

PDF Temperature and Humidity Logger Help Document

Version 2.0

Contents

1 Quick Start Guide.....	2
2 LED Indications.....	3
3 LCD Indications	3
4 Button Functions	4
5 Installing Software	4
6 Software Interface and Menu Introduction.....	5
7 Data logger settings	6
8 Download data to PC.....	8
9 Data Graph	9
10 Data Summary.....	10
11 Data List	10
12 Data report.....	11

1 Quick Start Guide

Thanks for using the products from our company, before you start using the product, please read the instruction manual carefully. Quick Start Guide let you know the features and usage of the product in a short time, and help you to apply the data logger to the occasions that you desire to measure and record temperature and humidity data.

The Temperature and Humidity Datalogger works perfectly on all PC and Apple Mac OS. It does not require software installed on the computer. As soon as you plug the logger into USB port of the PC, a PDF report containing an overview of the data, curves, and data lists will be generated automatically, which can be read directly with the Adobe Reader browser.

You can preset the sampling interval, unit and language of the datalogger when ordering, so that you do not need to install any software or settings. You can start the logging work directly by pressing the left button. You can customize recording requirements via the professional Smart Logger software. Please read below to quickly help you deploy the PDF loggers.

- 1) Open the battery cover at the backside of the housing, install a CR2450 battery. If the battery is already installed, please check and ensure the capacity is enough for completing your task.
- 2) Install Smart Logger software and USB driver. Please refer to Part 5 (Installing Software) for detail.
- 3) Remove the USB cover.
- 4) Plug the data logger into your PC USB port, the PC will detect the data logger and install the hardware automatically.
- 5) Double click the Smart Logger shortcut icon on the PC desktop to launch the software.
- 6) Follow below steps to set up and start the data logger:
 - Select the appropriate start mode
 - Name your data logger
 - Select sampling points and sampling rate
 - Select REC and ALM LED flash cycle period
 - Select temperature unit
 - Input the temperature and humidity alarm Hi & Lo value limited
 - Click Setup button.
- 7) Unplug the data logger from PC, and place it to the location you desire to measure and record the temperature and humidity data.
- 8) Start the data logging according to the start mode you selected. Please refer to corresponding parts for detail.

2 LED Indications

LED Status	Functions
ALM: Off REC: Off	Data Logger does not work or the LEDs are set to Disable on software.
REC: Green	REC LED blinks according to the cycle set on software. Data logger is working and recording data.
ALM: Red	Humidity exceeds alarm limitation. ALM LED blinks according to the cycle set on software plus 2S. Single blink for Lo alarm, double blink for Hi alarm.
ALM: Yellow	Temperature exceeds alarm limitation. ALM LED blinks according to the cycle set on software. Single blink for Lo alarm, double blink for Hi alarm.
ALM: Red & Yellow blink in turn	Both temperature and humidity exceed alarm limitation. ALM LED blink in turn according to the cycle set on software. Single blink for Low alarm, double blink for High alarm.
REC: Double blink	Memory full.

Note:

- 1) To save power and extend the using time of data logger, please select the REC LED blink cycle as 20 or 30 seconds, or even disable it.
- 2) To save power, ALM LED can be disabled in software.
- 3) When both temperature and humidity exceed the alarm level, Red & Yellow ALM light will blink in turn.
- 4) All LEDs will be turned off if the logging ended. If it's full, FULL icon will show on LCD and REC light double blinks.

3 LCD Indications

Statue of logger	LCD Indication
Standby	"----" displayed on LCD. Real time readings displayed after both buttons are pressed for 3 seconds.
Record delay	LCD always ON, readings updated every 2 seconds with REC icon blinks.
Recording	LCD turns OFF in 30 seconds without button operation until wake up by any button pressed.
Stopped (not plug in USB)	LCD turns OFF in 30 seconds without button operation until wake up by any button pressed. FULL will appear if record is full. "----" will appear if record is not full.
Plug in USB	USB icon appears, "P-XX" displayed during creating the PDF report. "PDF" displayed after the report is created.

