

Datalogger and RS232 Interface

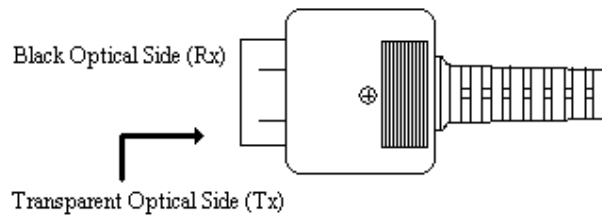
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Wiring Hardware

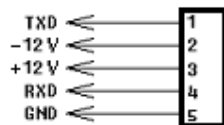
PC Interface Cable

Meter side of PC Interface Cable

The RS-232 “Optical” plug side of the PC Interface Cable connects to the meter’s RS-232 “Optical” jack. Refer to the diagram below for wiring information.



USB Diagram



RS232 Default Settings

When RS-232 communication enabled ,the default RS-232 settings are

Baud Rate **9600**

Parity **None**

Data bits **8**

Stop bit **1**

RS232 Protocol

1. Byte Code

Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7	Byte8	Byte9
02	T1 Status	T1 High	T1 Low	T2 Status	T2 High	T2 Low	Type	03

Byte1 : Starting Byte (02)

Byte2, 5: Status Bytes

bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0	
—	OL	----				00 : °C		1
+						01 : °F		
						10 : °K		0
						11 : °F		

Byte3, 4: T1 Bytes

$$T1 = (\text{Byte3} \times 256 + \text{Byte4}) / 10$$

Byte6, 7: T2 Bytes (FF FF : 1315)

$$T2 = (\text{Byte6} \times 256 + \text{Byte7}) / 10$$

Byte8 : Type Byte

00: K 01: J 02: E 03: T
04: R 05: S 06: N

Byte9 : Ending Byte (03)

2. Commands

"A" : 02 + Last Address + 03

Last Address : 8C80

"U" : 02 + 00 55 AA 00 + Interval + Data + Data +

+ 00 55 AA 00 + Interval + Data + Data + + 03

Interval : 1 Byte

Data : T1 Status + T1 High + T1 Low + T2 Status + T2 High + T2 Low + Type

Hardware Requirements and Setup

PC HardWare Requirements :

HDD, CD Rom, 486 PC or above, with USB port

EGA or higher monitor

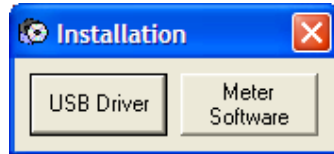
4M bytes or more memory size

PC HardWare Setup :

- 1) Switch off all power related to the PC
- 2) Connect the USB cable to available port
- 3) Switch on all related power
- 4) Connect the fiber end of the supplied cable to the meter

Software Requirements and Setup

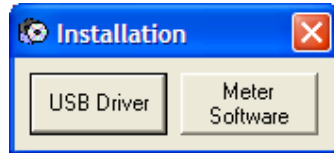
- 1) Start up windows XP/7 operating system
- 2) Close all other applications
- 3) Insert the disk in CD drive



(If “autorun” does not start, click on “Start” then “Run”. Type the drive letter and “: \USBDriver.exe” and click “OK” .)

Follow the on-screen instructions to set up USB driver.

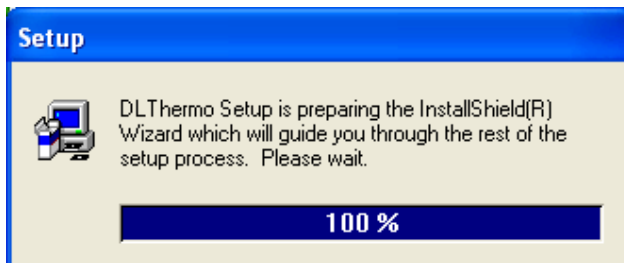
- 4) Restart the personal computer.
- 5) Insert the disk in CD drive



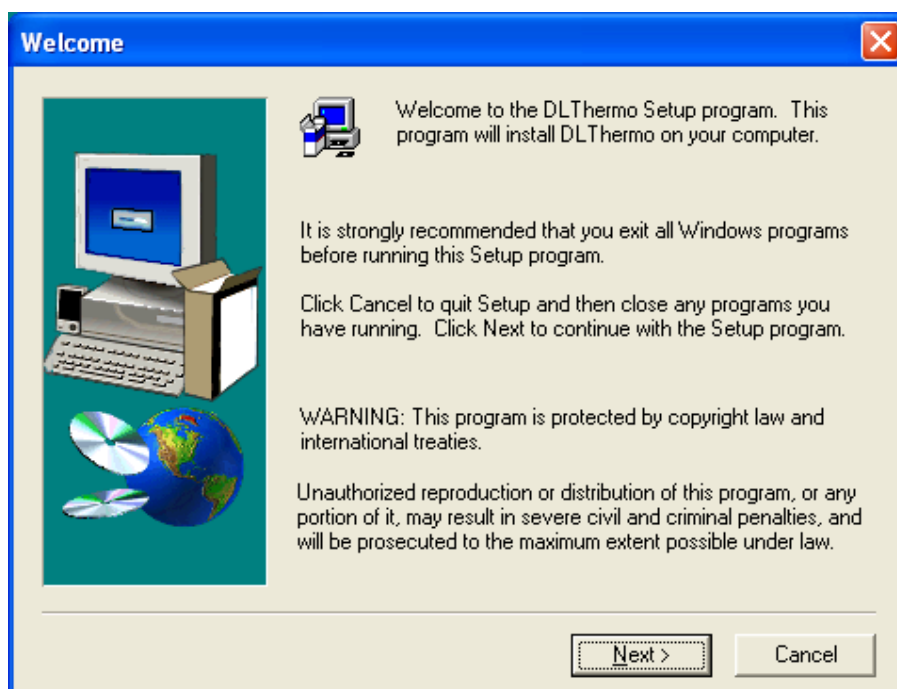
(If “autorun” does not start, click on “Start” then “Run”. Type the drive letter and “: \Software\setup.exe” and click “OK” .)

