

# Getting Started

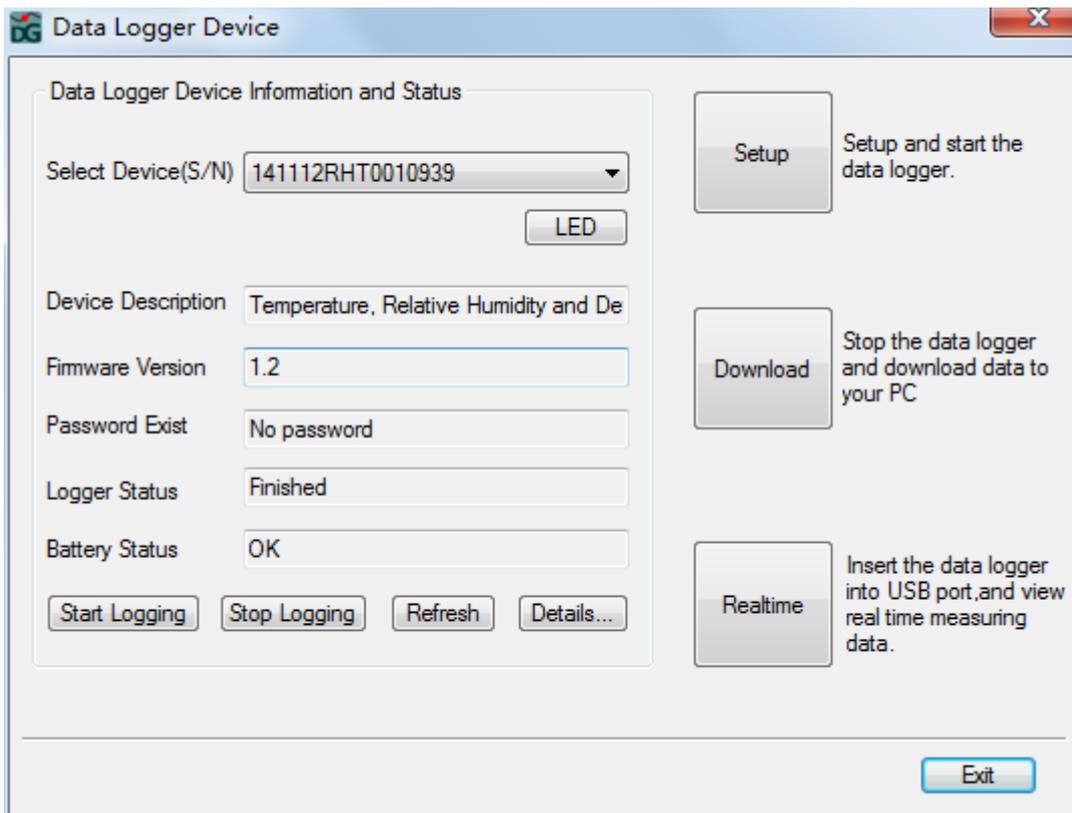
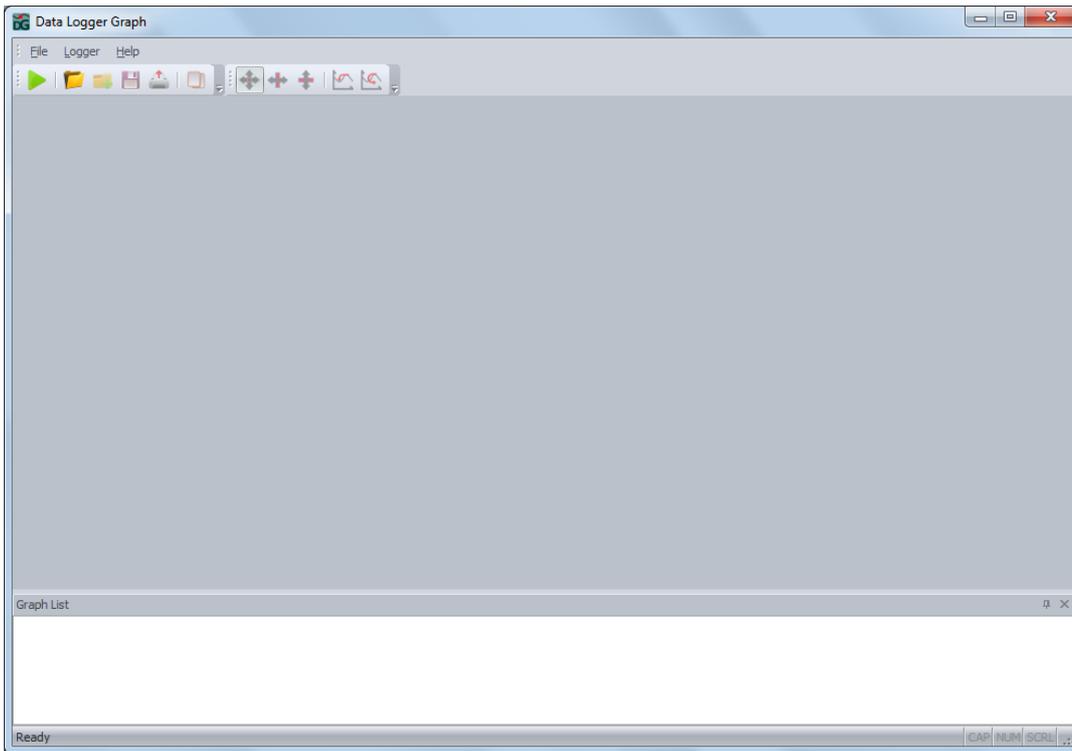
Install Battery, Software & Driver according to *User Manual*. To use the data logger, take the following steps:

1. Make sure the battery is correctly installed, or if you use USB port to power the data logger directly, you must not remove data logger from USB port when the data logger is logging.
2. Insert the data logger into an available USB port of a PC which has installed the Data Logger Graph software and driver.
3. Double click on the **Data Logger Graph** icon on your Windows desktop. This will load the Data Logger Graph software. On the left top of the software main screen, you can see **Start**  button and click on it. This will open **Data Logger Device** dialog.
4. Select data logger device that will be set (or default). Here you can check the firmware version, status, etc. of the selected data logger device.
5. Click on the **Setup** button to load **Data Logger Setup** dialog. Here you can follow the screen instructions and setup the data logger (or default if first attempts).
6. Click on the **Finished** button. The data logger will start according to your settings.
7. Remove the data logger from PC USB port except USB port will be used as power supply as your required.
8. When a task is finished, you can download data to PC. Do according to step 2 to 4 above firstly, and then click on the **Download** button on the **Data Logger Device** dialog. Here you can follow the screen instructions to download and save the data to PC. Please note that you need to input correct password to operate this step if the data logger has been set a password before (No for factory default).
9. You can use the Data Logger Graph software to graph, analyze and print the data, and export the data to other file formats (xls, txt, jpg, etc.).

## Data Logger Setup

Double click on the **Data Logger Graph** icon on your Windows desktop. This will load the Data Logger Graph software. On the left top of the software main screen, you can see **Start**  button and click on it. This will open **Data Logger Device** dialog.

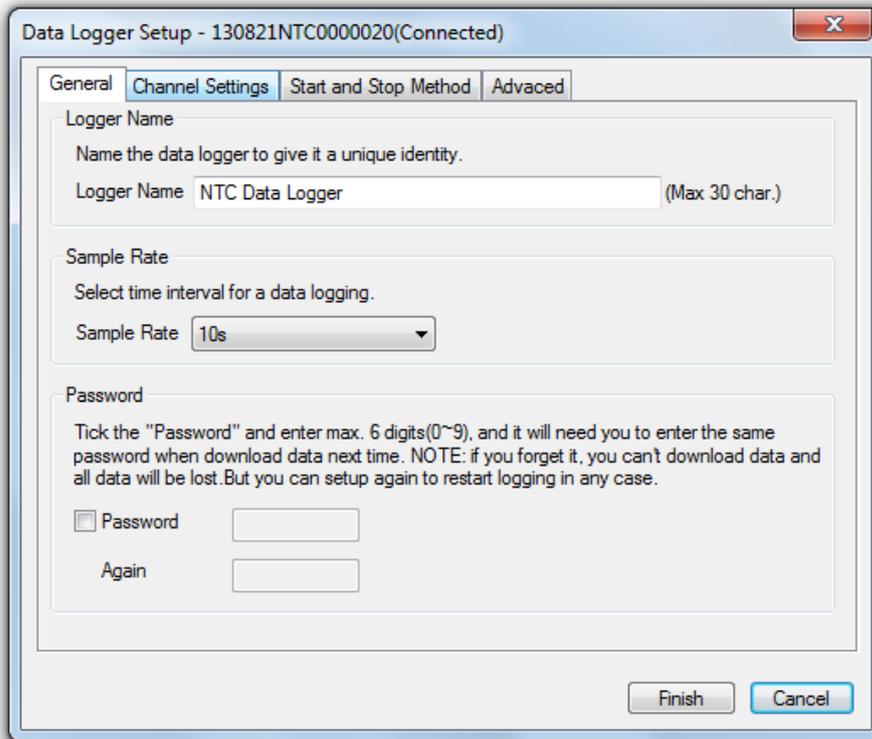




- Select Device: All connected data logger devices will be listed, and you can select a data logger device that will be set. Each data logger device has a serial number arranged by factory. Move and put the mouse on the **LED** button. You can see the yellow LED flash on the case of the selected data logger. The selected device information and status will be shown, including device description, firmware version, password exist, logger status and battery status. Click on the **Refresh** button,

