ΩE OMEGA™

User's Guide

OM-HL-SP Series
Single Channel Temperature and Humidity USB Data Logger, Pen Size

OMEGA™

Table of Contents

Section 1 - Introduction

OM-HL-SP temperature and humidity data loggers with USB interface are specifically designed for refrigerator and cold-chain transportation as well as container transport applications. The OM-HL-SP series adopts friendly USB interface, plus included mounting bracket and the screws. The OM-HL-SP 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.

Section - 1.2 Features

- Waterproof and dustproof standard IP67, resisting moisture and dust.

- Temperature and humidity limit can be set. LED lights when the setting value being exceeded.

- Lower consumption design, 1/2AA 3.6V Li battery, works for 12 months and easy to replace battery. (Logging Interval: 600s).

- Transfer logging data to PC through software and can be saved as different types to ensure the existence.

- The sensor offers, high accuracy.

- Size(L x H x D): 125 L x 28 W x 22 Dia mm.

Section - 1.3 Application

- Cold Chain Transportation.

- Containers.

- Data Center.

NOTE:

There are no user serviceable parts inside your unit. Attempting to repair or service your unit may void your warranty.

Section - 1.4 USB Data Logger Model

Model	Temperature Range	Humidity Range	Temperature Accuracy	Humidity Accuracy	Capacity of Records
OM-HL-SP-T	-30~70°C	(none)	±1.0°C	(none)	43,000
OM-HL-SP-TH		0~100%RH	±0.5°C	±5%RH	

Section 1.5 - USB Temperature Data Logger Appearance(OM-HL-SP-T)
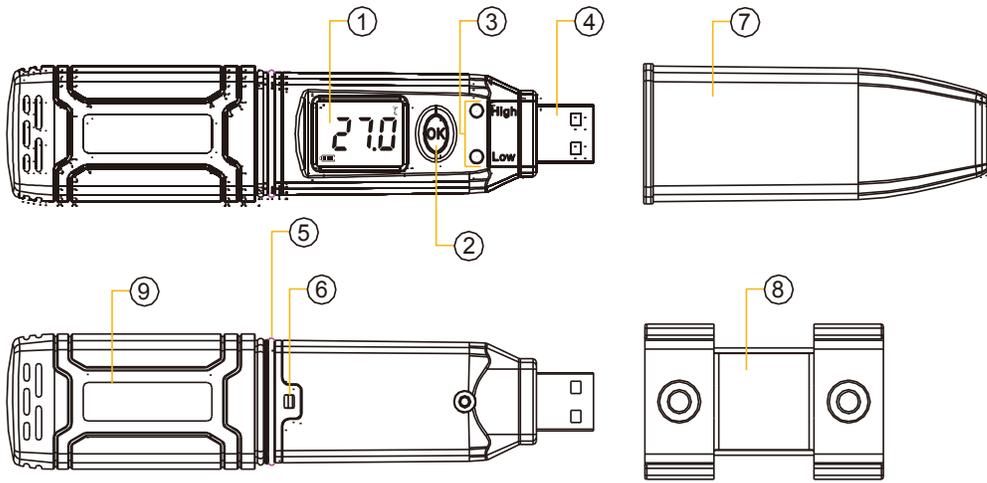
1.	LCD Screen	5.	Waterproof Ring
2.	Button	6.	Battery Installation/Replacement
3.	LED Alarming Lights When the		Button
	Temperature Value Exceeds the	7.	Waterproof Cover
	Setting Limits.	8.	Mounting bracket
4.	USB Connection Port	9.	Brand Label

Section 1.6 - USB Temperature Data Logger Screen (OM-HL-SP-T)
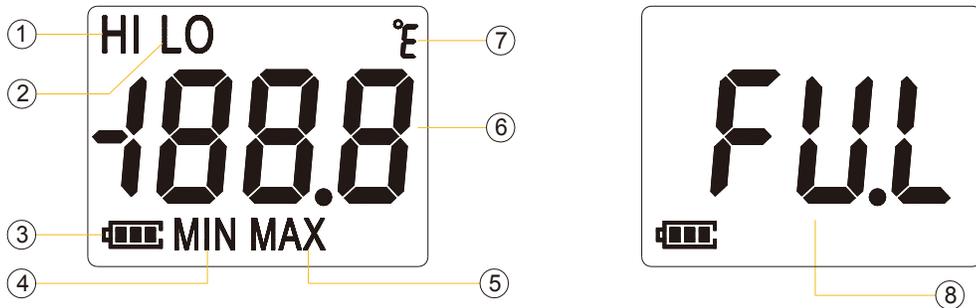
1.	Display the high limit	5.	Display the maximum value
2.	Display the low limit		in records
3.	Battery power indication	6.	Temperature Value
4.	Display the minimum	7.	Temperature Unit (°C or °F)
	value in Records	8.	Full mark When the number of
			records reached 43,000

Section 1.7 - USB Temperature and Humidity Data Logger Appearance (OM-HL-SP-TH)