- 6) Follow the on-screen instructions.

1.

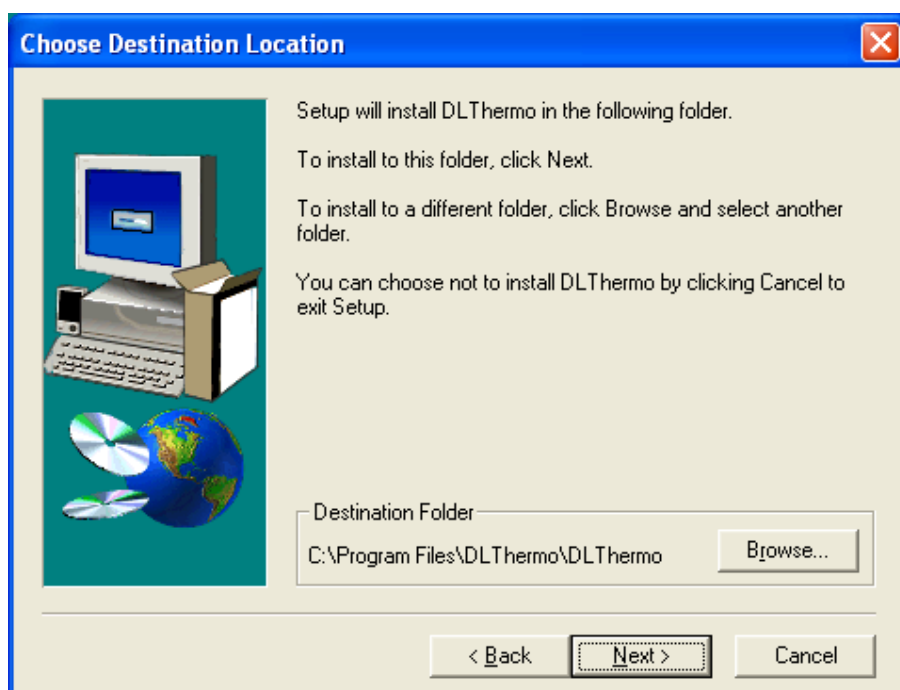


2.



Click Next> button

3.

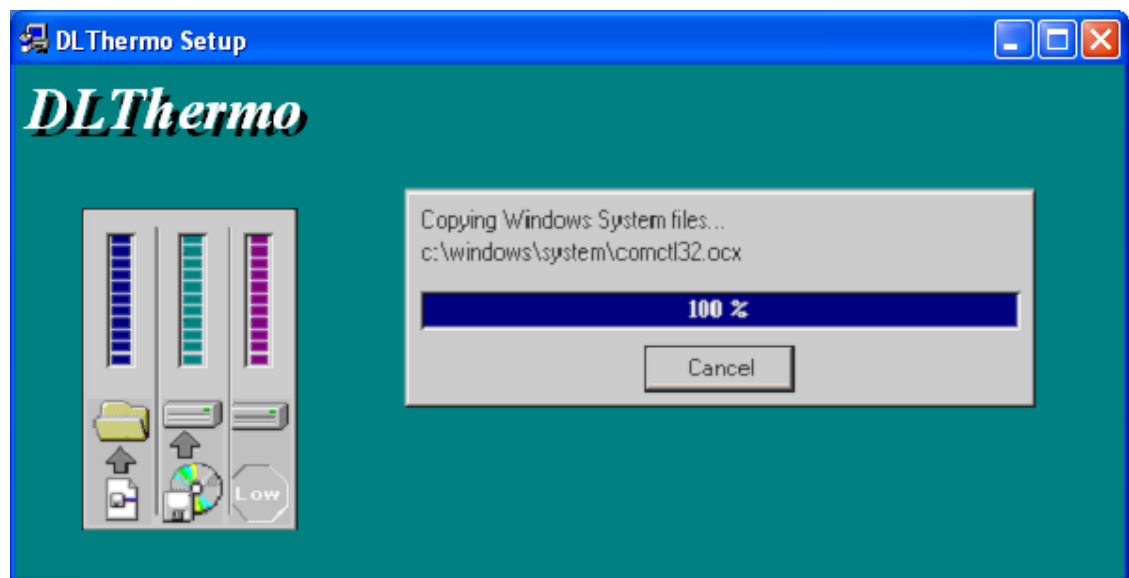


- a. Click Next> button to setup on the default folder or
- b. Click Browse...button to setup on a different folder

4.