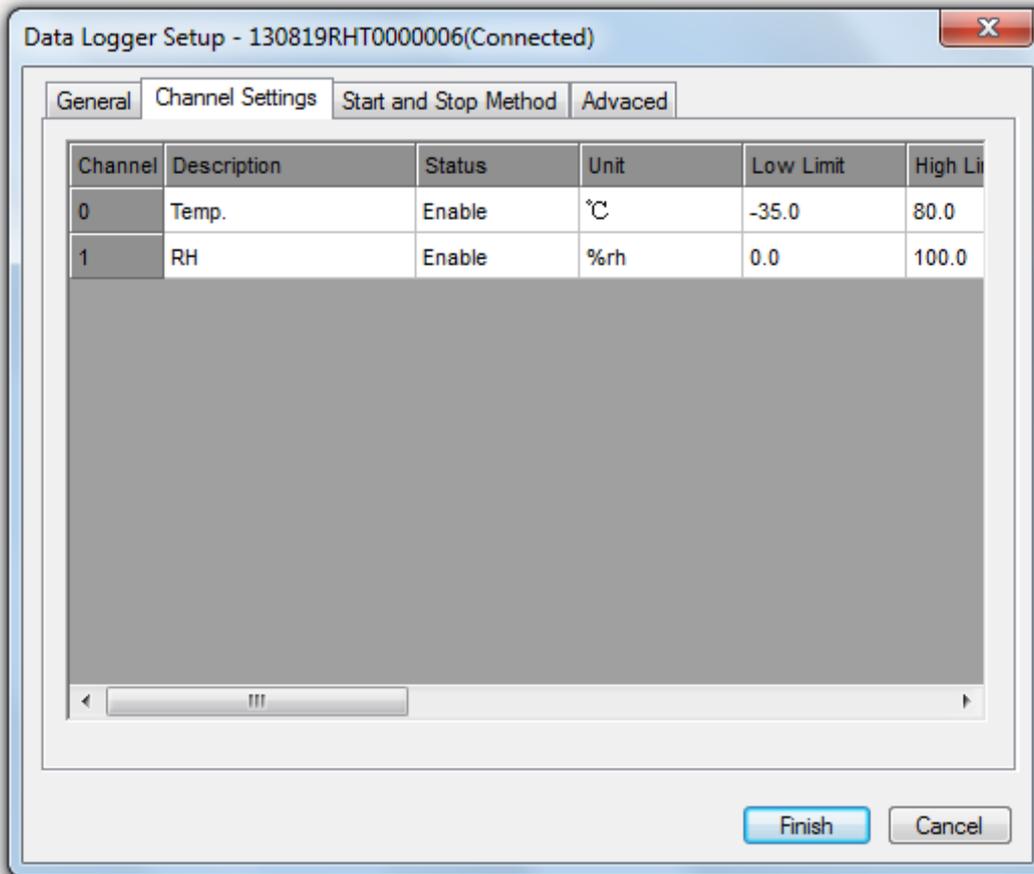
user can refresh the selected device information and status manually.  
Click "Details" button to see the details and status of the selected data logger.  
Click "Stop Logging" to stop current logging.  
Click "Start Logging" to start logging directly without re-setup.

- Setup: Click on the **Setup** button to open **Data Logger Setup** dialog. Select the **General** tab.



- Logger Name. Name the data logger to give it a unique identity.
- Sample Rate. Select time interval to instruct the logger to log readings at a specific rate.
- Password. If user set a password for the data logger, it will need user to enter the password when download data.

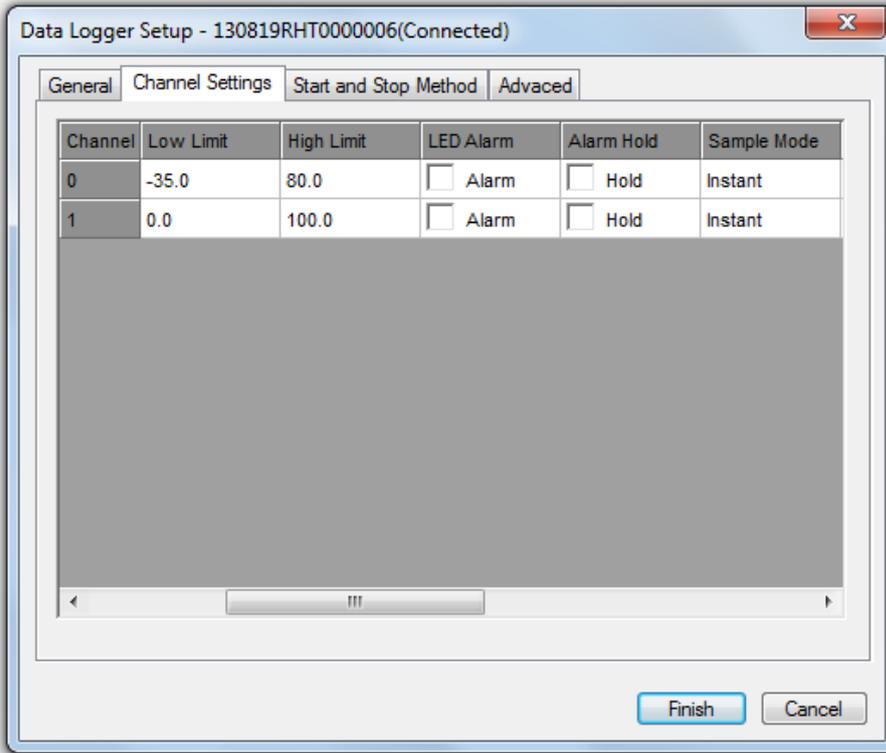
Then, select the **Channel Settings** tab. Here it lists all channel related settings.



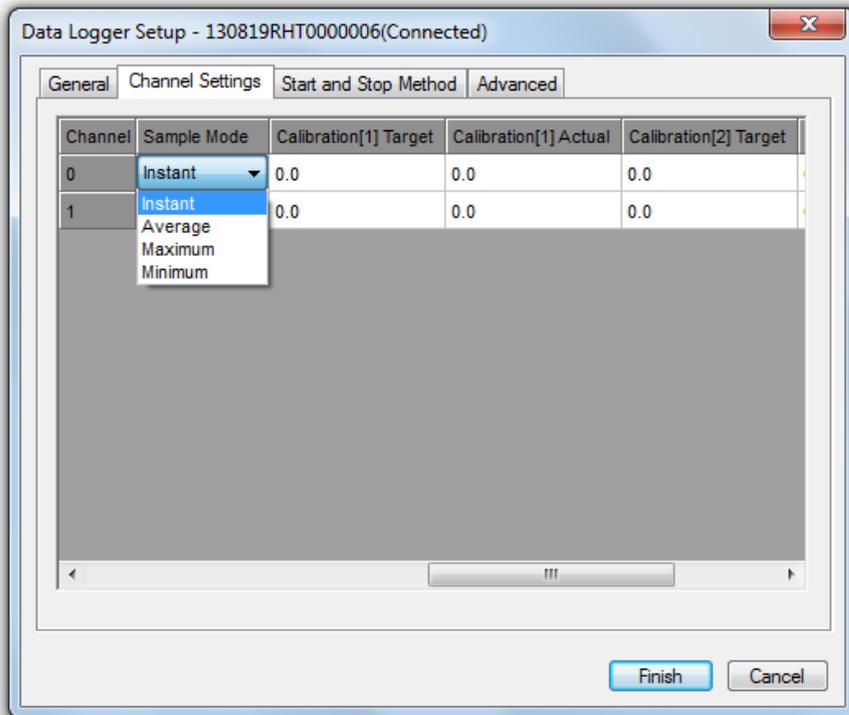
- a. Description. Name the channel.
- b. Status. Double-click to show a pop-up menu, and user can **Enable or Disable** the channel.

Channel	Description	Status	Unit	Low Limit	High Li
0	Temp.	Enable	°C	-35.0	80.0
1	RH	Enable	%rh	0.0	100.0

- c. Unit. Double-click to show a pop-up menu, and user can select the unit for the channel.
- d. Low Limit/ High Limit. Here allows user to set low/high alarm limit.
- e. LED Alarm. User can select or unselect to enable or disable LED Alarm when Logged readings exceed the low/high alarm limit.
- f. Alarm Hold. Tick **Hold** to continue indicating an LED Alarm condition even when the logged readings have been returned within the set alarm limit.