4 Button Functions

Button Definitions	Function Descriptions
TEMP/RH Button: Press for 3 seconds	Start recording
TEMP/RH Button: Single press	Switching readings on LCD between Temperature & Humidity
MAX/MIN Button: Single press	Switching readings among MAX/MIN temperature and humidity
MAX/MIN Button: Press for long period	Switching readings among Hi/Lo alarm level of temperature and humidity
TEMP/RH Button + MAX/MIN Button: Press both buttons for 3 seconds	Clear the records in the data logger

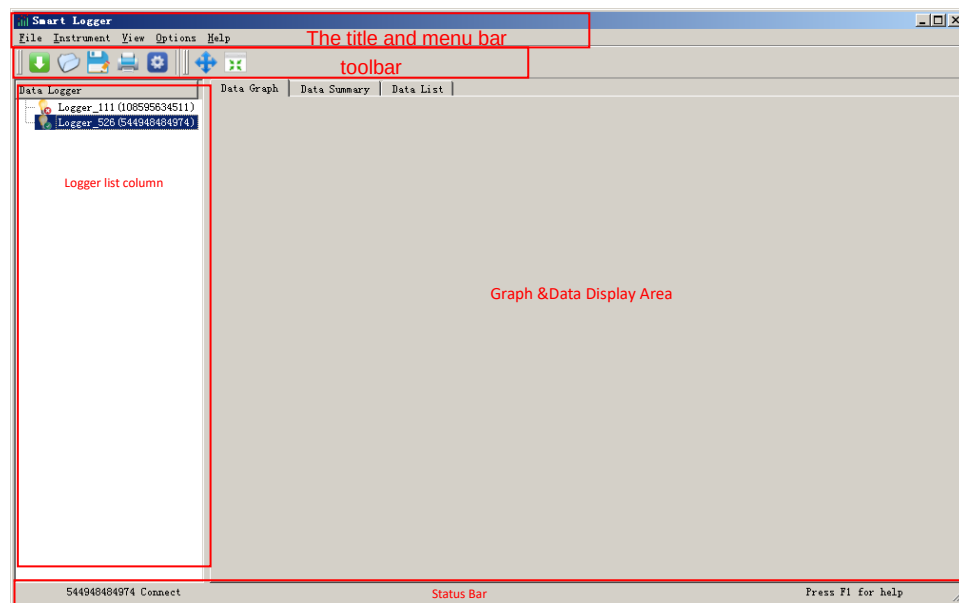
Note: The first time you use the data logger or after replacing battery, "----" icon will be displayed on LCD. You need to press both buttons for 3S to enter normal work.

5 Installing Software

Install Smart Logger software

- 1) Smart Logger software support Windows XP、Windows 2000、Windows 2003、Windows 7, 8, 10 for 32 bit and 64 bit operation systems. Require at least 50M of hard disk space and 512M of RAM.
- 2) Insert the CD into your computer CD-ROM.
- 3) The installation will run automatically. If not, please go to the CD-ROM directory, and double click the installation file "setup.exe" to install it to the specified directory.
- 4) Follow the instructions on the dialog box, select the installation directory.
- 5) Select to create a shortcut.
- 6) Select to install the driver and start Smart logger application immediately.
- 7) Installation completed, a Smart Logger shortcut icon will be generated on the desktop.

6 Software Interface and Menu Introduction



Menu bar: From left to right, they are the main menu of "File", "Instrument", "View", "Options" & "Help." There are drop-down menu below the main menu, all detail functions will be introduced in the following sections.

Toolbar: The toolbar provides quick operation, from left to right, they are the "Download Data", "Open File", "Save File", "Print", "Settings", "Zoom" and "Recover" command.

Data logger list column: Lists the data loggers and files which have been added to the system in tree way.

Data display area: including the "data graph", "data summary" and "Data List" three functional options.

Status Bar: Indicates the selected data logger connection status and help information.