Click Next> button

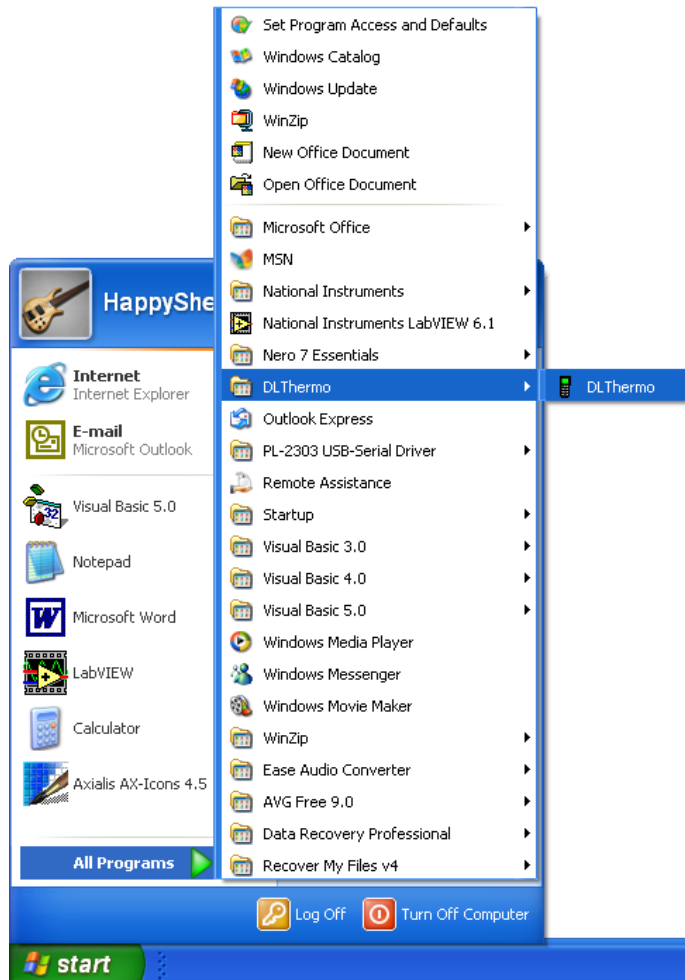


Setup is completed.

On-Line Operation

■ Run the software

1.



Start → All Programs → DLThermo → DLThermo

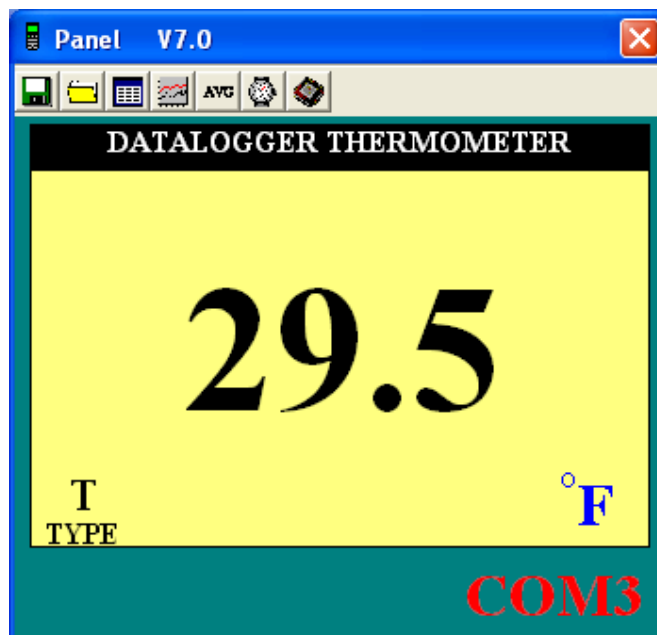
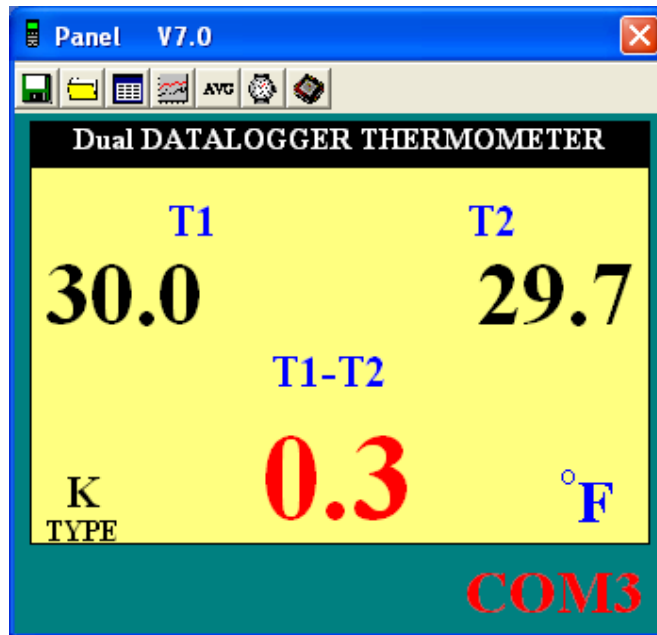
2.



Select an available COM Port then click 


3.