- g. Sample Mode. When the sample rate is more than internal basic sample rate, the readings between sample rate interval will be processed as below
- Instant. Ignore the readings between sample rate intervals.
  - Average. Get the average of all the readings between sample rate intervals.
  - Maximum. Get the maximum of all the readings between sample rate intervals.
  - Minimum. Get the minimum of all the readings between sample rate intervals.

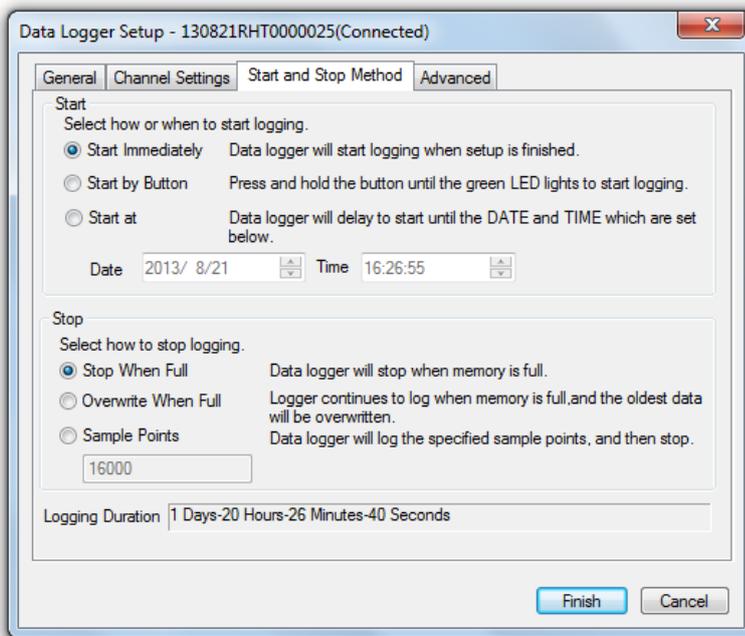


h. Calibration. It can support up to two point calibration. **Target** is the value that will be calibrated. **Actual** is the actual value for target value.

**Important Note: Measurement error will occur if user does any calibration incorrectly. User can clear wrong calibration value. See the *advanced* tab for more details.**

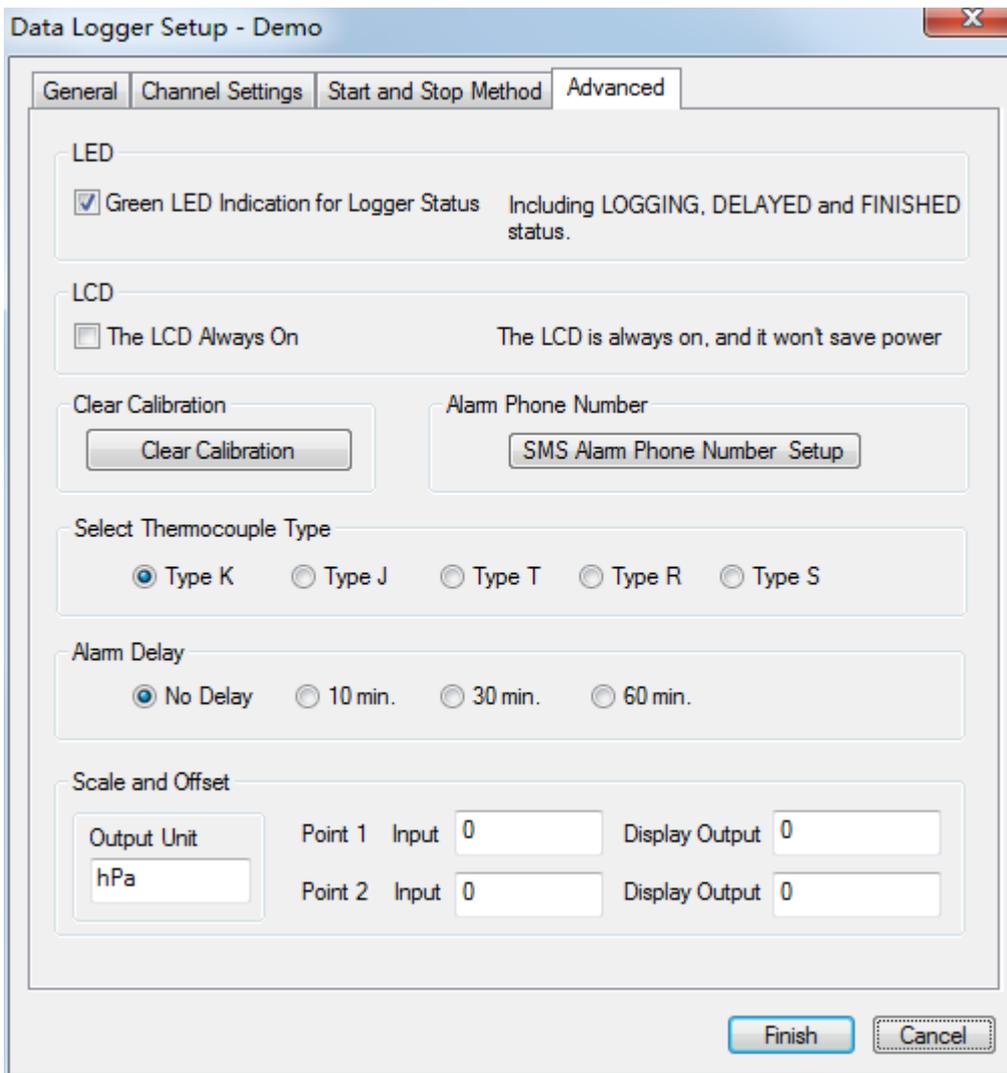
**User must input 0 for all target and actual if user don't want to change any calibration settings.**

Then, Select the **Start and Stop Method** tab.

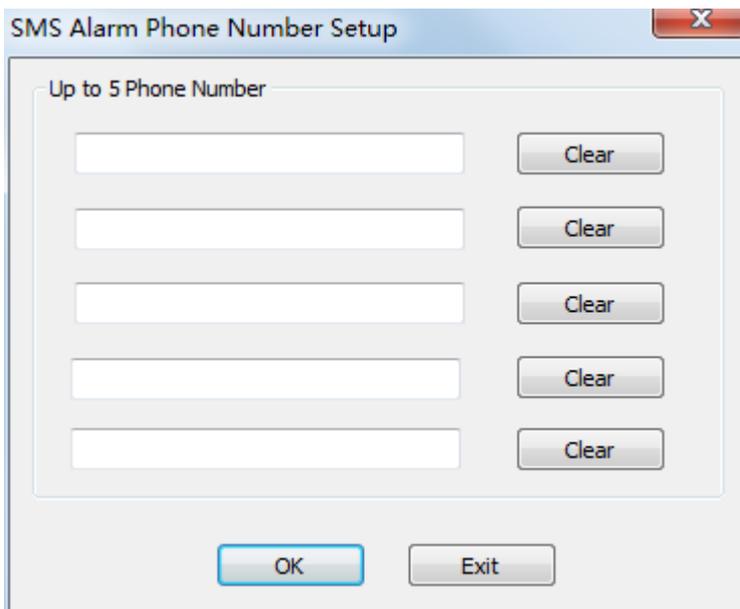


- a. Start Method. Select how or when to start logging.
- b. Stop Method. Select how to stop logging. Note that if user selects "Overwrite When Full", user can stop logging via the button on the housing of data logger.
- c. Logging Duration. Indicate duration time under the settings.

Finally, select the **Advanced** tab.