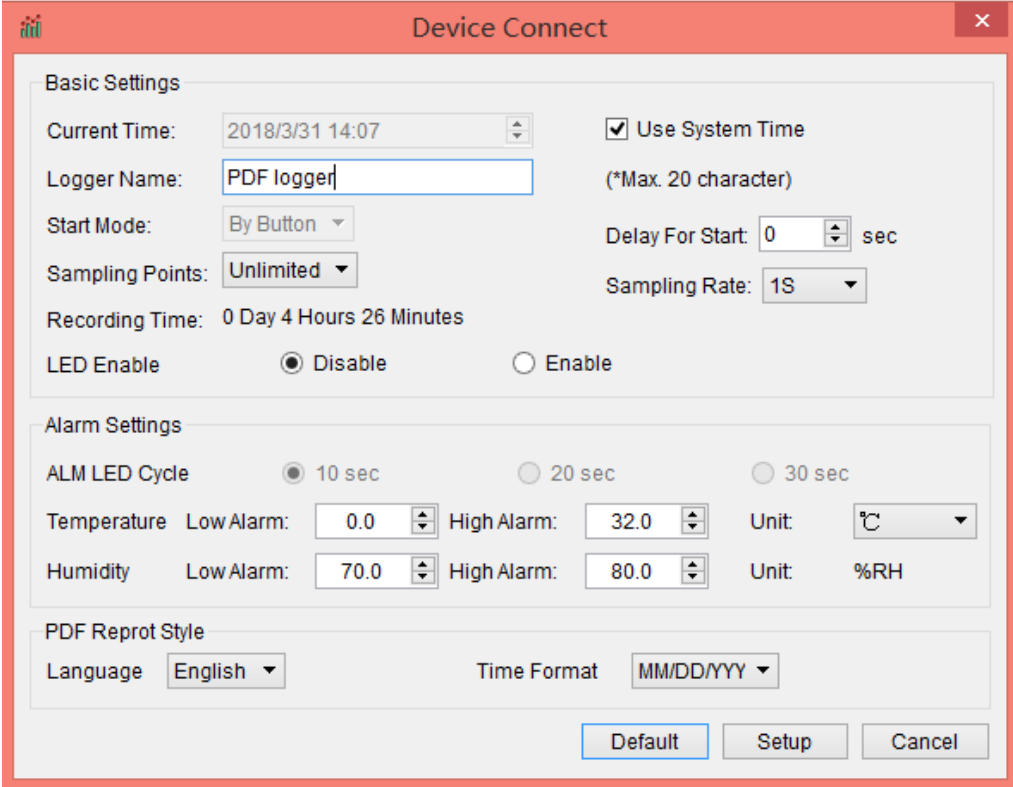
Functions of drop-down menu:

No.	Menu	Functions
1	File- > Open	Open the rec file
2	File- > Save as	Save the current opened file as txt, pdf or csv formats.
3	File- >Export to Excel	Export the current opened file to Excel file format.
4	File- > Close	Close the current opened file.
5	File- > Print	Print the current opened graph or data list.
6	File- > Recent File	List of the recent opened files.
7	File- > Exit	Exit the program.
8	Instrument- > Download	Download the data from data logger.
9	Instrument- > Device Settings	Setting the Data logger.
10	Instrument- > Device Management -> Add device	Adding new data loggers to system.
11	Instrument- > Device Management -> Remove device	Remove data loggers from system.
12	View- > Toolbar -> Common	Common tools button.

13	View- > Toolbar- >Plot Ctrls	Graphal Control Toolbar button.
14	View- >Status bar	Show/Hide the Status bar
15	View- >Zoom	Zoom the Graph.
16	View- >Recovery	Recovery the Graph into the initial status.
17	View- >Background->White	Set the background on graph area into White
18	View- > Background->Black	Set the background on graph area into Black.
19	View- >Grid->X-axle	Show/Hide the grid of X axis on graph area
20	View- >Grid->Y-axle	Show/Hide the grid of Y axis on graph area
21	Options->Comm Port Setup	Communication port settings
22	Options->System Settings	System optional settings
23	Options->Calibration Adjustment	Engineers Setting, for data logger calibration
24	Options-> Real Time Monitoring	Turn on the Realtime monitor screen (PDF Data logger exceptions)
25	Help-> Help Topics	Pop-up help topics.
26	Help->About	View software copyright information.
27	Help -> Website	Pop-up official web site.