1. LCD Screen
2. Button
3. LED Alarming Lights When the Temperature Value Exceeds the Setting Limits.
4. USB Connection Port
5. Waterproof Ring
6. Battery Installation/Replacement Button
7. Waterproof Cover
8. Mounting bracket
9. Brand Label

Section 1.8 - USB Temperature and Humidity Data Logger Screen (OM-HL-SP-TH)

1. Display the high limit
2. Display the low limit
3. Display the Maximum Value in Records
4. Display the Minimum Value in Records
5. Battery power indication.
6. Units symbol display (℃ or ℉ and %RH)
7. Value
8. Full mark When the number of records reached 43,000

Section 1.9 - Button Functions

1. To turn on/off; Press "OK Button" for 5 seconds.

2. To Enter Logging or Exit Logging Mode, Press "OK Button" for 3 Secs.

3. Press "OK" Button for 1/2 sec to check the High Limit, Low Limit, Max and Min value from the current logging file.

Section 2 - Installation and Instruction

This section will explain how to install the hardware and software, how to use the software to upload, read, configure and synchronize the settings, how to turn on/off the logger & enter/exist the logging mode, and how to delete and download the logging data.

Section 2.1 - Hardware Installation

2.1.1 - Install Battery

1. Open battery cover.
2. Install Battery.
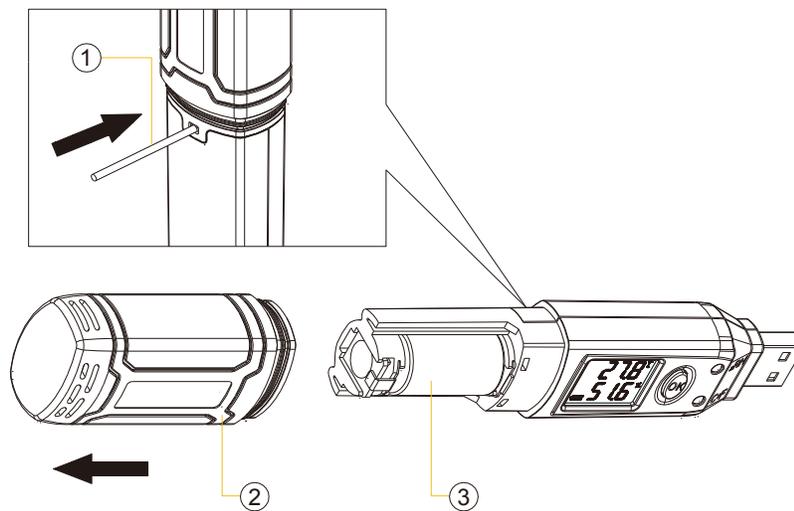
2.1.2 - Mount USB Data Logger

1. Use Screw to Mount the bracket onto the wall.
2. Install the data logger.
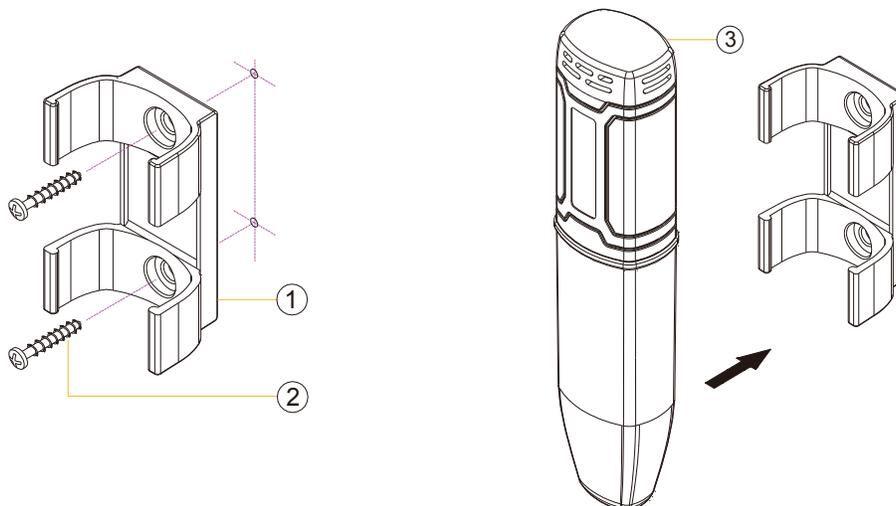
Section 2.2 - Software Installation

2.2.1 - Requirement for Computer Hardware

1. OS: Windows XP/Vista/7/8/10 (32/64bit).
2. CPU: 1.6 GHz.
3. Physical Memory: 512 MB.
4. Hard-drive Space: 4 GB.
5. USB Port: At Least 1.

2.2.2 - Install Driver & Software

Note: "If need to install Driver separately, please install 64 bit driver for Windows 64 bit computer & 32 bit driver for Windows 32 bit computer" .

1. Install LogPro Software and Driver together(Default Path: C:\OM-HL Logger).
2. Installation Steps: When enter the software, click the 'Install LogPro and Driver' (as below Pic), and then click the 'Next '(5 times), click the 'Install', click the 'Finish'. When entering the LogPro software interface, the installation driver software window will pop up. Click 'Install', and the success of installation will be displayed.