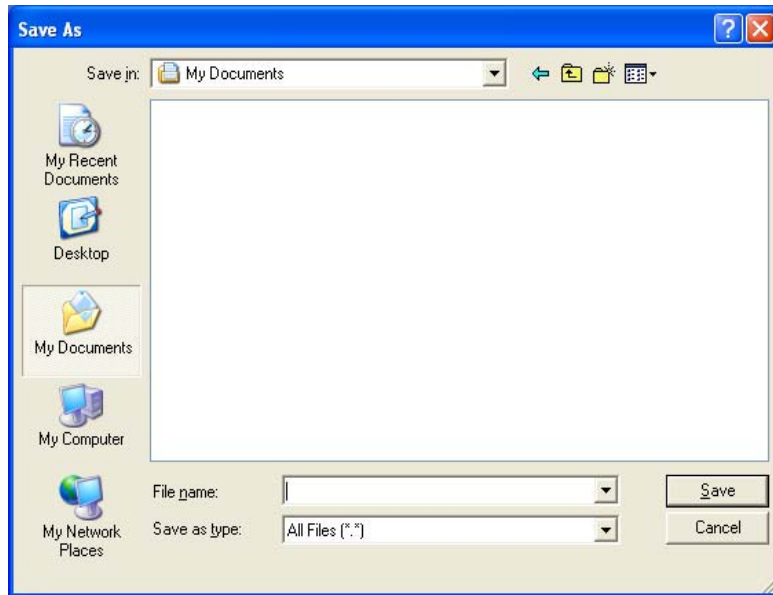
Main software screen (Dual)




■ Record

Save to H.D.D.

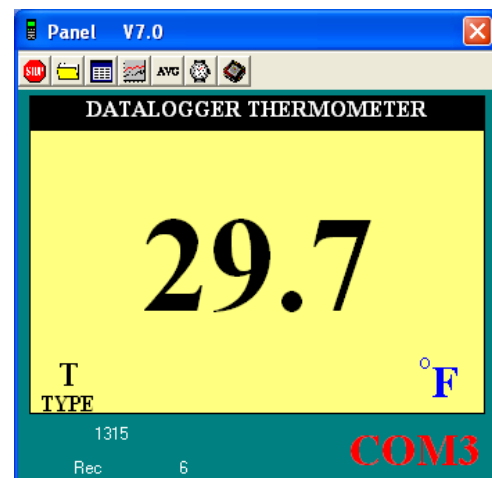
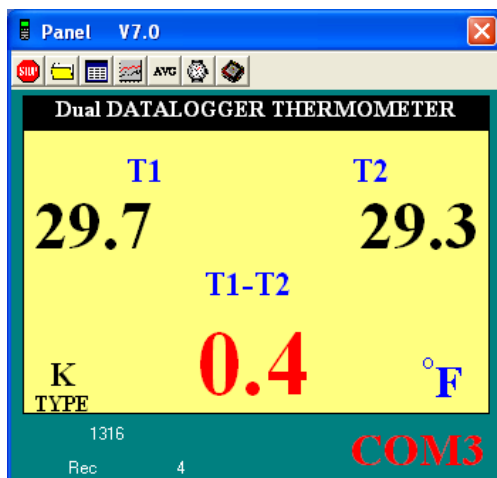
Click  button. The dialog box shown below will appear



Input a file name and then click  to begin saving data to the file just named.

Click  to stop recording

(Dual)



Click  button to stop recording.

Save to EEPROM

Click the **MEM** on the meter to proceed.

1. Automatically Record

Keep pressing the MEM on the meter till “MEM” symbol starts flashing on the LCD.


Press this key (momentarily) labeled STOP to stop recording.

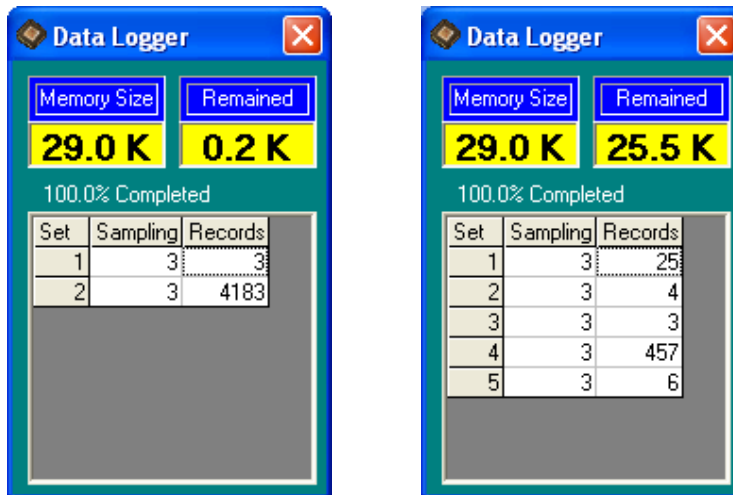
2. Manually Record

Press the MEM key (momentarily) to store one reading.

■ Download Data

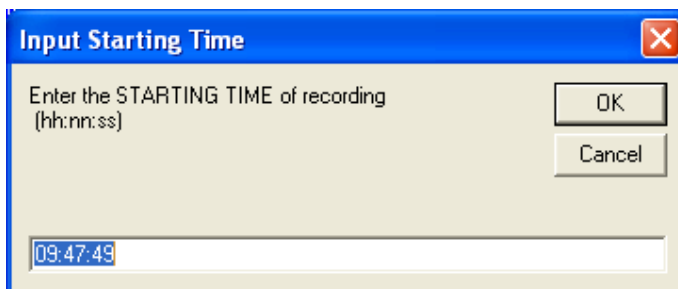
1. Download Data from EEPROM

Click  button. The Data Logger window, shown below, will open.



Click on a SET number to view the set's details.

For example, in the window above, there are 2 sets (5 sets) from which to choose.



Enter the starting time of recording.

The list below is an example of an opened set.