- a. LED. User can enable or disable the green LED indication for logging status.
- b. LCD. If user ticks it, the LCD always on (**Only for some specific product**)
- c. Clear Calibration. User can reset and clear calibration that be set on data logger before.
- d. Select Thermocouple Type. Select thermocouple type for data logger (**NOTE: Only for specific model**)
- e. Alarm Phone Number. Click "SMS Alarm Phone Number Setup" button. Enter the mobile phone number via which you want to get the alarm message when SMS alarm appears. 5 mobile phone numbers available at most and please make sure the integrity and the accuracy of the input numbers, otherwise users can not receive the SMS normally. Meanwhile, users can query the Data Logger readings and battery status by dialing the Data Logger and this number will be written into the alarm number list automatically. Notice: the top mobile number in the 5 numbers list will be forced to delete if Data Logger being written more than 5 numbers. (**NOTE: Only for specific model**)



- f. Alarm Delay. Users can select alarm delay. Data logger will start alarm after the selected delay time(**NOTE: Only for specific model**)

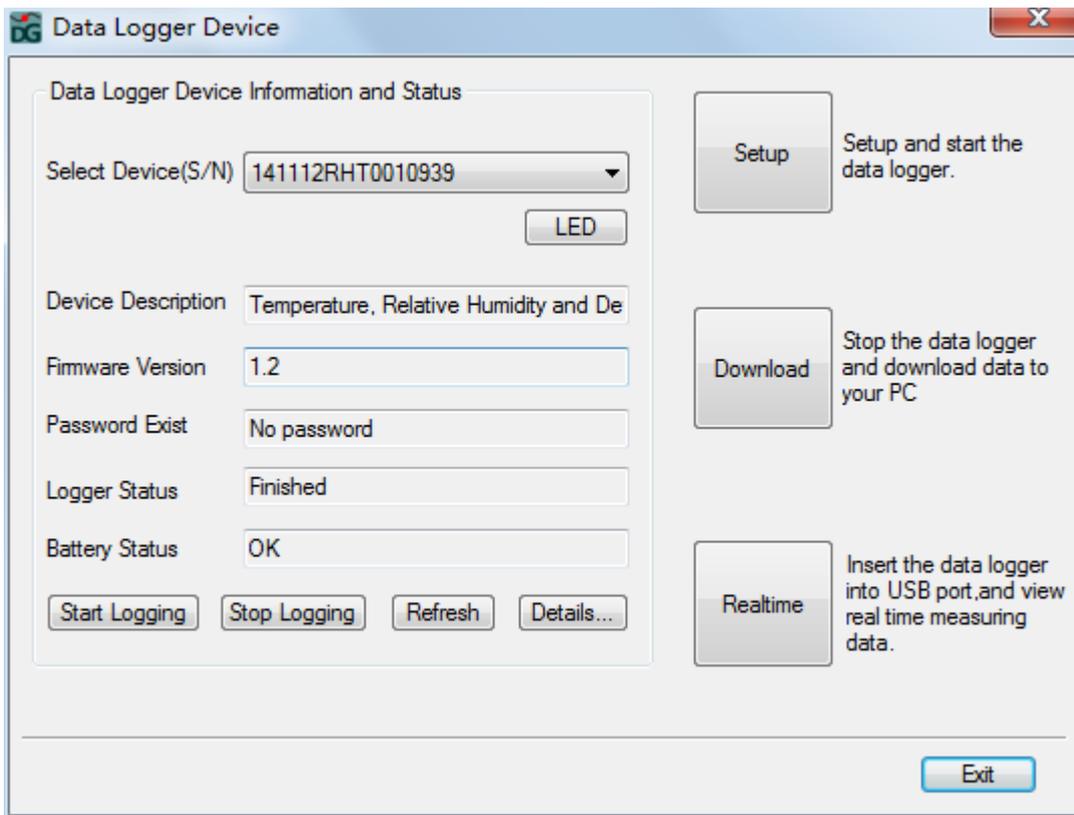
Click on the *Finish* button to setup. Press the *Cancel* button to abort the setup.

Notes:

- Any stored data will be permanently erased when Setup is finished. To ensure you to save this data before it is lost, click Cancel and then you need to download data.
- The battery will likelihood run out before logger will have finished specified sample points. Always ensure that the remaining charge in the battery is sufficient to last the complete duration of your logging exercise. If in doubt, we recommend that you always install a fresh battery before logging critical data.
- If user selects the "Start by Button", please start logging manually.

## Data Download

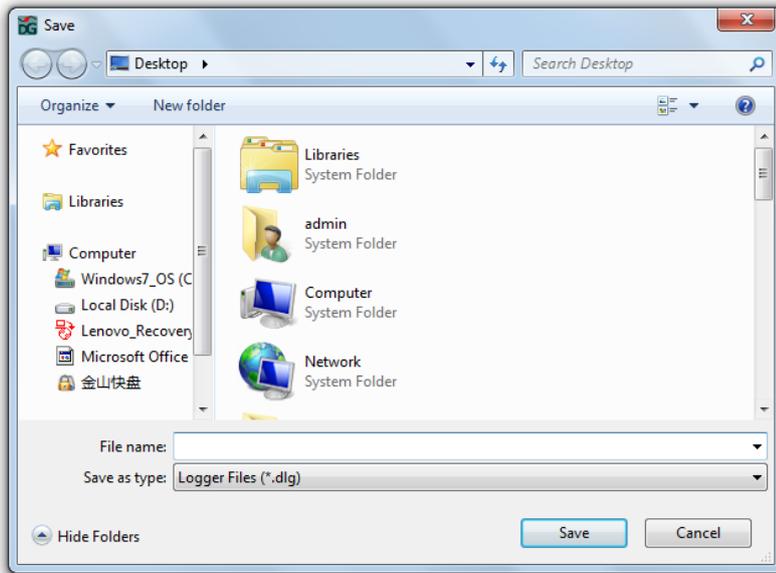
On the left top of the software main screen, you can see **Sta**  button and click on it. This will open **Data Logger Device** dialog.



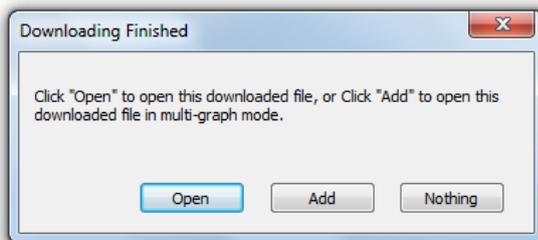
- a. Select Device to download data.
- b. Click on the **Download** button and input password if existed, and a **Save** dialog will be shown.



- c. Specify the saved path and name the saved file. Click on the **Save** button to save data.

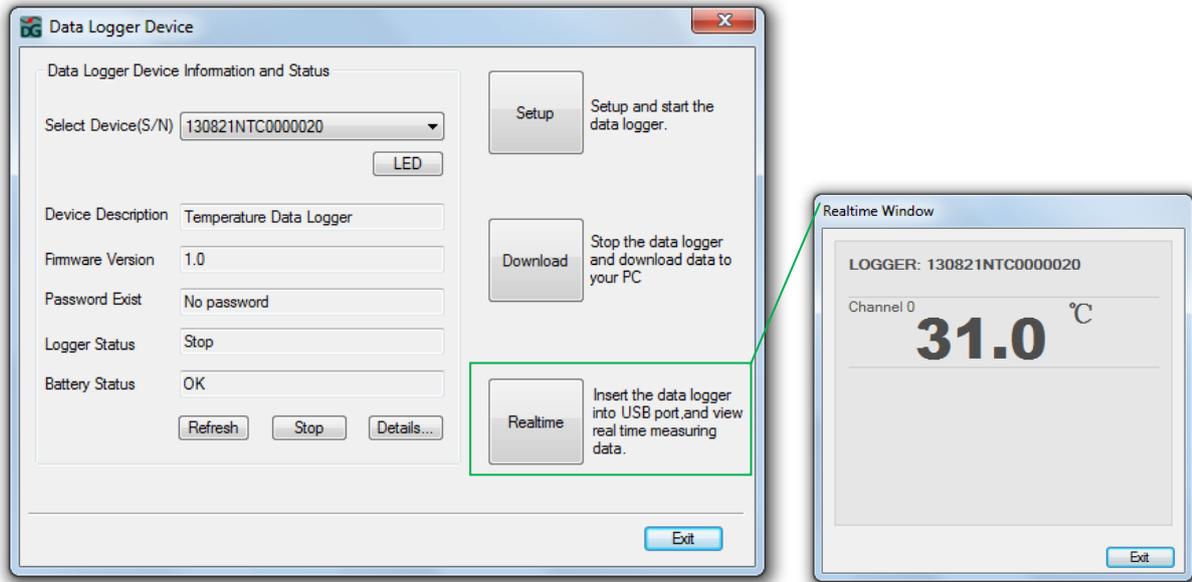


- d. When downloading finished, a dialog below will be shown, and user click "Open" to open the downloaded file directly, or click "Add" to add the downloaded file to current graph, or click "Nothing" to exit.



