

# twilight

INSTRUMENTOS DE MEDICIÓN INDUSTRIAL

## Termohigrometro marca Huato

HT-S580EX

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# **Operation Manual**

**V1.02**

**HUATO Electronics**

1. Quick Start.....	3
2. Installing USB Driver.....	4
3. Connecting the Logger to PC.....	4
4. Setting up the Logger (S300/400/500).....	5
5. Setting up the Logger (HE701~HE725, HE801~HE825).....	6
6. Setting up the Logger (S100).....	7
7. Setting up the Logger (HE170~174).....	8
8. Download data from the logger.....	9
9. Delete all the logs from the logger.....	10
10. Data Listing Window.....	11
11. Exporting Log Data.....	12
12. File List.....	13

# 1. 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 LogPro software on the PC.
3. From the toolbar select Connect.
4. Then you can setup logger, download data, delete data from the logger.
5. Disconnect the logger with PC. Change the logger to LOG mode.

## 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, but the LCD display is on.
3. OFF: In the mode, the logger stops to sample and record, and the LCD display is off. LogPro cannot connect to the logger also.

How to change the logger to **LOG** mode? The following table shows the way to setup the different loggers.

Model	Logging ON	Logging OFF
<b>S100</b>	Press <b>LOG/STD</b> button for about 5 seconds, and then the "LOG" symbol displays on the LCD.	Press <b>LOG/STD</b> button for about 5 seconds again, and the logger will be off.
<b>HE170~HE174</b>	Press <b>OK</b> button for about 5 seconds, and then LCD is on. The logging function was opened.	Press <b>OK</b> button for about 5 seconds again, and the logger will be off.
<b>HE701~HE725</b>	Press <b>LOG</b> button, and then the "LOG" symbol displays on the LCD.	Press <b>LOG</b> button again, and the "LOG" symbol disappears.
<b>S300~S380</b>	Press <b>LOG/STD</b> button, and then the "LOG" symbol displays on the LCD.	Press <b>LOG/STD</b> button again, and then the "LOG" symbol disappears.
<b>S500~S580</b>	Press <b>LOG</b> button, and then the "LOG" symbol displays on the LCD.	Press <b>LOG</b> button again, and the "LOG" symbol disappears.
<b>HE8000 IR</b>	Press <b>LOG</b> button, and then the "LOG" symbol displays on the LCD.	Press <b>LOG</b> button again, and the "LOG" symbol disappears.
<b>S220</b>	Press <b>LOG</b> button, and then the "LOG" symbol displays on the LCD.	Press <b>LOG</b> button again, and the "LOG" symbol disappears.

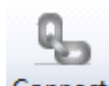
## 2. Installing USB Driver

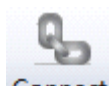
Please find the setup file for USB Driver from CD. Then install it..

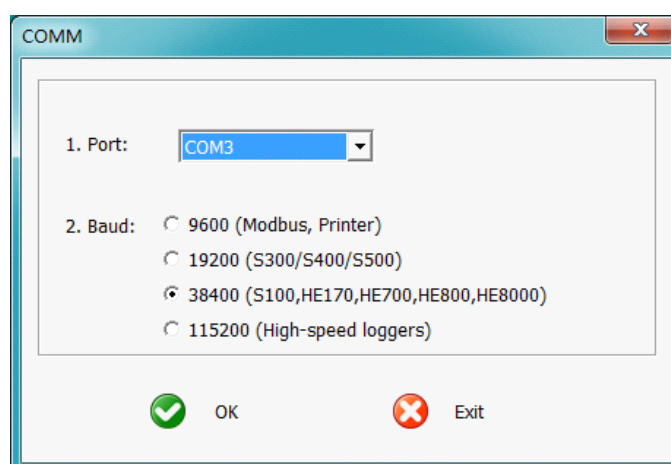
## 3. Connecting the Logger to PC

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 LogPro analysis software.




4. Click the icon  from the toolbar, and then LogPro connects to the logger. The port and baud selection dialogue will appear in the progress. The software checks the USB port automatically.





If more than one logger is connected to the PC, maybe you should choose the port manually. Don't care about the baud, if you forget it, the software will check the baud automatically.

**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 LogPro.*



## 4. Setting up the Logger (S300/400/500)

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


-  : Get current setup information from the logger. Click this button, and then the old setup information is shown below.
-  : Synchronize the new setup information 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.
- Battery State: Indicate the battery state.
- Logger Time: the current time of the logger. If there is a big difference between PC time and the logger time, you must synchronize it.
- 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.
- **Sampling Interval(s)**: The interval of sampling.
- **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.



**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.

- CH1 offset: The offset of channel one.
- CH2 offset: The offset of channel two.
- CH3 offset: The offset of channel three.