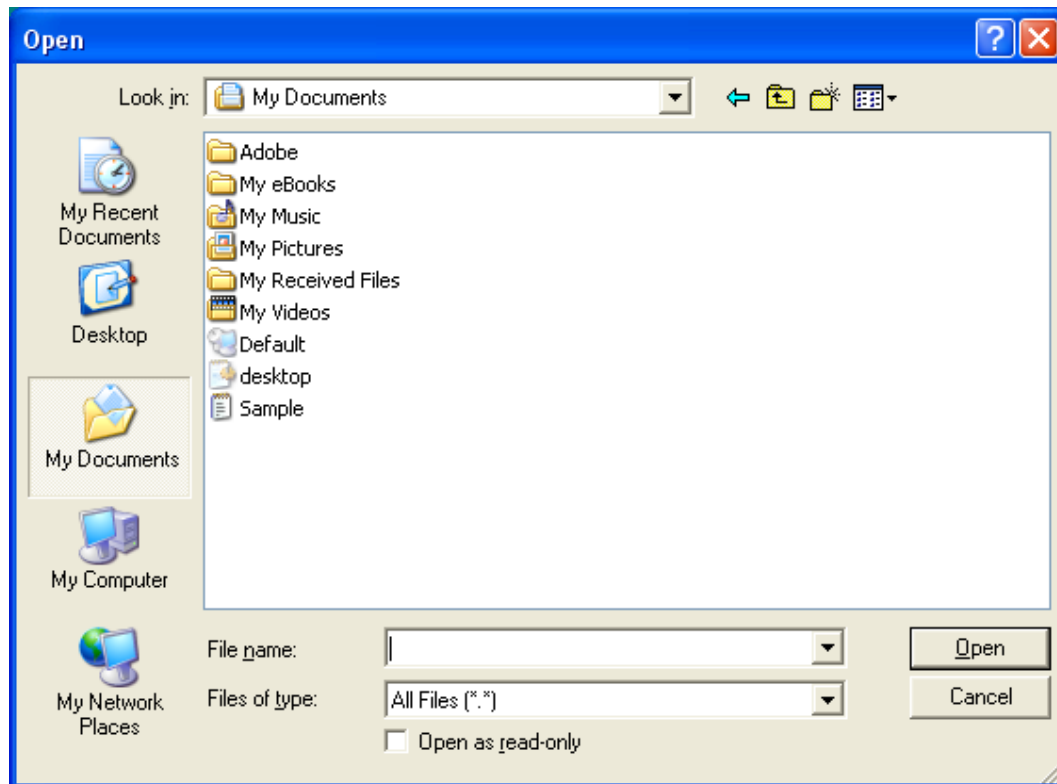
(Dual)

Data List					
No.s	Time	T1	T2	T1-T2	Unit
1	09:45:32	0.2	0.9	-0.7	C
2	09:45:35	0.1	0.9	-0.8	C
3	09:45:38	0.0	1.0	-1.0	C
4	09:45:41	0.0	0.9	-0.9	C
5	09:45:44	0.0	0.9	-0.9	C
6	09:45:47	-0.1	0.8	-0.9	C
7	09:45:50	-0.1	0.8	-0.9	C
8	09:45:53	-0.1	0.8	-0.9	C
9	09:45:56	-0.1	0.8	-0.9	C
10	09:45:59	-0.1	0.8	-0.9	C
11	09:46:02	-0.1	0.7	-0.8	C
12	09:46:05	-0.1	0.7	-0.8	C
13	09:46:08	-0.2	0.7	-0.9	C
14	09:46:11	-0.2	0.6	-0.8	C
15	09:46:14	-0.2	0.6	-0.8	C

Data List			
No.s	Time	Value	Unit
4	09:38:31	29.5	F
5	09:38:33	29.5	F
6	09:38:35	29.3	F
7	09:38:37	29.5	F
8	09:38:39	29.5	F
9	09:38:41	29.5	F
10	09:38:43	29.5	F
11	09:38:45	29.5	F
12	09:38:47	29.5	F
13	09:38:49	29.5	F
14	09:38:51	29.5	F
15	09:38:53	29.5	F
16	09:38:55	29.5	F
17	09:38:57	29.5	F
18	09:38:59	29.5	F