LogPro installation page
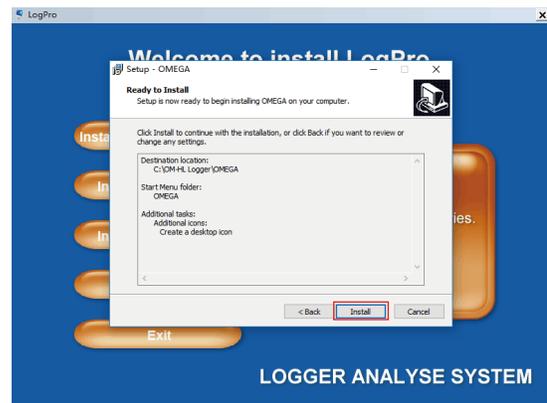
Default installation folder
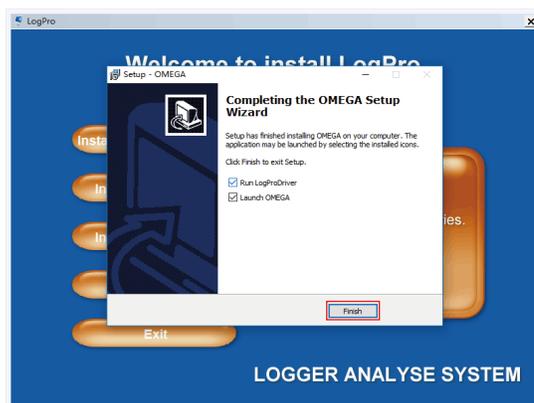
The successful installed
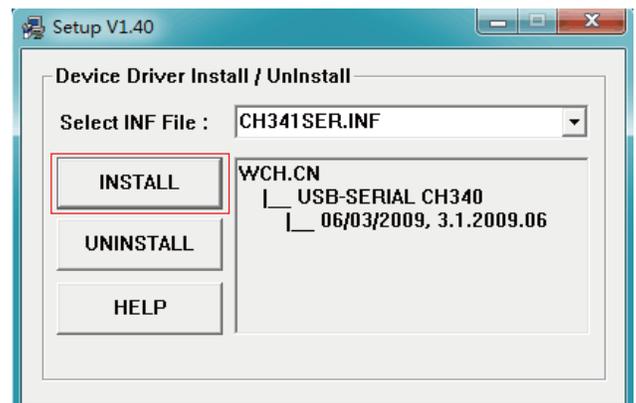
Install driver

Section 2.3 - How to Read and Configure the Logger

2.3.1 - Read and Configure the Logger's Settings

1. Turn on and Insert the data logger to the computer[1].

2. Start LogPro software on the PC.

3. From the toolbar select Connect[2].

4. Load & Read the logger's current settings.

5. Configure the new settings.

6. Sync the settings & time. (The PC time will be synchronized to the logger as well.).

7. From the toolbar select disconnect.

8. Unplug the logger from the computer, and then the logger is in Standby mode[3].
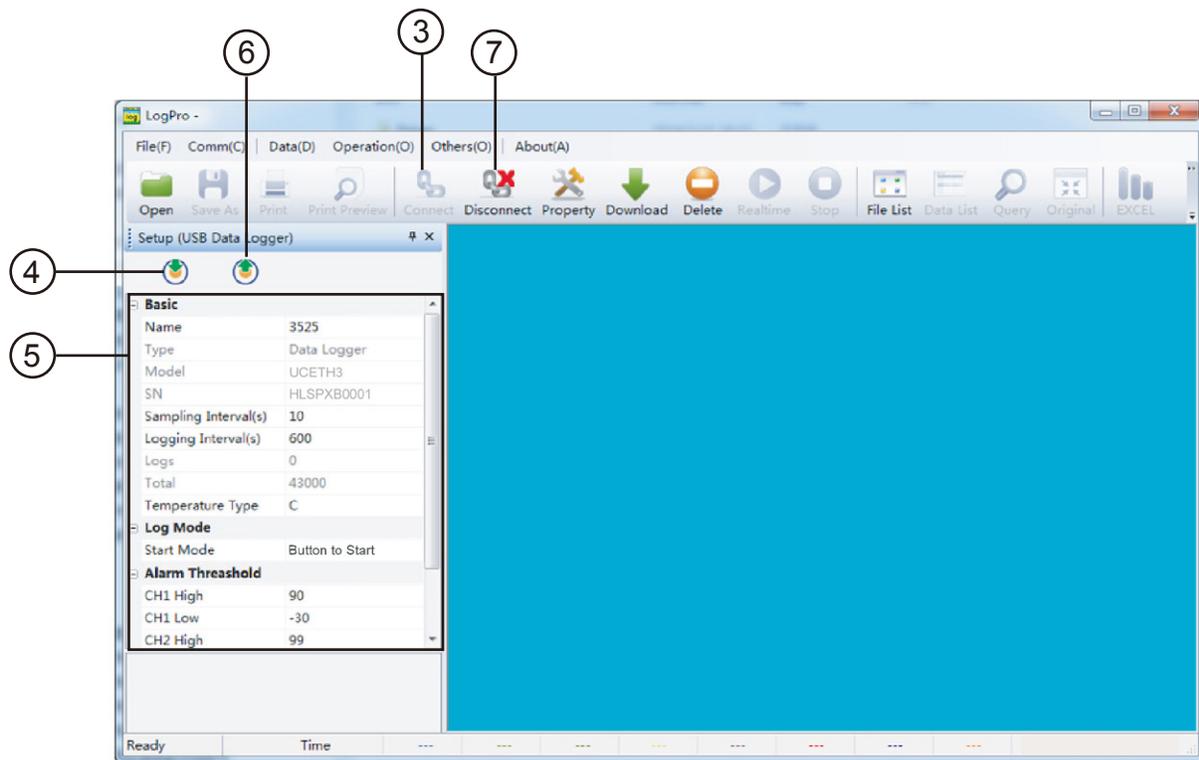