Data Logger Setup	
 	
<b>A.System</b>	
Name	THP
Type	Data Logger
Model	S300TH
SN	HUATOS0000
Firmware	A2A12
<b>B.Sampling</b>	
Mode	Standby
Battery	Low
Sampling(s)	5
Logging(s)	10
Downmode	Save always
<b>C.Storage</b>	
Start Mode	No delay
Stop Mode	FIFO
Delay Time	0
Logs	13783
Total	42987
<b>D.Alarm</b>	
Alarm	Off
LCD	On
Power	Normal
CH1 High	50
CH1 Low	-20
CH2 High	100
CH2 Low	0
CH3 High	0
CH3 Low	0
<b>E.Offset</b>	
CH1	0.0
CH2	0.0
CH3	0.0

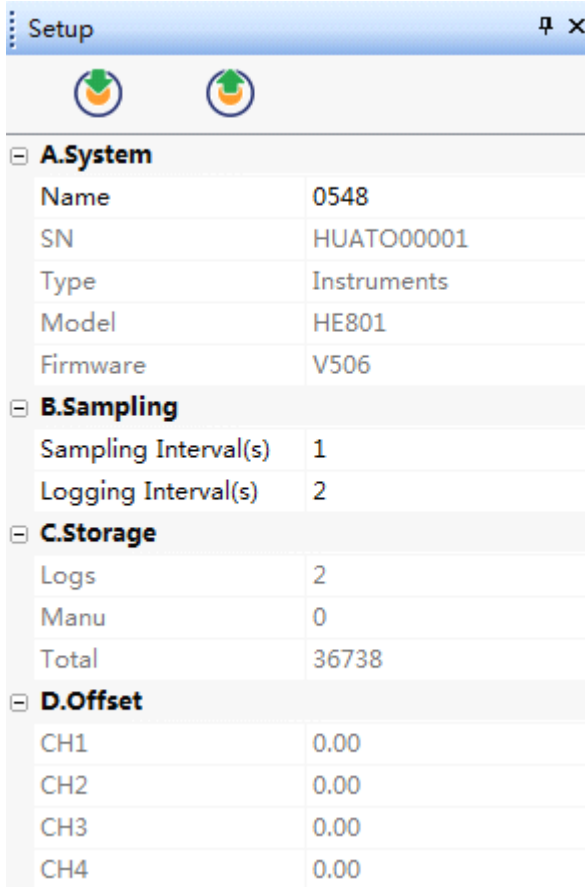
## 5. Setting up the Logger (HE701~HE725, HE801~HE825)



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

-  : Get current setup information from the logger. Click this button, and then the old setup information is shown below.
-  : Synchronize the new setup information 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.
- **Sampling Interval(s):** The interval of sampling.
- **LOG Intervals(s):** The interval of recording.
- **Logs:** The count of the logs that the logger has recorded automatically.
- **Total:** The total capacity of the logger memory. One reading includes time and three channels' data.


**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.




- CH1 offset: The offset of channel one.
- CH2 offset: The offset of channel two.
- CH3 offset: The offset of channel three.
- CH4 offset: The offset of channel four.



Setup	
 	
<b>A.System</b>	
Name	0548
SN	HUATO00001
Type	Instruments
Model	HE801
Firmware	V506
<b>B.Sampling</b>	
Sampling Interval(s)	1
Logging Interval(s)	2
<b>C.Storage</b>	
Logs	2
Manu	0
Total	36738
<b>D.Offset</b>	
CH1	0.00
CH2	0.00
CH3	0.00
CH4	0.00

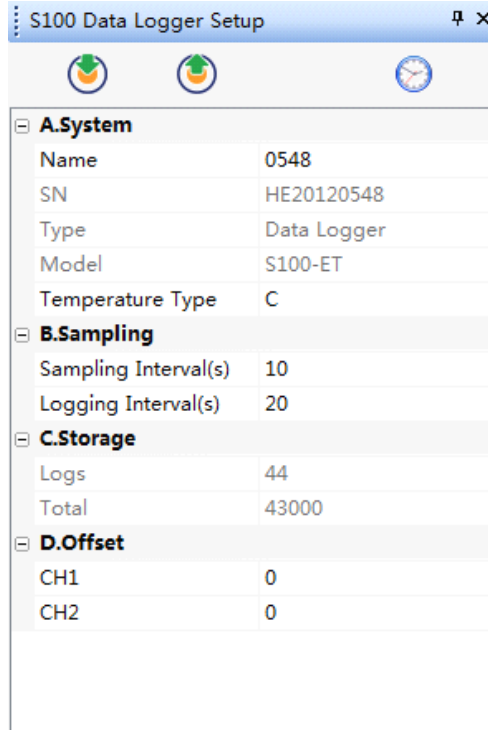
## 6. Setting up the Logger (S100)

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

-  : Get current setup information from the logger. Click this button, and then the old setup information is shown below.
-  : Synchronize the new setup information 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.
- **Sampling Interval(s):** The interval of sampling.
- **LOG Intervals(s):** The interval of recording.
- Logs: The count of the logs that the logger has recorded automatically.
- Total: The total capacity of the logger memory. One reading includes time and three channels' data.