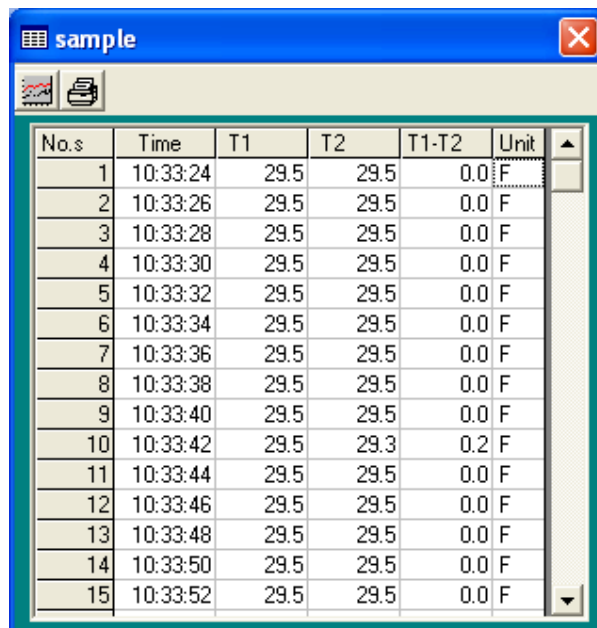
2. Download Data from Hard Disk

Click  button. There comes an Open window as below

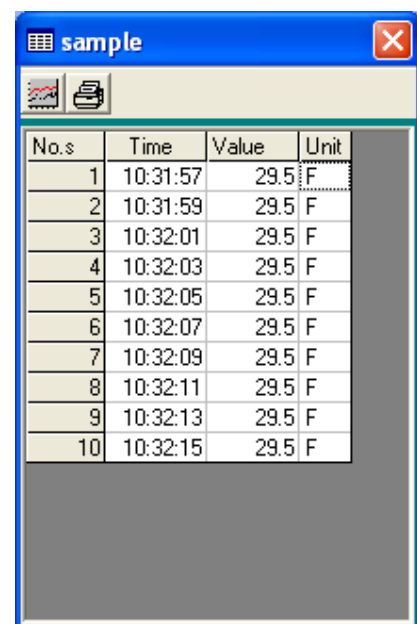


Input the file name and then click Open button if willing to read.

(Dual)



No.s	Time	T1	T2	T1-T2	Unit
1	10:33:24	29.5	29.5	0.0	F
2	10:33:26	29.5	29.5	0.0	F
3	10:33:28	29.5	29.5	0.0	F
4	10:33:30	29.5	29.5	0.0	F
5	10:33:32	29.5	29.5	0.0	F
6	10:33:34	29.5	29.5	0.0	F
7	10:33:36	29.5	29.5	0.0	F
8	10:33:38	29.5	29.5	0.0	F
9	10:33:40	29.5	29.5	0.0	F
10	10:33:42	29.5	29.3	0.2	F
11	10:33:44	29.5	29.5	0.0	F
12	10:33:46	29.5	29.5	0.0	F
13	10:33:48	29.5	29.5	0.0	F
14	10:33:50	29.5	29.5	0.0	F
15	10:33:52	29.5	29.5	0.0	F

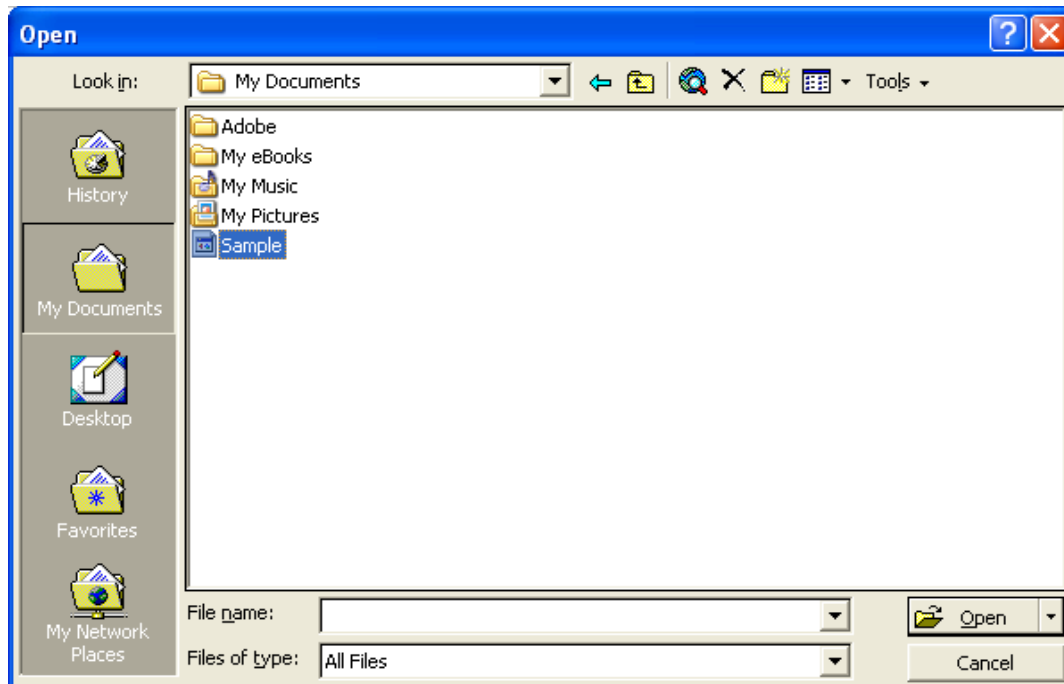


No.s	Time	Value	Unit
1	10:31:57	29.5	F
2	10:31:59	29.5	F
3	10:32:01	29.5	F
4	10:32:03	29.5	F
5	10:32:05	29.5	F
6	10:32:07	29.5	F
7	10:32:09	29.5	F
8	10:32:11	29.5	F
9	10:32:13	29.5	F
10	10:32:15	29.5	F