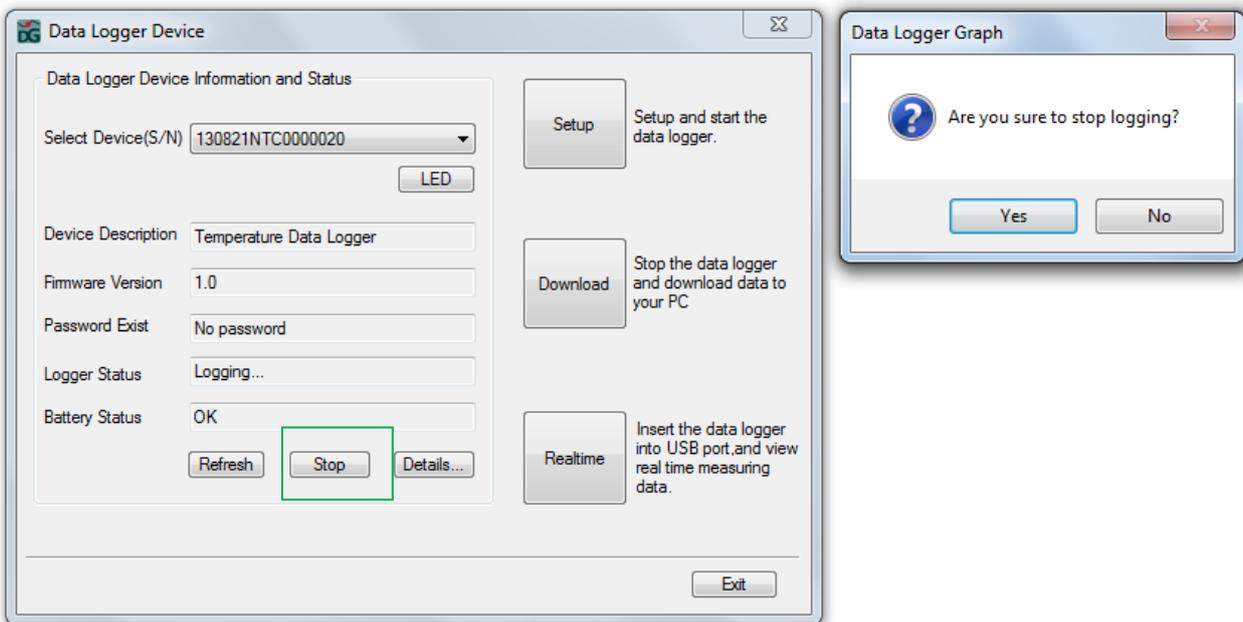
## Realtime Readings

When the data logger connected to PC, user can view the real-time readings.



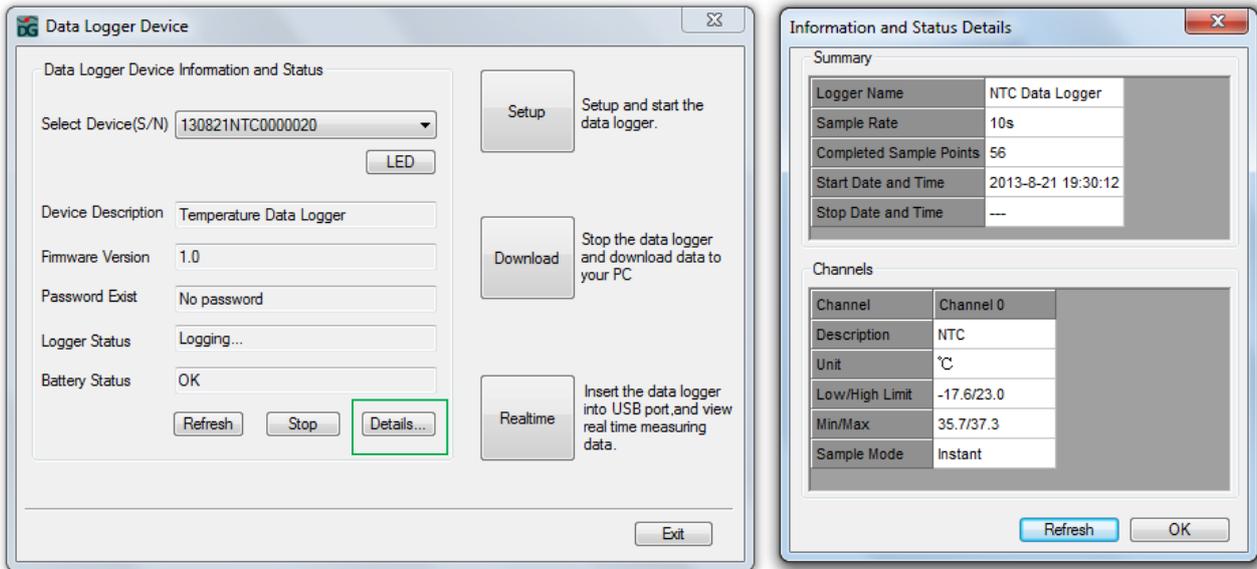
## Stop Logging

User can click on the **Stop** button to stop logging if the data logger is logging.

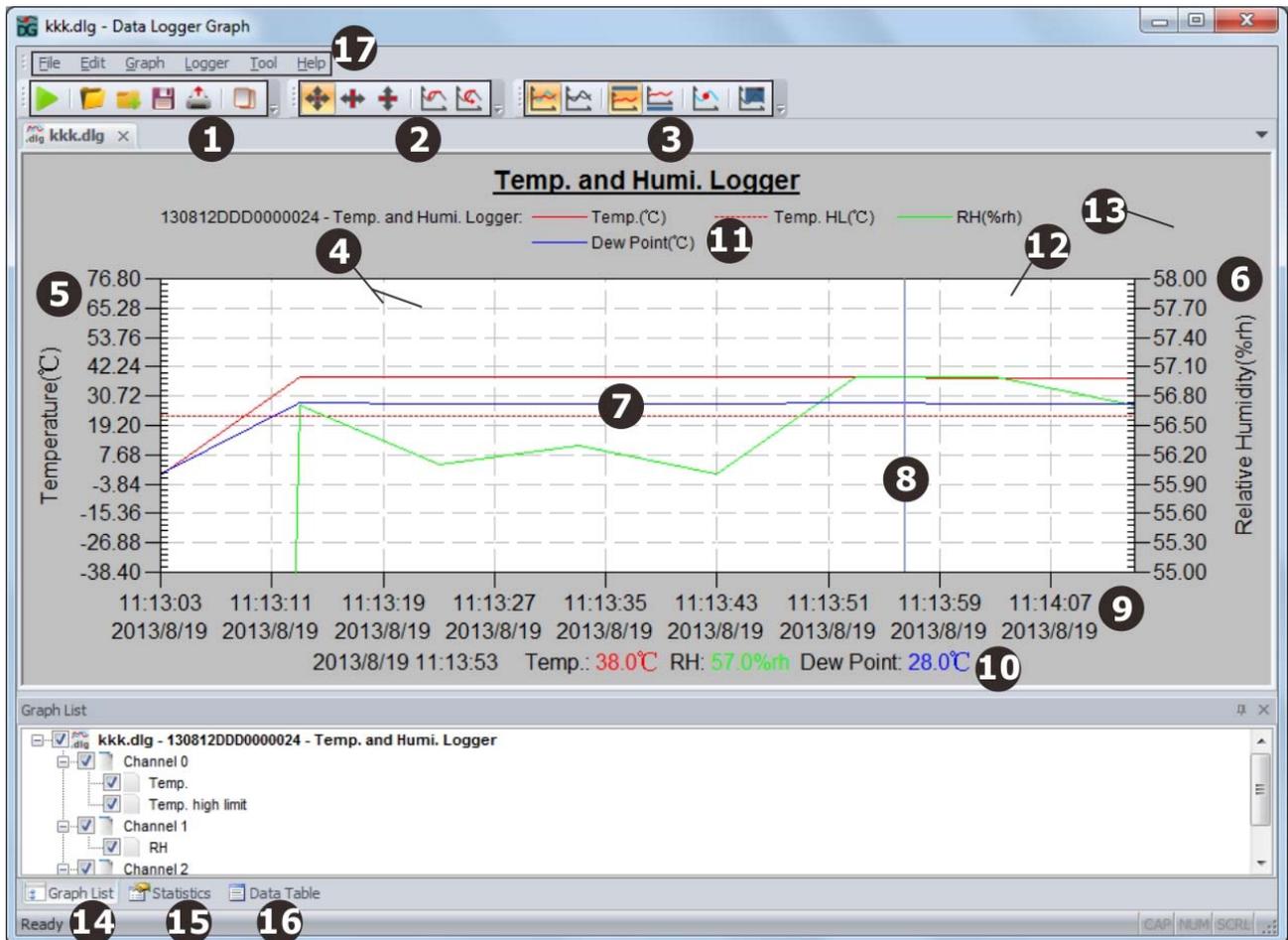


## Logger Details

Click on the **Details** button to view the information and status details for the data logger.