**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.


- CH1 offset: The offset of channel one.
- CH2 offset: The offset of channel two.





S100 Data Logger Setup	
<b>A.System</b>	
Name	0548
SN	HE20120548
Type	Data Logger
Model	S100-ET
Temperature Type	C
<b>B.Sampling</b>	
Sampling Interval(s)	10
Logging Interval(s)	20
<b>C.Storage</b>	
Logs	44
Total	43000
<b>D.Offset</b>	
CH1	0
CH2	0





## 7. Setting up the Logger (HE170~174)

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

-  : Get current setup information from the logger. Click this button, and then the old setup information is shown below.
-  : Synchronize the new setup information 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.
- **Sampling Interval(s)**: The interval of sampling.
- **LOG Intervals(s)**: The interval of recording.
- **Logs**: The count of the logs that the logger has recorded automatically.
- **Total**: The total capacity of the logger memory. One reading includes time and three channels' data.

**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.

- CH1 offset: The offset of channel one.
- CH2 offset: The offset of channel two.

Setup (USB Data Logger)	
 	
<b>Basic</b>	
Name	9320
Type	Data Logger
Model	USB-TH
SN	HE20129320
Sampling Interval(s)	11
Logging Interval(s)	20
Logs	1
Total	43000
Temperature Type	C
<b>Log Mode</b>	
Start Mode	Start Now
Delay Time	0
<b>Alarm Threshold</b>	
CH1 High	20
CH1 Low	-20
CH2 High	20
CH2 Low	0
<b>Offset</b>	
CH1	0.0
CH2	0.0

## 8. Download data from the logger.

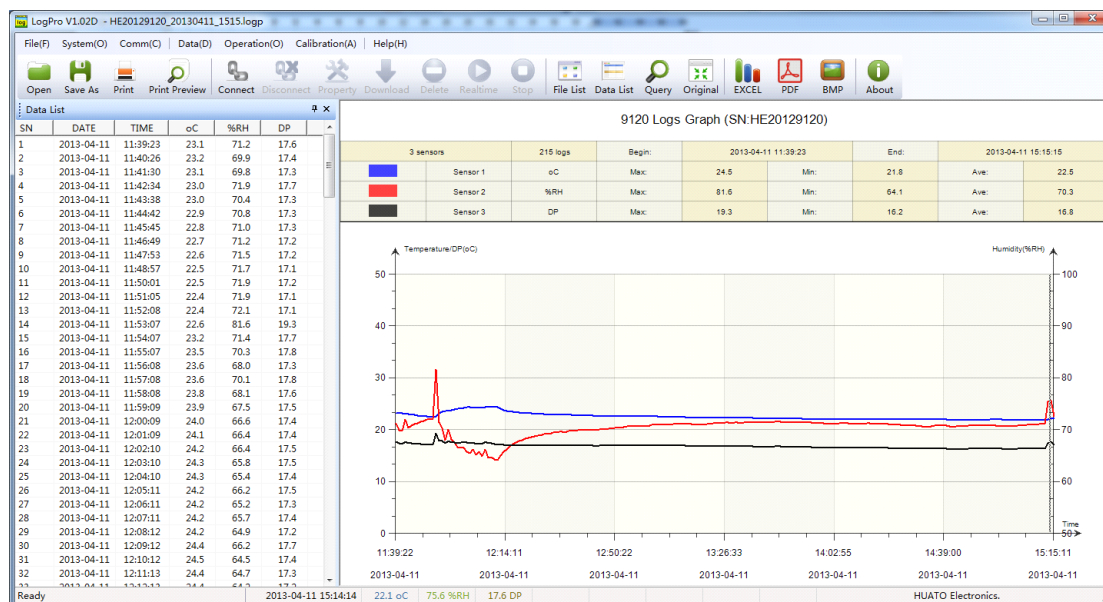
To get the recorded logs from the logger, connect the logger to your computer and click



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.**

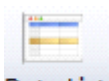


## 9. Delete all the logs from the logger.



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

## 10. Data Listing Window



Click **Data List** button on the toolbar, and then the data listing window is shown below.