7 Data logger settings

Click the  icon on the toolbar, or click menu command of "Instrument" - "Device Settings" to enter the device setting interface. Settings dialog box shown as below, description of each field will be listed directly:



Device Connect

Basic Settings

Current Time: 2018/3/31 14:07 ☐ Use System Time

Logger Name: PDF logger (*Max. 20 character)

Start Mode: By Button Delay For Start: 0 sec

Sampling Points: Unlimited Sampling Rate: 1S

Recording Time: 0 Day 4 Hours 26 Minutes

LED Enable ☒ Disable ☐ Enable

Alarm Settings

ALM LED Cycle ☒ 10 sec ☐ 20 sec ☐ 30 sec

Temperature Low Alarm: 0.0 High Alarm: 32.0 Unit: °C

Humidity Low Alarm: 70.0 High Alarm: 80.0 Unit: %RH

PDF Replot Style

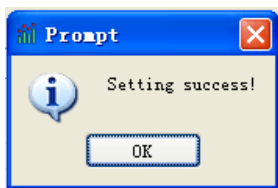
Language: English Time Format: MM/DD/YYYY

Default Setup Cancel

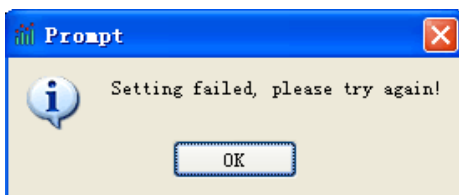
Label	Explanation
Current Time	Data logger allows users to set the date and time. It's defaulted to use the system date and time.
Use System Time	If tick it, the data logger will use the system date and time. If not, user can set the date and time.
Logger Name	It allows user to name the data logger, easy to remember and manage.
Start Mode	Set the start logging mode on data logger. For PDF data loggers, it only allow "By Button" mode, but user can set delay starting.
Sampling Points	Set the total number of the sampling data points. Once reach the set number, the data logger will stop recording automatically.
Sampling Rate	Set the sampling rate of data logger.
Recording Time	The software will calculate the record period automatically according to the sampling rate you select.
ALM LED Cycle	Select the ALM LED flash cycle. To save power, please select longer time or even disable it.
Temperature	Input/adjust the High & Low temperature limits for the alarm line.
Unit	Select unit °C or °F for temperature.
Humidity	Input/adjust the High & Low humidity limits for the alarm line.

Click "Setup" button to save the settings.

If setup processed successfully, following dialog box will pop up.



If not, following dialog box will pop up. Please try again.



Click "Default" button to return to the factory default settings.

Click "Cancel" button to stop setting.

Warning:

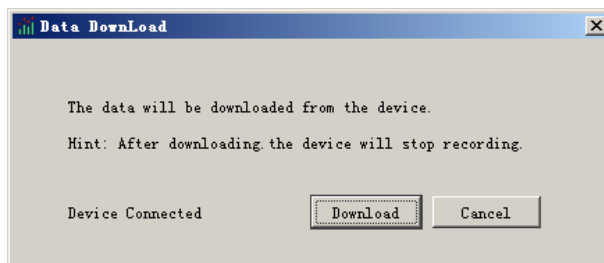
- 1) When executing the "Setup", the data stored in the data logger will be permanently removed. To ensure the data is not lost, please download and save the data first. Click "Cancel" button and you can download the necessary data accordingly.
- 2) The data logger will stop working if battery power is not sufficient. Please always make sure the remaining battery power is enough for completing your recording tasks. If in doubt, we recommend that you replace with a new battery before recording data.