[1] The windows operating system cannot handle USB devices being unplugged and plugged back too fast. When unplugging the logger, wait for about 5 seconds before plugging it in again. If you unplug and plug back a device too quickly, the computer may stop recognizing any USB devices on that port. If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

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

[3] The logger has three modes: 1.LOG: In the mode, the logger samples and records data timely. 2.Standby: In the mode, the logger stops to sample and record, and the LCD display is ON showing the real time data. 3.OFF: In the mode, the logger stops to sample and record, and the LCD display is off. Be aware that in OFF mode, Logger self cannot communicate with LogPro Software.

2.3.2 - Setting Parameters Description

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.

⊟ **Basic**	
Name	3525
Type	Data Logger
Model	UCETH3
SN	HLSPXB0001
Sampling Interval(Secs)	10
Logging Interval(Secs)	600
Logs	0
Total	43000
Temperature Type	C
⊟ **Log Mode**	
Start Mode	Button to Start
⊟ **Alarm Threashold**	
CH1 High	90
CH1 Low	-30
CH2 High	99
CH2 Low	0
⊟ **Offset**	
CH1	0.0
CH2	0.0

| Setting Parameter	Text	Description
Name	Letters or numbers	Name of the logger
SN	10 characters	Must be the same as the one in the label of logger
Sampling Interval (secs)	Number from 1 to 240	Sampling frequency in LCD screen
Logging Interval (secs)	Number from 2 to 86400	Logging frequency
Logs	Number from 0 to 43000	The count of records in the memory
Total	Number 43000	The total capacity of the logger's storage
Start Mode	Button to Start	Under Standby mode, push the Button for 3 secs to enter Logging mode to record
	Delay to Start	Wait Delay time then enter the logging mode to record,e.g 10 means 10 secs
	Timing to Start	Enter the logging mode to record when timing is reached: HHMMSS e.g 170000 means 17:00:00
Delay Time	Delay mode: For example, if want to delay 5min to recorde pls fill in 300, and fill in 1800 for delay 30min, because the units is seconds.	Input a Delay
Set Start Time	Timing mode: Pls fill in the 6 numbers, refers to hour , minute, seconds , such as if you want to start working at 9:30, fill in 093000, and fill in 181000 for 18:10.	Timing Time
High & low limit	Ch1: temperature Ch2: Humidity	When the value over the limit, the LED lights will start flashing (Top one for HL, Bottom one for LL).
Offset	Calibration mode: For example, pls fill in 1.5 if the displayed temperature is higher than the actual temperature of 1.5 ℃; fill in -1.5 if the displayed temperature is lower than the actual temperature of 1.5 ℃. If you need to adjust the humidity, do the same, the number field is -100~100.	Input positive number to decrease the value. Input negative number to increase the value.

Section 2.4 - Turn On/Off Logger & Start/Stop Logging Under Button to Start Mode

Turn On the Logger - Push OK Button for 5 Secs then LCD display is on.
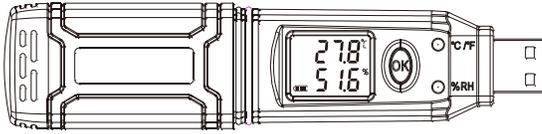
Start Logging - When the Logger is on and on stand-by(LCD display temperature humidity units at this time), press "OK" for 3 seconds, LCD display time, loosen "OK" button when the LCD display "3.0", now the logger start logging and storing data(LCD without temperature humidity units).
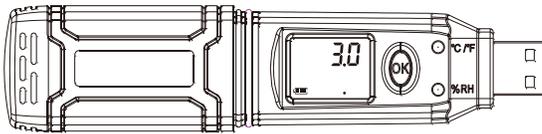
Press "OK" for 3 seconds，LCD display "3.0"   Now the logger start logging and storing data
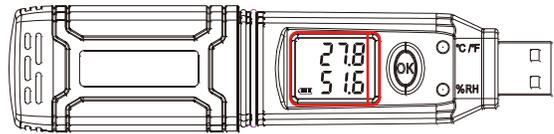
Stop Logging - When the logger is on logging, press "OK" for 3 seconds, LCD display time, loosen "OK" button when the LCD display "3.0", and then the logger will be on stand-by.
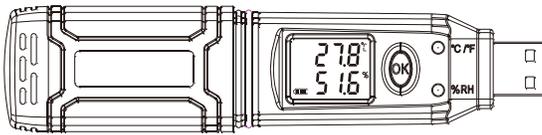
Logger will be on stand-by.