SN	DATE	TIME	oC	%RH	DP
1	2013-04-11	11:39:23	23.1	71.2	17.6
2	2013-04-11	11:40:26	23.2	69.9	17.4
3	2013-04-11	11:41:30	23.1	69.8	17.3
4	2013-04-11	11:42:34	23.0	71.9	17.7
5	2013-04-11	11:43:38	23.0	70.4	17.3
6	2013-04-11	11:44:42	22.9	70.8	17.3
7	2013-04-11	11:45:45	22.8	71.0	17.3
8	2013-04-11	11:46:49	22.7	71.2	17.2
9	2013-04-11	11:47:53	22.6	71.5	17.2
10	2013-04-11	11:48:57	22.5	71.7	17.1
11	2013-04-11	11:50:01	22.5	71.9	17.2
12	2013-04-11	11:51:05	22.4	71.9	17.1
13	2013-04-11	11:52:08	22.4	72.1	17.1
14	2013-04-11	11:53:07	22.6	81.6	19.3
15	2013-04-11	11:54:07	23.2	71.4	17.7
16	2013-04-11	11:55:07	23.5	70.3	17.8
17	2013-04-11	11:56:08	23.6	68.0	17.3
18	2013-04-11	11:57:08	23.6	70.1	17.8
19	2013-04-11	11:58:08	23.8	68.1	17.6
20	2013-04-11	11:59:09	23.9	67.5	17.5
21	2013-04-11	12:00:09	24.0	66.6	17.4
22	2013-04-11	12:01:09	24.1	66.4	17.4
23	2013-04-11	12:02:10	24.2	66.4	17.5
24	2013-04-11	12:03:10	24.3	65.8	17.5
25	2013-04-11	12:04:10	24.3	65.4	17.4
26	2013-04-11	12:05:11	24.2	66.2	17.5
27	2013-04-11	12:06:11	24.2	65.2	17.3
28	2013-04-11	12:07:11	24.2	65.7	17.4
29	2013-04-11	12:08:12	24.2	64.9	17.2
30	2013-04-11	12:09:12	24.4	66.2	17.7
31	2013-04-11	12:10:12	24.5	64.5	17.4
32	2013-04-11	12:11:13	24.4	64.7	17.3
33	2013-04-11	12:12:13	24.4	64.2	17.2

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.

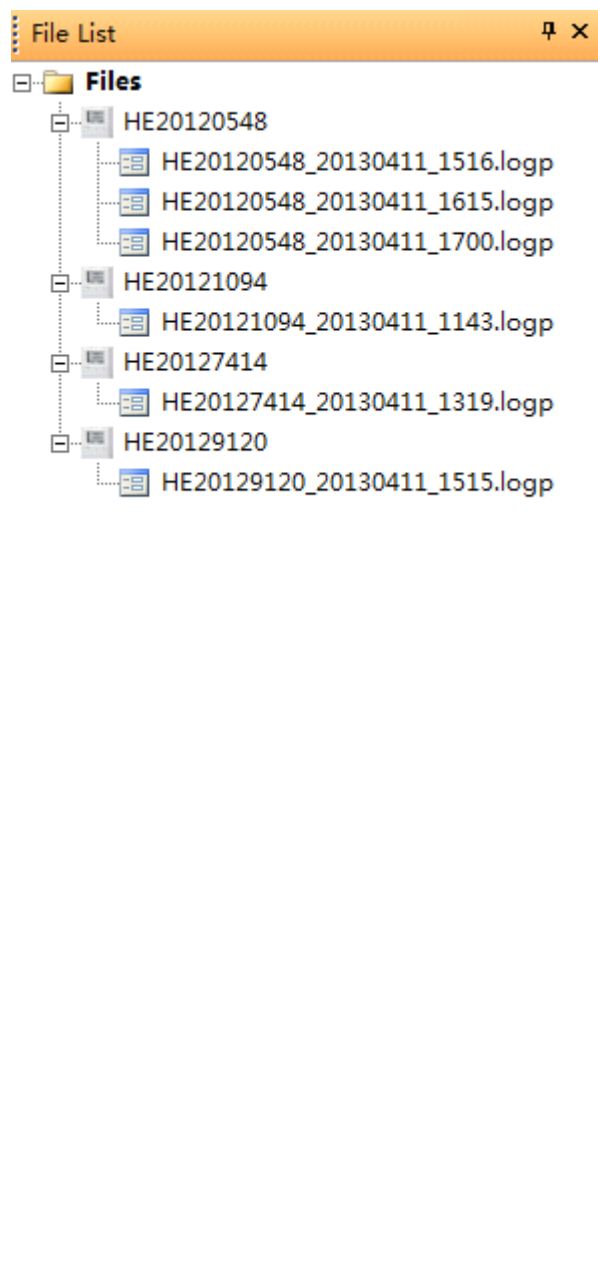
# 11. Exporting Log Data

You can use LogPro 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.
-  PDF : Export sample data to a PDF file.
-  BMP : Export graph to a BMP file.

## 12. File List

The file list pane lists all the files in the directory Logfiles which is located in the installed directory of LogPro.



- Double click left mouse button, then the selected file is opened.
- Click right mouse button, a popup menu is shown as below, and you can rename or delete a log file.

# twilight

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