8 Download data to PC

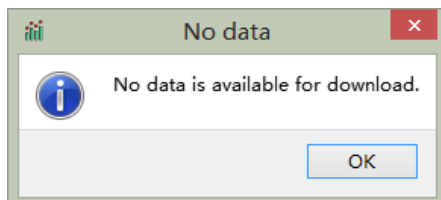
The PDF Data Loggers can create a PDF report containing an overview of the data, curves, and data lists automatically without any software pre-installed. The PDF report can be read directly with the Adobe Reader browser. If you cannot read the PDF report, please updated the PDF reader or renew the font package.

In order to do more professional analysis on the data or export the data as TXT, CSV or XLS format to PC, user can install the professional software and manage the data. Please follow below steps:

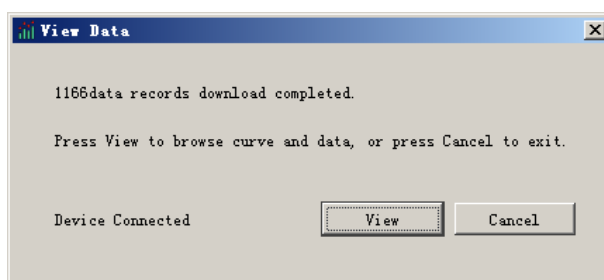
- 1) Plug the data logger into USB port on PC
- 2) Open the Smart Logger software if it's not running.
- 3) Click the  icon on toolbar or select "Instrument"- "Download" menu command.
- 4) The following dialog box appears, click the "Download" button to start downloading data from the data logger.



Following warning dialog box will appear if there is no data recorded in the data logger.



Following dialog box will appear if data download successfully.

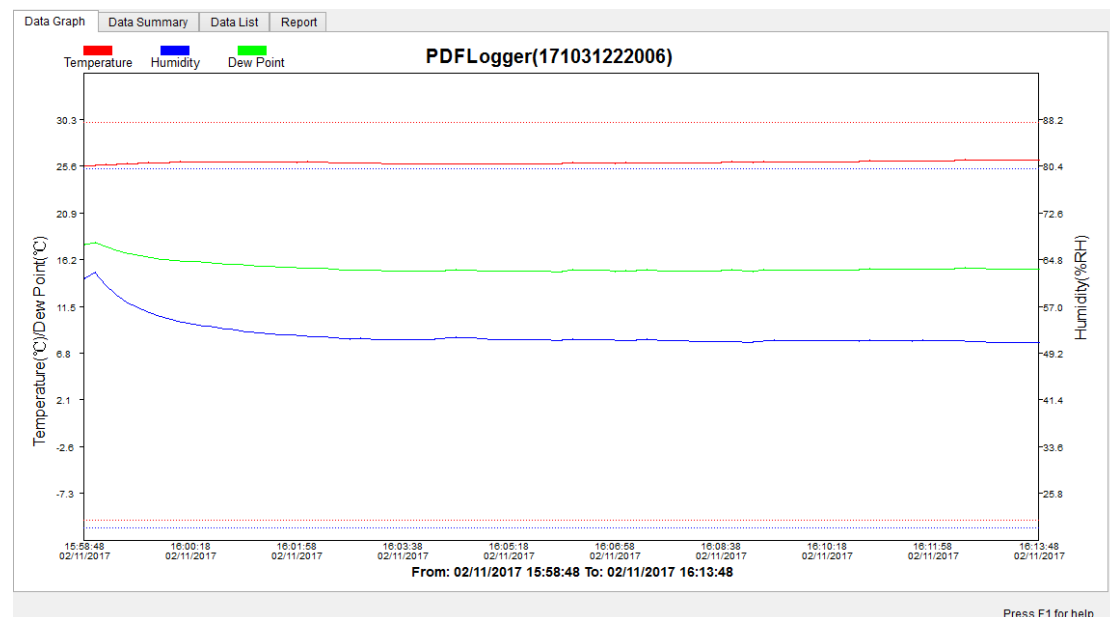


Click "View" to show the data graph (refer to next section for details).

Click "Cancel" to return to the main interface, the data downloaded at this time will be saved as *.rec file named with date and time automatically.

9 Data Graph

Data graph shows a set of curves, the date/time indicated by X-axis, while temperature, humidity, and dew point temperature indicated by Y axis.