Turn Off the Logger - Push the OK Button for 5 Secs then LCD display is off.
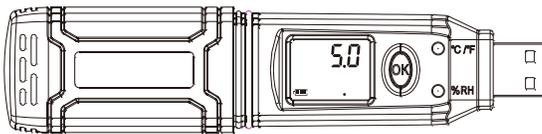
Press "OK" for 5 seconds，LCD display "5.0"   Turn Off the Logger
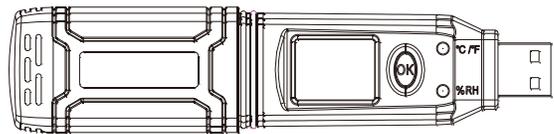
Delay to Start & Timing to Start - According to chapter 2.3.2 to set Delay Logging and Timing Logging, instrument is on standby and displaying temperature,, humidity with unit before the setted time arrived. Instrument would enter logging status automatically when time is up,and displaying temperature and humidity only.
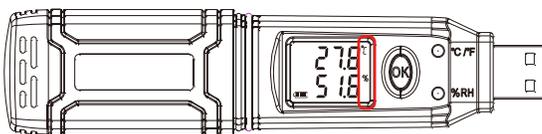
For Delay to Start & Timing to Start   Now the logger start logging and storing data
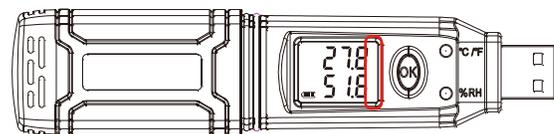
Section 2.5 - Download the Logging Data

10. Turn on and insert the data logger to the computer.

11. Start LogPro software on the PC.

12. From the toolbar select Connect.

13. From the toolbar select Download
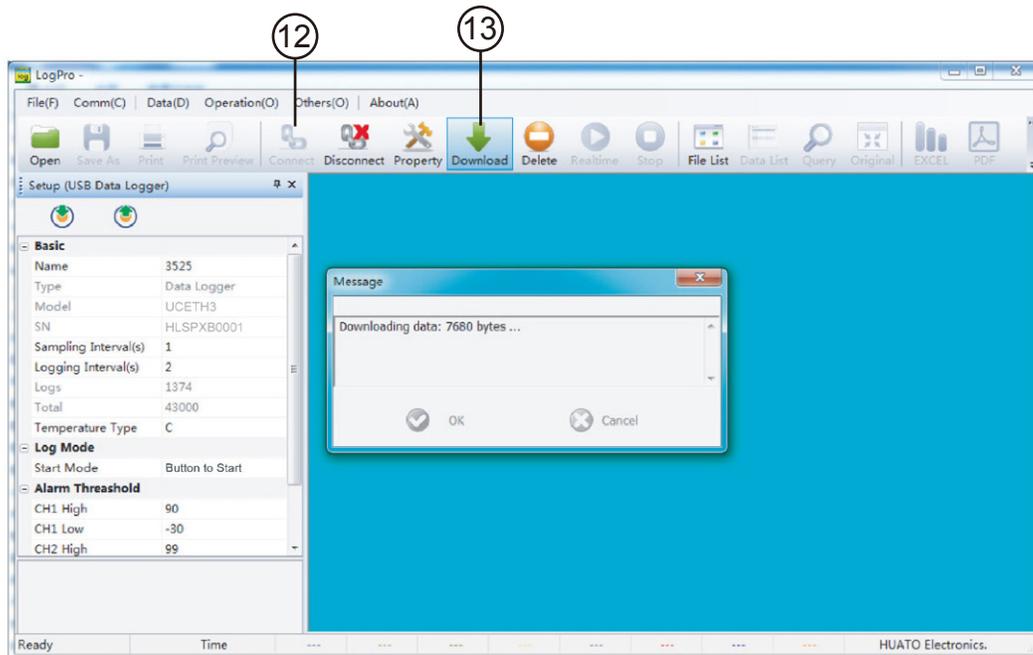
Once the data is downloaded from the logger to the PC, the log graph will be displayed.
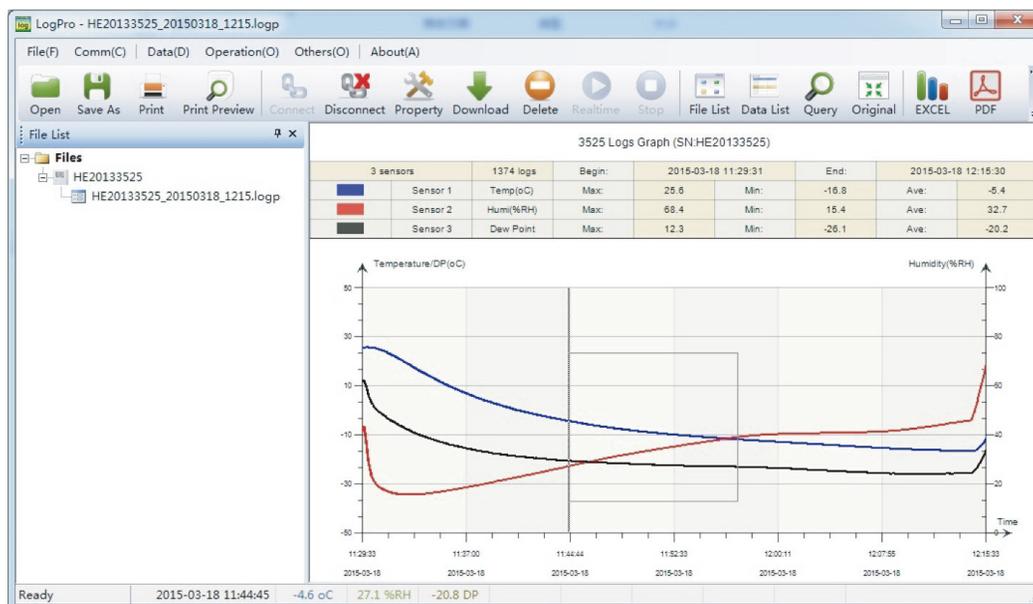
Tips: Press and hold the left mouse button to drag a box, when the left mouse button is released, the graph will be redraw with the data in the selected rectangle area. Click right button, then the graph will be redrawing with all the data in the logs file.