## Software Interface

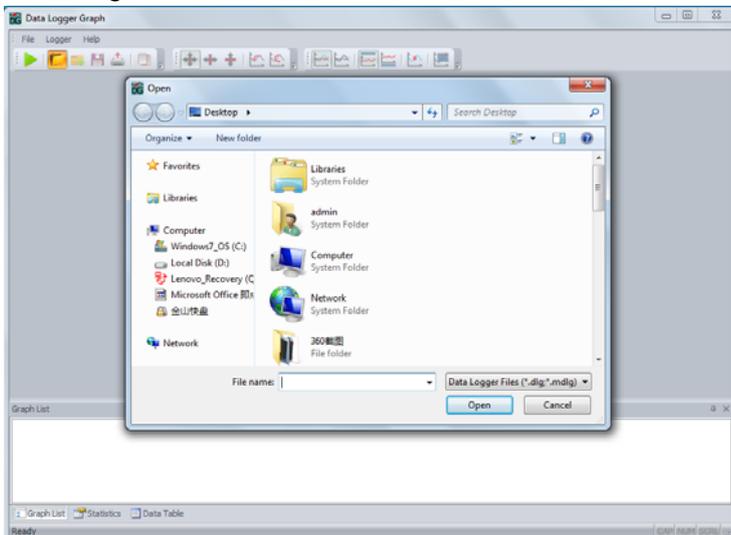


The above picture show the following information:

1. Standard Toolbar
2. Zoom and Pan Toolbar
3. Graph Toolbar
4. Grid line
5. The left vertical axis
6. The right vertical axis
7. Graph line
8. Floating line
9. The horizontal axis
10. The readings for the current floating line
11. Legend
12. Graph background
13. Page background
14. Graph list window
15. Statistics window
16. Data table window
17. Main menu

## Open File

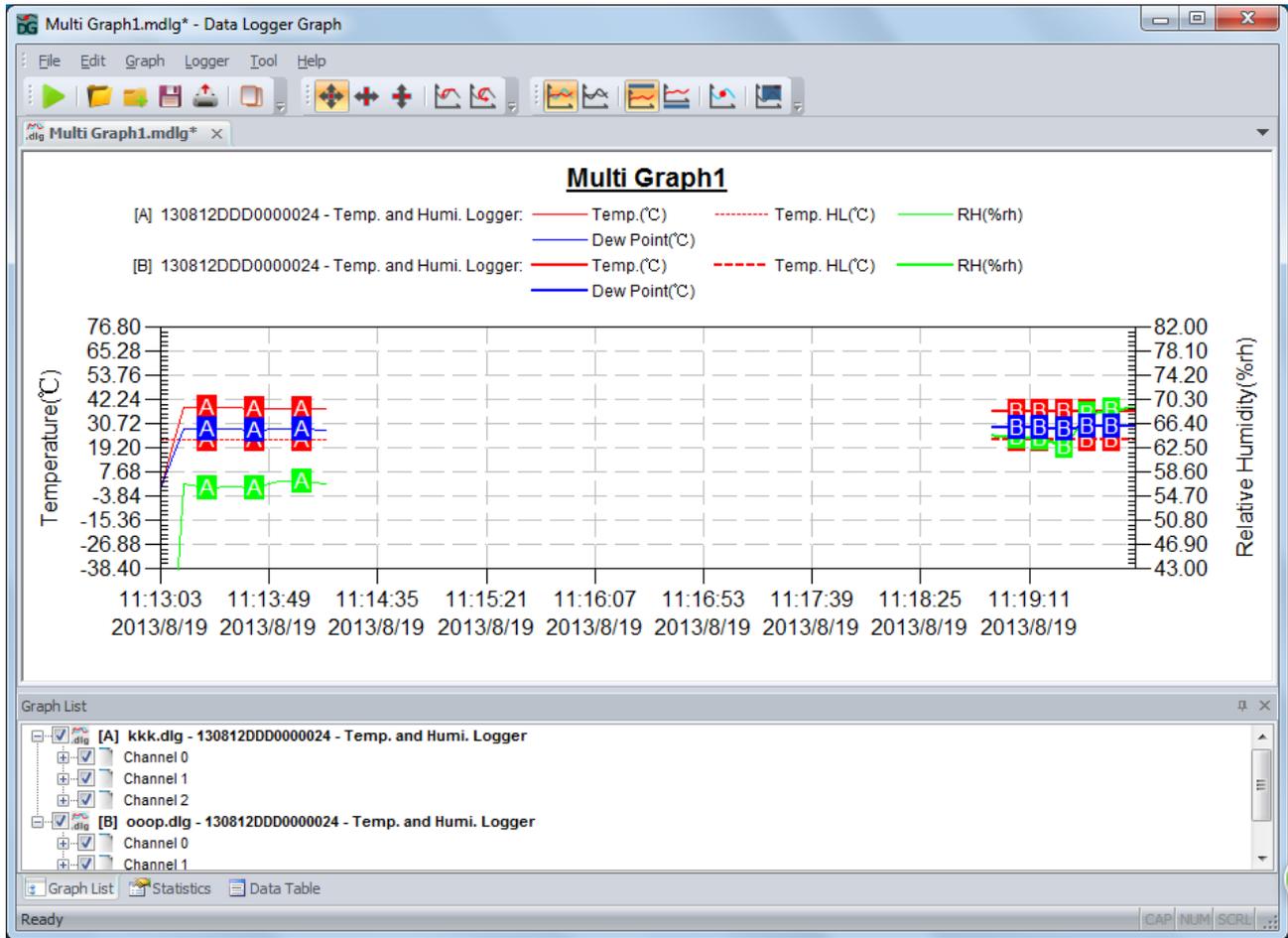
Click on the second icon on the standard toolbar or click on the Main Menu->File->Open to open the \*.dlg or \*.mdlg file.



## Add File and Multi-Graph Mode

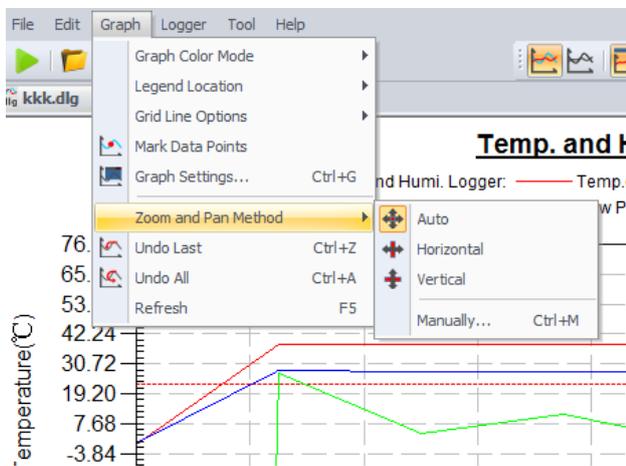
The software can support several files are shown in a graph interface. User can click on the third icon or

Main Menu->File->Add File to add files to current graph interface. User can compare and analyze the files using this function.



The graph line with A letter is a file, and the graph line with B letter is another file. User can save it to a new \*.mdl file. Note that the \*.mdl file need the original \*.dlg file to graph correctly.

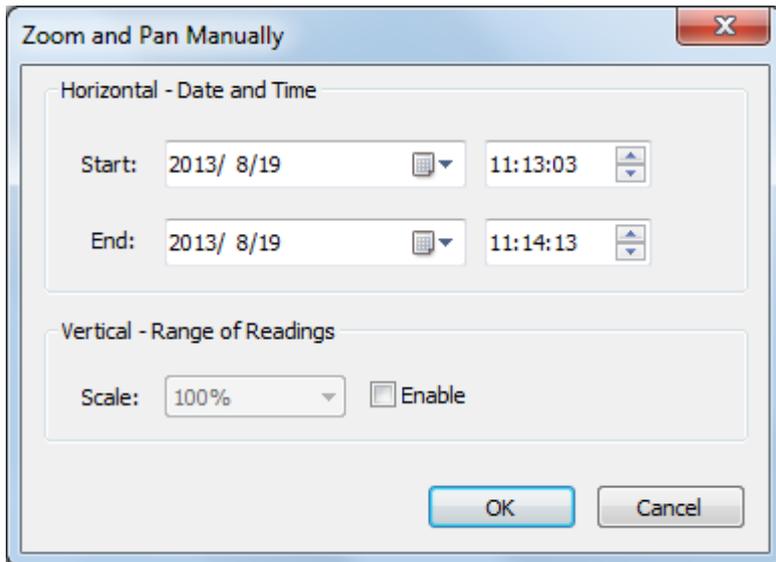
## Zoom and Pan





■ Zoom and Pan Method

- Auto Zoom and pan in any direction
- Horizontal Zoom and pan only in horizontal direction
- Vertical Zoom and pan only in vertical direction
- Manually Set the start time and end time for horizontal axis, and set the scale for the vertical axis.



■ Zoom In and Pan

- Use the mouse to click and drag a box around any graph area to magnify the area selected.
- Press and hold the mid-button of the mouse at any graph location, and move the mouse to pan the graph area.