In above figure, the curve color of temperature, humidity and dew point temperature can be customized; you can set through "Options->System->Settings" dialog box. By default, the temperature value is indicated by red solid line, the humidity is indicated by blue solid line, and the dew point temperature is displayed by green solid line. The dotted lines indicate the temperature and humidity High & Low limited alarm lines.

By default, the cursor function is turned on; user can view temperature, humidity and dew point temperature values of any recorded time point. You can disable the cursor function in "Options-System Settings" by un-ticking the "Show Tip" in dialog box.

Curve display window can be customized by "Background", "Grid", "Zoom" and "Recover" in "View" menu. Following options are available:

- 1) Select the background displayed in White or Black
- 2) Hide/Show the grid of X/Y axis
- 3) Zoom the graph by mouse wheel. After zoom in, you can check the curve by pressing the left button of the mouse and drag the curve to left or right.
- 4) Press "Recover" button to return the curve to initial status.

10 Data Summary

"Data Summary" page provides statistical functions, including the record numbers, start/end time, maximum, minimum, average, and the difference between maximum and minimum values.

Data Graph	Data Summary	Data List	Report					
PDFLogger(171031222006)20171102161552.rec-								
Total Record: 91 Start Time: 02/11/2017 15:58:48 End Time: 02/11/2017 16:13:48								
Channel	Name	Unit	Maximum Value	Maximum Value Time	Minimum Value	Minimum Value Time	Average	Difference
Channel0	Temperature	℃	26.2	02/11/2017 16:12:38	25.6	02/11/2017 15:58:48	25.9	0.6
Channel1	Humidity	%RH	62.5	02/11/2017 15:58:58	50.9	02/11/2017 16:13:08	52.2	11.6
Channel2	Dew Point	℃	17.91	02/11/2017 15:58:58	14.99	02/11/2017 16:06:08	15.38	2.92

11 Data List

"Data List" page lists the downloaded data in a table. User can select a time range for data query, and export the data to CSV and EXCEL format documents by button commands.

Data Graph		Data Summary	Data List	Report
No.	Time	Temperature(°C)	Humidity(%RH)	Dew Point(°C)
1	02/11/2017 15:58:48	25.6	61.6	17.67
2	02/11/2017 15:58:58	25.6	62.5	17.91
3	02/11/2017 15:59:08	25.7	60.5	17.48
4	02/11/2017 15:59:18	25.7	58.9	17.06
5	02/11/2017 15:59:28	25.8	57.6	16.80
6	02/11/2017 15:59:38	25.8	56.7	16.55
7	02/11/2017 15:59:48	25.9	55.9	16.42
8	02/11/2017 15:59:58	25.9	55.3	16.25
9	02/11/2017 16:00:08	25.9	54.8	16.11
10	02/11/2017 16:00:18	26	54.3	16.06
11	02/11/2017 16:00:28	26	54	15.97
12	02/11/2017 16:00:38	26	53.7	15.89
13	02/11/2017 16:00:48	26	53.5	15.83
14	02/11/2017 16:00:58	26	53.2	15.74
15	02/11/2017 16:01:08	26	53	15.68
16	02/11/2017 16:01:18	26	52.8	15.62
17	02/11/2017 16:01:28	26	52.5	15.53

From: 02/11/2017 15:58:48 To: 02/11/2017 16:13:48 Query Export CSV Export Excel

12 Data report

The “Report” page summarizes information such as device information, data summary, Graph, and data lists into a professional report, and it can be exported as a PDF file for easy circulation.

Data Graph

Data Summary

Data List

Report

Datalogger Report

Create Time:02/11/2017 16:15

Device Information

Logger Name:

PDFLogger

Device ID:

171031222006

Sampling Rate:

10S

Recording Time:

0 Day 0 Hours 15 Minutes

Start Mode:

By Button

Low Alarm(Temperature):

-10℃

High Alarm(Temperature):

30℃

Low Alarm(Humidity):

20%RH

High Alarm(Humidity):

80%RH

Data Summary

Total Record:

91

Export