Section 2.6 - View Data Sheet

Click "Data List" button on the toolbar, and then the data listing window is shown below. Channel 3 unit is Dew Point. The Value is calculated from temperature & humidity.
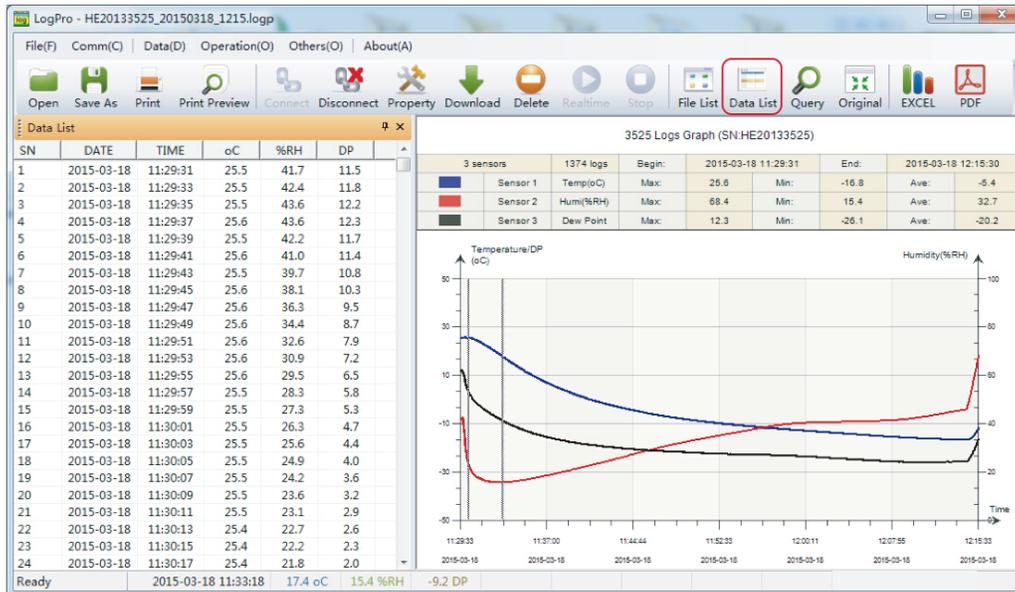
The data pane lists the data samples collected by the logging device.
The column width of each column is adjustable by using the left mouse button and dragging the column the desired width.

Section 2.7 - Exporting Logs from LogPro

- Export data list to an Excel file.

- Export data list to a PDF file.

- Export graph to a BMP file.

