware file \*.bin -> complete the firmware update.



Notice! Do not disconnect the device or press any button until the firmware update is complete.





### 2.3.9 Help

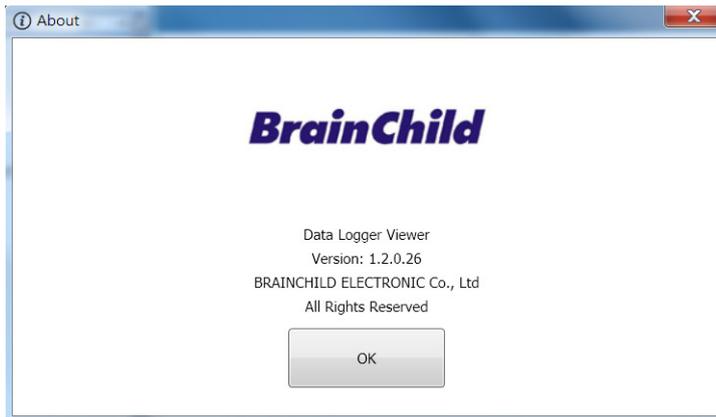


The  icon will open a PDF file of the Data Logger User Manual and it will appear for the user to browse.

### 2.3.10 About



The  icon will display the software version.



### 2.3.11 Exit



The  will close the application.

### 3 Product FAQ

Q1: When the XH Logger turns on, starting recording mode, “ER09” is displayed on the screen.

A1: When Error code <ER09> shown on the startup screen, it refers to the parameter setting not been completed yet. Please connect with Data Logger Viewer and go to the parameter page checking whether the interval has been set to 0. Reset the interval to start running normally.

Q2: Can the XH11 external sensor cable be replaced?

A2: Yes, the external sensor cable can be replaced, sharing usage with the same module.

Q3: When the XH Logger connects to USB-port, the device is failed to appear on the screen of Data Logger Viewer.

A3: Once the data logger connects to a laptop/PC via USB cable, check whether a new data folder pops up on the screen or not. If not shown, please confirm if the USB cable used for data transfer. Replace one

Q4: What should I do, when press these three keys at the once, the screen stopping and freezing.

A4: When needed to restart the XH Logger, long press and hold the 3 keys simultaneously to restart immediately. Before the device version older than V1.1.0.33, long press and hold the 3 keys simultaneously to reboot. However, if short press the 3 keys and release it, the screen will freeze and no response even if connecting to the Data Logger Viewer software. In this case, reboot it again by correct operation. Long press the 3 keys at the same time and hold until the system rebooting. Version newer than V1.1.0.33, the problem no longer occur when press the 3 keys at the same time, the system immediately rebooting.

Q5: Will the XH Logger stop recording after connecting to USB port?

A5: No, however, the parameter of DVL cannot be modified at recording mode. Data can be modified only after recording stopped.

Q6: Why did the XH logger fail to generate PDF files after correctly connected to PC via micro USB port?

A6: Please check whether the XH Logger has already set in recording mode.

Q7: Can the XH11 external sensor cable be immersed in liquid?

A7: No, the XH11 external sensor cable is designed for measuring the ambient temperature/ humidity, cannot measure the liquid temperature. If soaking in liquid causes to malfunction, the wire must be replaced.

Q8: How to upgrade the firmware of the XH Logger?

A8: Please connect and link with Data Logger Viewer software via micro USB port. Please refer to the section, Firmware Update, of this manual.

Q9: After the new battery changed, what cause the screen/ LED turning on, then immediately shutting down and failed to reboot again?

A9: If completely no power, the internal power applied to RTC (Real Time Clock) is completely drained, unable to wake up by pressing any key. For reasons of data protection and system time correctness, the system will be forced to lock automatically, meaning turning on but shutting down immediately. Highly recommended, before the battery changed, it should plug to the USB and also with Data Logger Viewer software to synchronize the RTC which the system will automatically calibrate the time. After new battery replacement, pressing 3 keys **<Start>** **<Scroll>** and **<Stop>** more than 1 second simultaneously and release to reboot the system without locking problems occurred again.

## 4 Product Announcement

### 4.1 Batteries

- ❖ Most of our data loggers contain a lithium battery. Do not cut the battery open, incinerate, or recharge.
- ❖ Do not heat lithium batteries unless the battery is specifically rated for higher temperatures.
- ❖ Improper use of batteries may cause destruction of the batteries, injuries due to current surges, fire or leakage of chemicals.
- ❖ Do not short circuit the batteries or it may cause explosion due to current surges.
- ❖ Do not use any damaged batteries.
- ❖ Battery ER14250 must be used for replacement. Rechargeable type battery can't be used. Usage of rechargeable type battery may damage the device.

### 4.2 Disposal

Users are responsible for the proper disposal of the waste generated during their work. Improper waste disposal may severely endanger public health and/or the environment. Dispose the battery in accordance with local regulations.

### 4.3 Storage

**Humidity measuring elements in data loggers can become contaminated by exposure to various compounds. These products should not be near volatile chemicals such as solvents and other organic compounds. Do not place the product near material or compound that emits a strong odor.**

### 4.4 FCC Warning

#### **Federal Communication Commission Statement**

This device complies with FCC Rules Part 15. Operation is subject to the following two conditions:

- ❖ This device may not cause harmful interference.
- ❖ This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to Part 15 of the Federal Communications Commission (FCC) rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment causes harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by doing one or more of the following measures:

- ❖ Reorient or relocate the receiving antenna.
- ❖ Increase the separation between the equipment and receiver.
- ❖ Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- ❖ Consult the dealer or an experienced radio technician for help.

**FCC Caution**

Any changes or modifications not expressly approved by the party responsible for compliance could void the user 's authority to operate the equipment.

The antenna(s) used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

**4.5 Radiation Exposure Statement**

This equipment must be installed and operated in accordance with provided instructions and the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.