■ Zoom Out

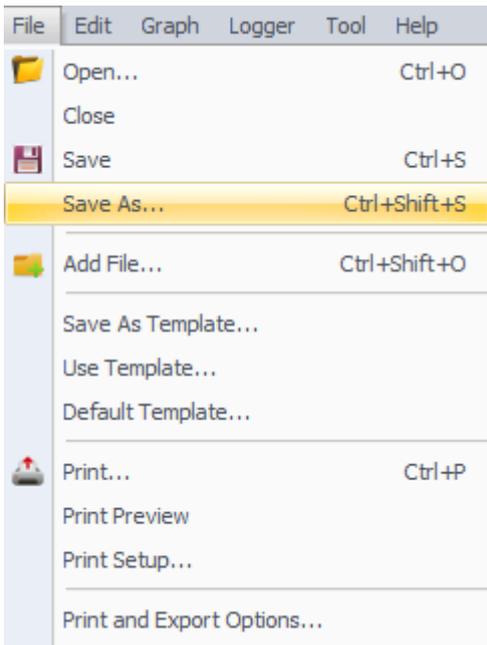
-Click on the  **Undo Last** button to show last graph area.

-Click on the  **Undo All** button to show the original graph area.

■ Refresh

## Export and Save

The software can save and open the \*.dlg or \*.mdl file type in default. Use can also save as other file types, including \*.txt, \*.csv, \*.xls, \*.bmp, and \*.jpg.



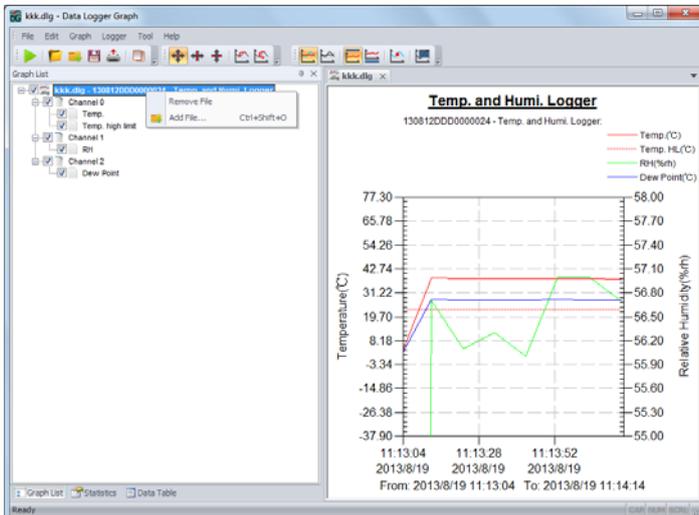
User can click on the Main Menu->Edit->Copy to copy the graph area to clipboard.



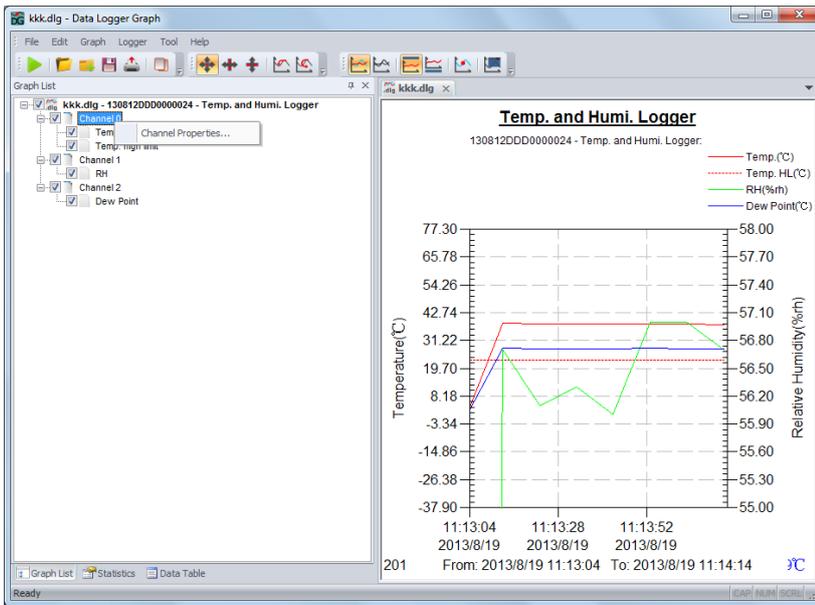
## Graph List

User can use the graph list window to operate file and channel related functions easily.

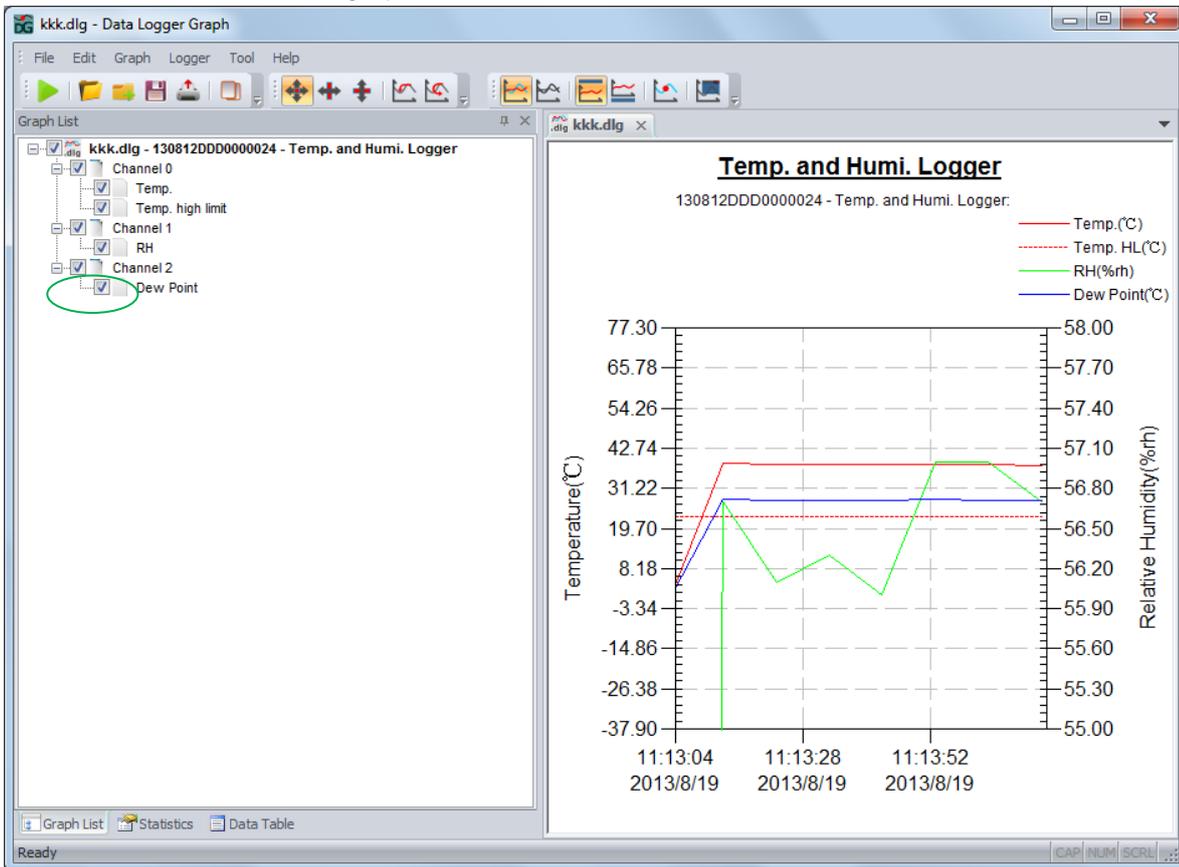
-Add or remove file using right-button of the mouse at file area of the tree.



-Open the channel related settings at channel area of the tree.

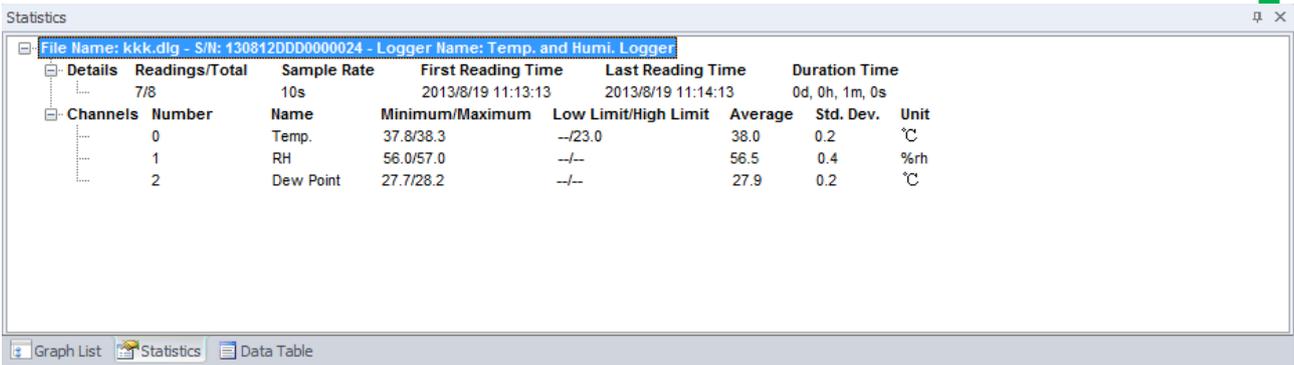


-Show or hide the selected graph line.