Section 2.8 - Delete Data Records in the Logger

14.   From the toolbar select Delete.
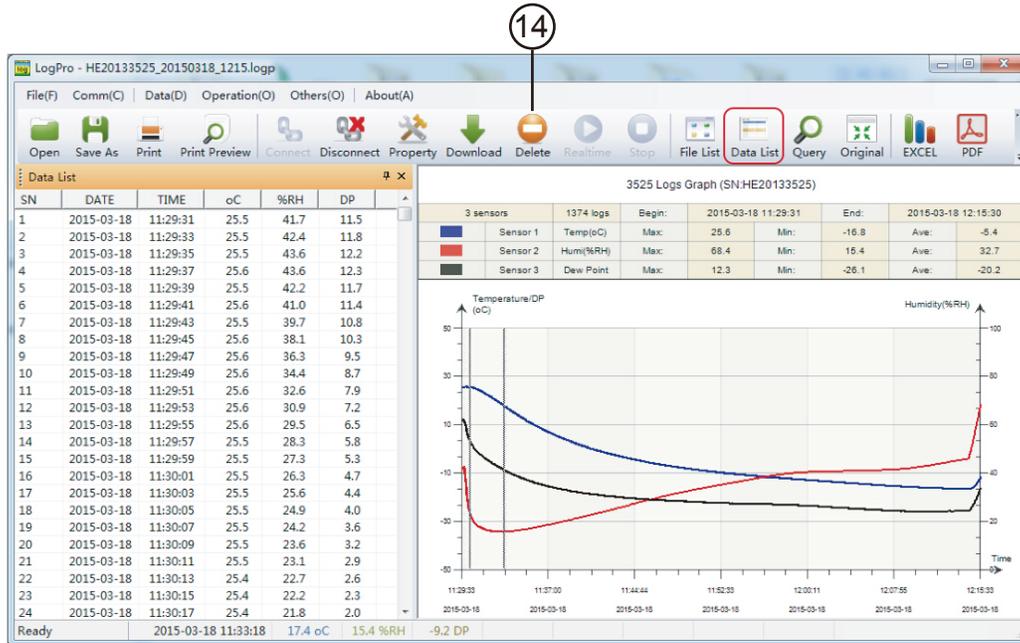
Section 2.9 - Check the Save File in File list

15.   From the toolbar select File List.

16.   Click to open the file.
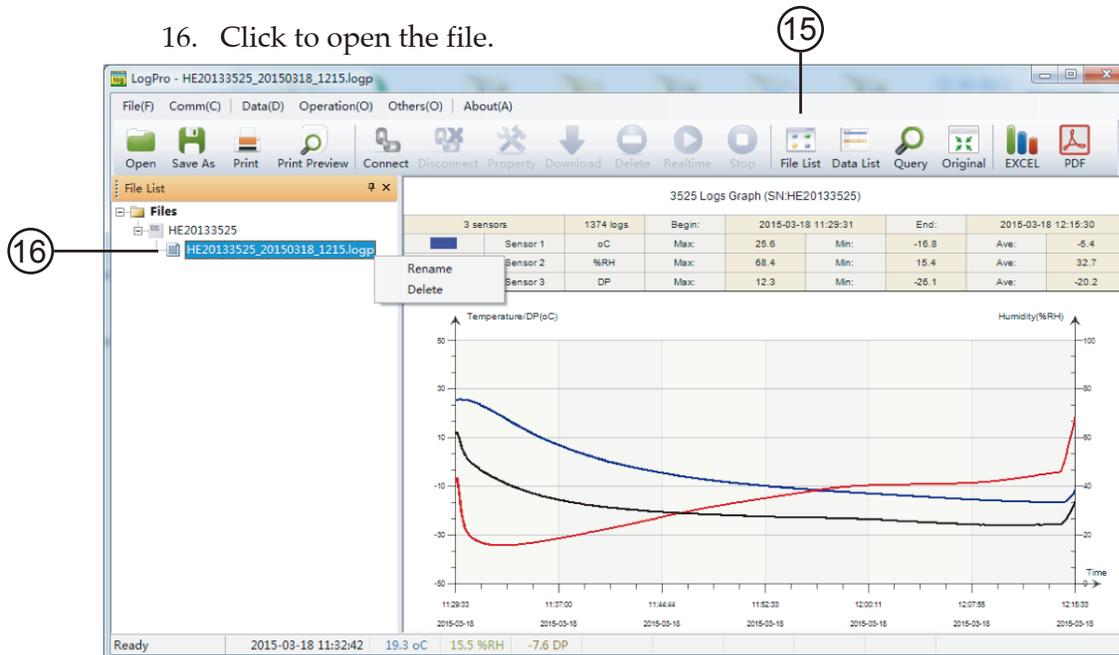
- Double click left mouse button, then the selected file is opened.
- Click right mouse button, a popup menu is shown as below, you can rename or delete or log file.
- The save file is saved in the LogPro software's installation path in the PC's hard driver.

- OM-HL-SP water proof is IP67. Do not put into water.
- OM-HL-SP plastic shell is ABS, flame retartdant, not resistant to acid and alkali.
- If repair is needed, only authorized technician can do the repair.
- The instrument configuration by 1 x ER14250 lithium battery (3.6V) is not rechargeable.
- USB power supply (5V) cannot let the Data Logger work.

Section 4.1 - LCD Screen Dim

Insufficient battery or the environment tmeperature is too low or too high. Solution : In the case of insufficient battery, please replace the battery. If results from environment temperature, please immediately take the logger out of the environment.