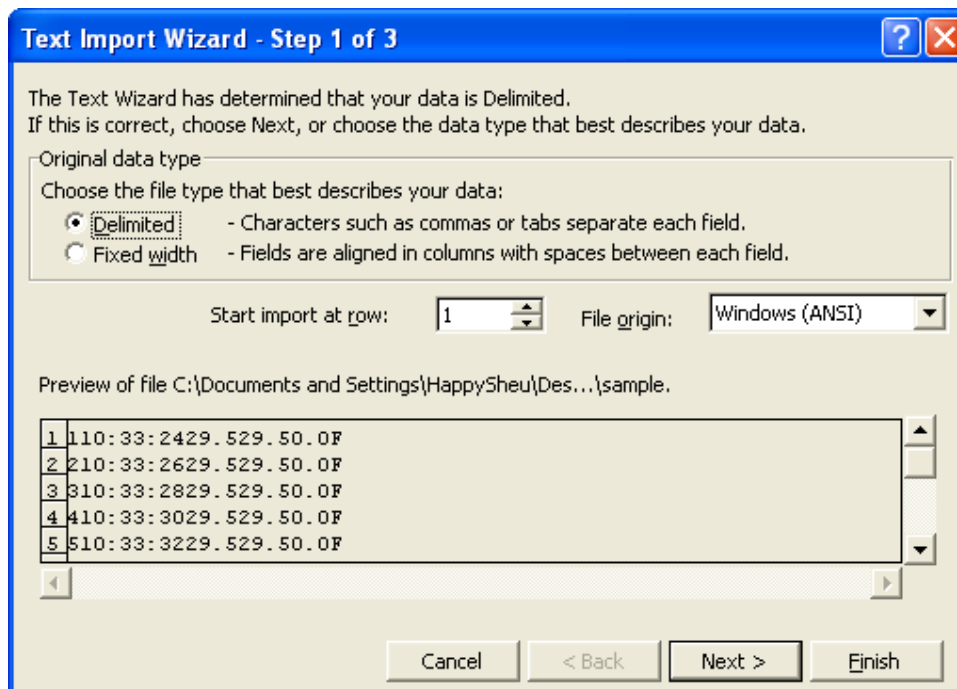
■ Data Convert

Apply for Excel

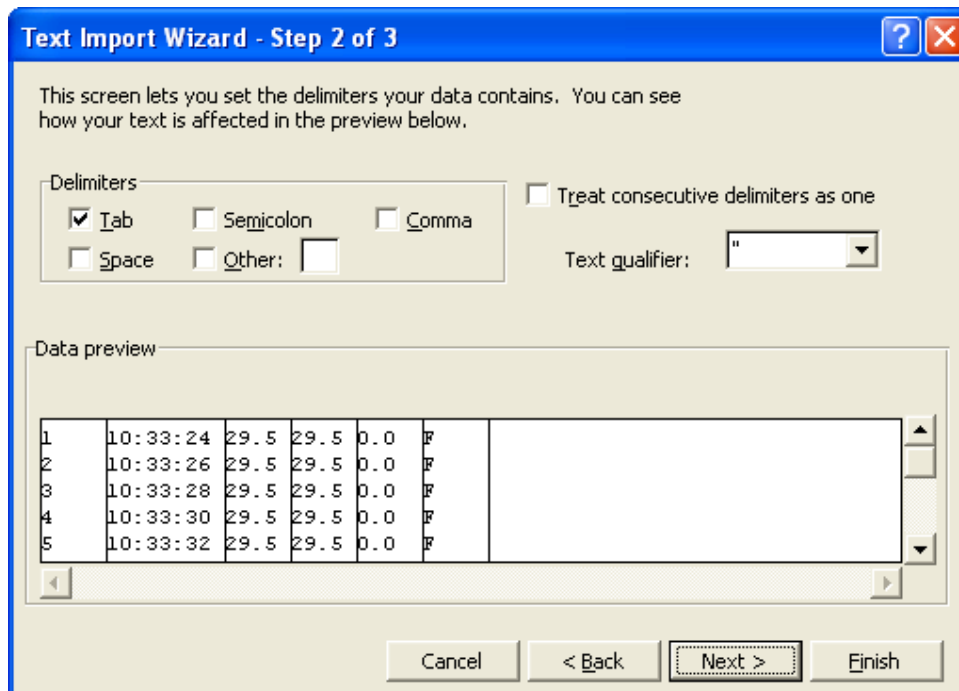
Open Microsoft Excel, find the file saved , for example.dat.



The "Text Import Wizard" then appears. Follow on-screen instructions.



Click Next> button



This screen lets you set the delimiters your data contains. You can see how your text is affected in the preview below.

Delimiters

☒ Tab ☐ Semicolon ☐ Comma
☐ Space ☐ Other:

☐ Treat consecutive delimiters as one

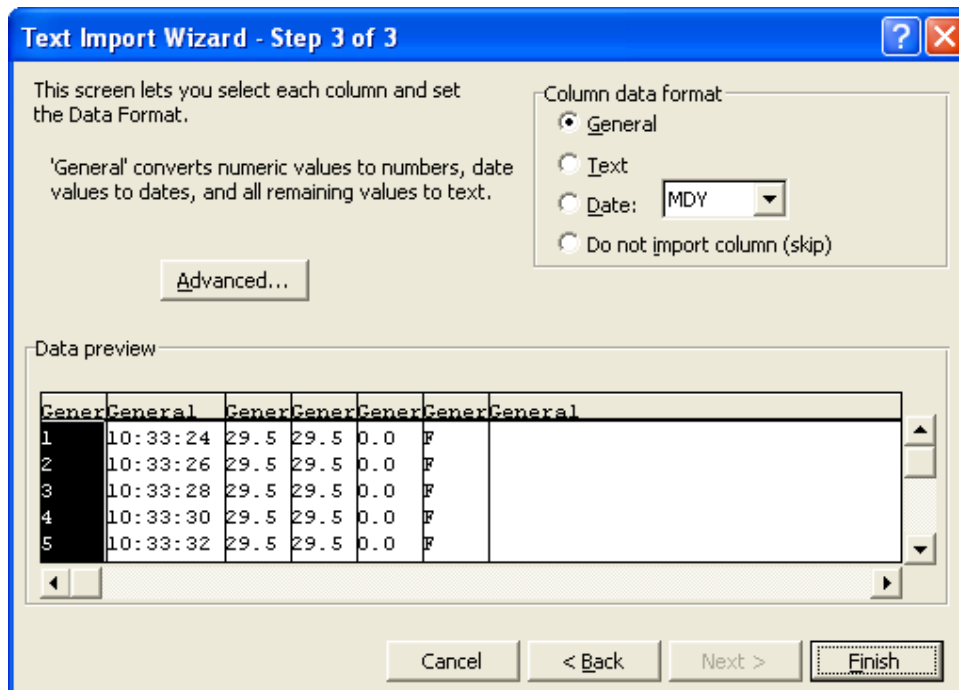
Text qualifier:

Data preview

1	10:33:24	29.5	29.5	0.0	F	
2	10:33:26	29.5	29.5	0.0	F	
3	10:33:28	29.5	29.5	0.0	F	
4	10:33:30	29.5	29.5	0.0	F	
5	10:33:32	29.5	29.5	0.0	F	

Buttons: Cancel, < Back, Next >, Finish

Click Next> button



This screen lets you select each column and set the Data Format.

'General' converts numeric values to numbers, date values to dates, and all remaining values to text.

Advanced...

Column data format

☒ General
☐ Text
☐ Date:
☐ Do not import column (skip)

Data preview

	General	General	General	General	General	General
1	10:33:24	29.5	29.5	0.0	F	
2	10:33:26	29.5	29.5	0.0	F	
3	10:33:28	29.5	29.5	0.0	F	
4	10:33:30	29.5	29.5	0.0	F	
5	10:33:32	29.5	29.5	0.0	F	

Buttons: Cancel, < Back, Next >, Finish

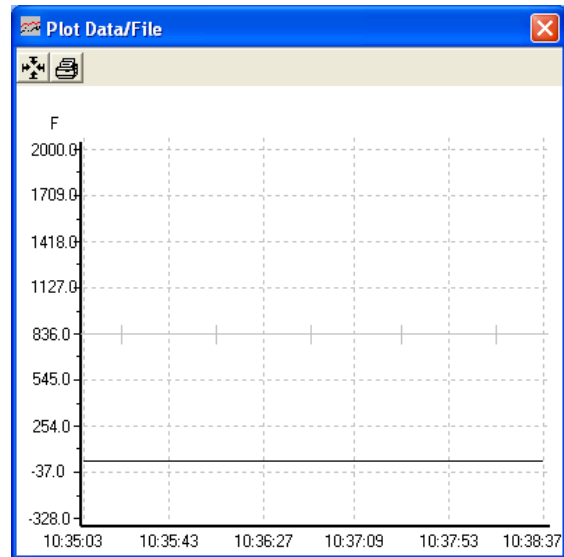
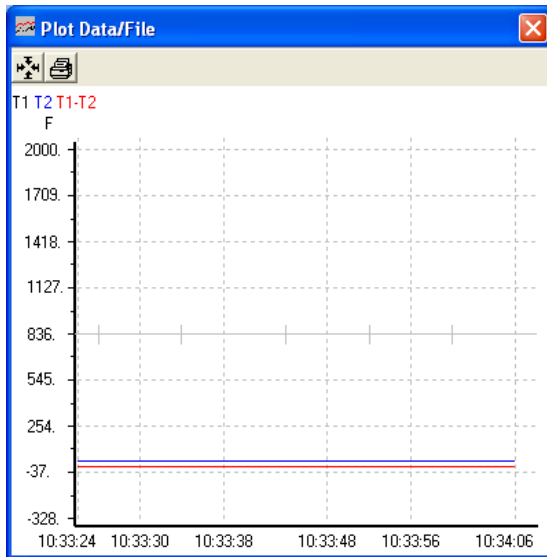
Click "Finish" button

	A	B	C	D	E	F
1	1	10:33:24	29.5	29.5	0	F
2	2	10:33:26	29.5	29.5	0	F
3	3	10:33:28	29.5	29.5	0	F
4	4	10:33:30	29.5	29.5	0	F
5	5	10:33:32	29.5	29.5	0	F
6	6	10:33:34	29.5	29.5	0	F
7	7	10:33:36	29.5	29.5	0	F
8	8	10:33:38	29.5	29.5	0	F
9	9	10:33:40	29.5	29.5	0	F
10	10	10:33:42	29.5	29.3	0.2	F

Apply for Graph

Open a saved data in **HDD** or **EEP ROM**, click  button to complete.

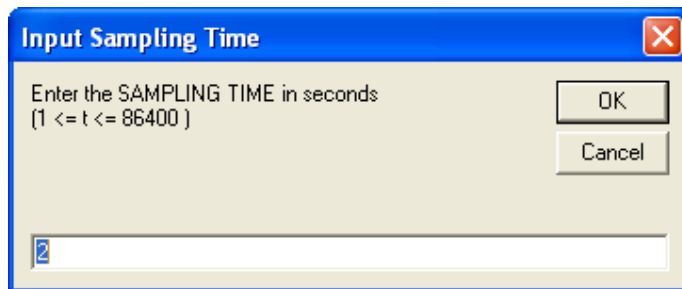
(Dual)



■ Sampling Time

PC Sampling Rate:

Click  button on the **Menu Bar**.



In the **Input Sampling Time** dialog box, input the willing sampling time and then click "OK" button to complete.