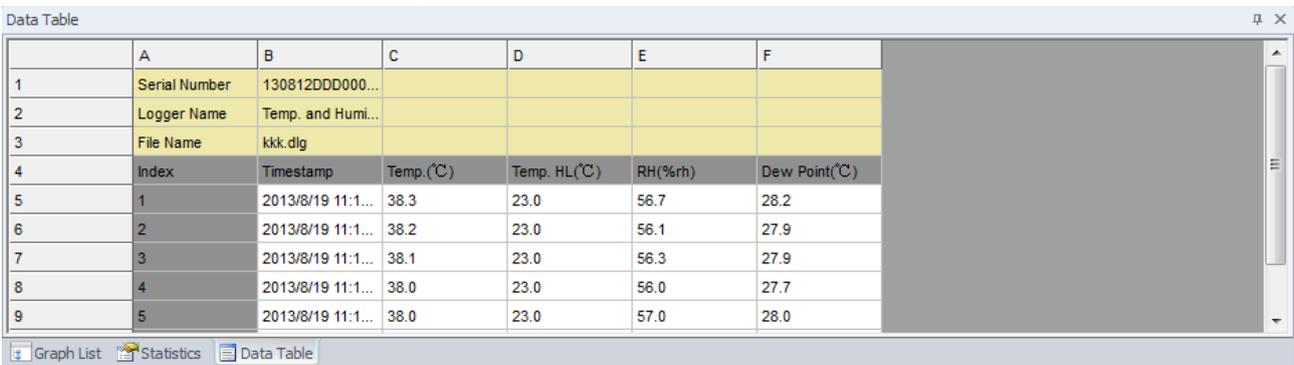
## Statistics Window

The window will show the data logger information and statistics of readings



## Data Table

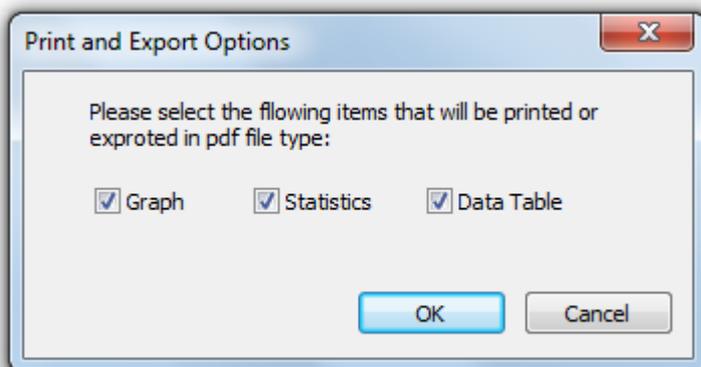
The window will show the readings in table



## Print

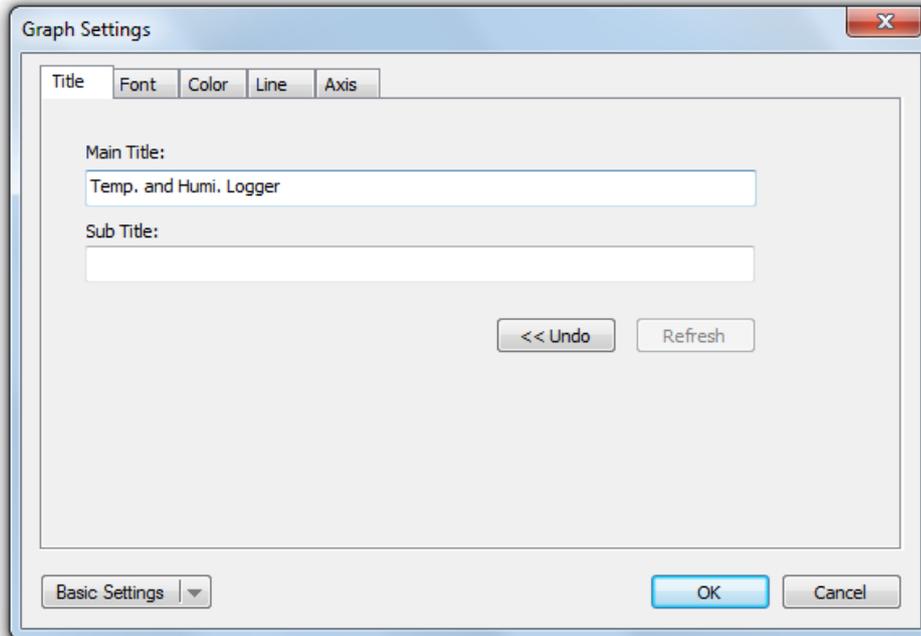
To print the graph, statistics and data table, click on the printer icon on standard toolbar or select Print from the File pull-down menu.

User can also select the printed contents in the following dialog.



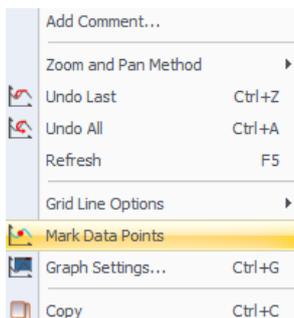
# Graph Settings

To set the graph area, click on the Graph Settings icon on graph toolbar or select graph settings from the graph pull-down menu.



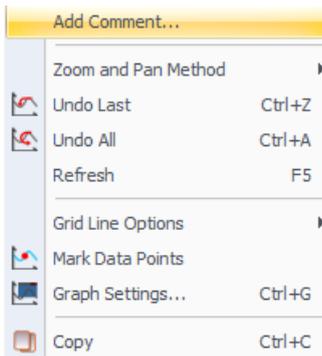
## Mark Data Points

Click right-button on graph area to show the pop-up menu below, Click "Mark Data Points" to show marks on all sample point locations.



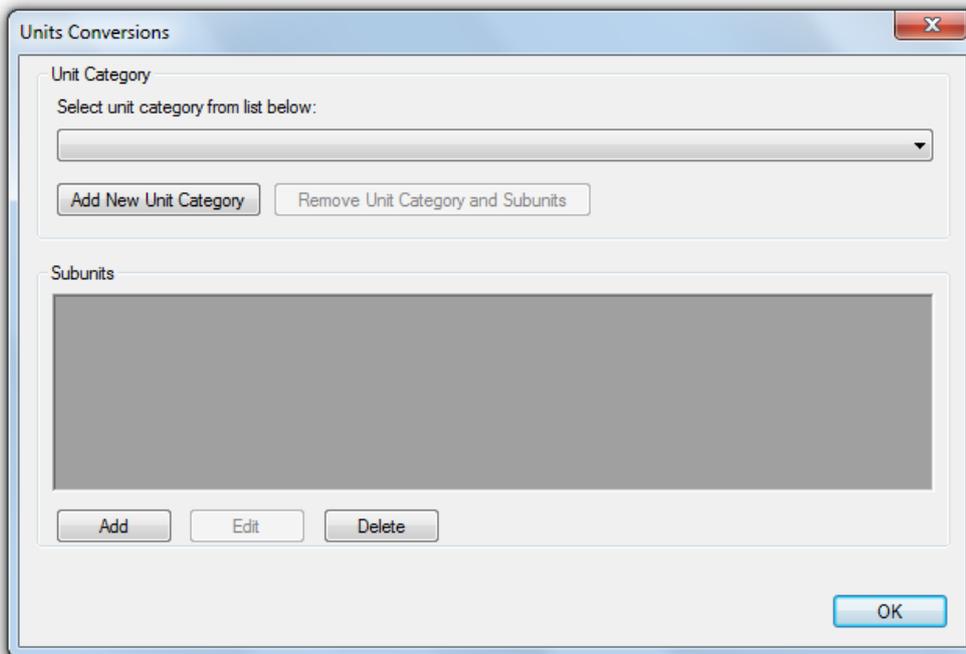
## Add Comment

User can add comment at any location of graph area, and also add comment for any sample points.



## Units Conversions

To create new unit and sub-unit, click on the units conversions from the tool pull-down menu.



## Compound Line

User can create new graph data and line via expression and the readings from data logger. Click on the compound line from tool pull-down menu.

Edit Formula for Compound Line

Channel	Description	Unit	Formula
0			
1			
2			
3			
4			
5			

f(x)

sin	arcsin	sinh	arsinh	C	Insert From the Active File
cos	arccos	cosh	arcosh	( ) / * e	Select Physical Constant
tan	arctan	tanh	artanh	7 8 9 - PI	_c=
exp	ln	int	cot	4 5 6 + =	2.99792E+008
10^x	log	rad	deg	1 2 3	
x^2	sqrt	abs	sign	0 . ^	

Name the compound line