Section 4.2 - Data & Time Error

Reason:

- The Battery level is low.
- The Data Logger is not synchronous properties, before start recording.

Solution:

- Replace the battery.
- Please sync the properties, before start recording.

Section 4.3 - Software "Runtime Error"

Reason:

- OS forbid software creating files.

Solution:

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

Section 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.

WARRANTY/DISCLAIMER

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of **13 months** from date of purchase. OMEGA's WARRANTY adds an additional one (1) month grace period to the normal **one (1) year product warranty** to cover handling and shipping time. This ensures that OMEGA's customers receive maximum coverage on each product.

If the unit malfunctions, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective, it will be repaired or replaced at no charge. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of having been damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components in which wear is not warranted, include but are not limited to contact points, fuses, and triacs.

OMEGA is pleased to offer suggestions on the use of its various products. However, OMEGA neither assumes responsibility for any omissions or errors nor assumes liability for any damages that result from the use of its products in accordance with information provided by OMEGA, either verbal or written. OMEGA warrants only that the parts manufactured by the company will be as specified and free of defects. OMEGA MAKES NO OTHER WARRANTIES OR REPRESENTATIONS OF ANY KIND WHATSOEVER, EXPRESSED OR IMPLIED, EXCEPT THAT OF TITLE, AND ALL IMPLIED WARRANTIES INCLUDING ANY WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED. LIMITATION OF LIABILITY: The remedies of purchaser set forth herein are exclusive, and the total liability of OMEGA with respect to this order, whether based on contract, warranty, negligence, indemnification, strict liability or otherwise, shall not exceed the purchase price of the component upon which liability is based. In no event shall OMEGA be liable for consequential, incidental or special damages.

CONDITIONS: Equipment sold by OMEGA is not intended to be used, nor shall it be used: (1) as a "Basic Component" under 10 CFR 21 (NRC), used in or with any nuclear installation or activity; or (2) in medical applications or used on humans. Should any Product(s) be used in or with any nuclear installation or activity, medical application, used on humans, or misused in any way, OMEGA assumes no responsibility as set forth in our basic WARRANTY/DISCLAIMER language, and, additionally, purchaser will indemnify OMEGA and hold OMEGA harmless from any liability or damage whatsoever arising out of the use of the Product(s) in such a manner.

RETURN REQUESTS/INQUIRIES

Direct all warranty and repair requests/inquiries to the OMEGA Customer Service Department. BEFORE RETURNING ANY PRODUCT(S) TO OMEGA, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM OMEGA'S CUSTOMER SERVICE DEPARTMENT (IN ORDER TO AVOID PROCESSING DELAYS). The assigned AR number should then be marked on the outside of the return package and on any correspondence.

The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

FOR **WARRANTY** RETURNS, please have the following information available BEFORE contacting OMEGA:

1. Purchase Order number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

FOR **NON-WARRANTY** REPAIRS, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA:

1. Purchase Order number to cover the COST of the repair,
2. Model and serial number of the product, and
3. Repair instructions and/or specific problems relative to the product.

OMEGA's policy is to make running changes, not model changes, whenever an improvement is possible. This affords our customers the latest in technology and engineering.

OMEGA is a trademark of OMEGA ENGINEERING, INC.

Where Do I Find Everything I Need for Process Measurement and Control? OMEGA...Of Course!
Shop online at omega.com

TEMPERATURE
☑ Thermocouple, RTD & Thermistor Probes, Connectors, Panels & Assemblies
☑ Wire: Thermocouple, RTD & Thermistor
☑ Calibrators & Ice Point References
☑ Recorders, Controllers & Process Monitors
☑ Infrared Pyrometers

PRESSURE, STRAIN AND FORCE
☑ Transducers & Strain Gages
☑ Load Cells & Pressure Gages
☑ Displacement Transducers
☑ Instrumentation & Accessories

FLOW/LEVEL
☑ Rotameters, Gas Mass Flowmeters & Flow Computers
☑ Air Velocity Indicators
☑ Turbine/Paddlewheel Systems
☑ Totalizers & Batch Controllers

pH/CONDUCTIVITY
☑ pH Electrodes, Testers & Accessories
☑ Benchtop/Laboratory Meters
☑ Controllers, Calibrators, Simulators & Pumps
☑ Industrial pH & Conductivity Equipment

DATA ACQUISITION
☑ Communications-Based Acquisition Systems
☑ Data Logging Systems
☑ Wireless Sensors, Transmitters, & Receivers
☑ Signal Conditioners
☑ Data Acquisition Software

HEATERS
☑ Heating Cable
☑ Cartridge & Strip Heaters
☑ Immersion & Band Heaters
☑ Flexible Heaters
☑ Laboratory Heaters

ENVIRONMENTAL MONITORING AND CONTROL
☑ Metering & Control Instrumentation
☑ Refractometers
☑ Pumps & Tubing
☑ Air, Soil & Water Monitors
☑ Industrial Water & Wastewater Treatment
☑ pH, Conductivity & Dissolved Oxygen Instruments