



Datalogger and RS232 Interface

RS232 Wiring Hardware	2
RS232 Code	3
Hardware Requirements and Setup	4
Software Requirements and Setup	5
Communicating Operation	8
Run the Software	8
Record.....	10
Download.....	12
Data Convert.....	14
Apply for Excel	14
Apply for Graph.....	17
Sampling Time.....	18
RTC (Real Time Clock).....	19
Auto Power Off.....	20
Standard Reference Reading (Offset).....	21

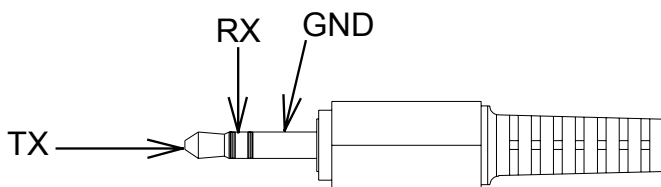
RS232 Wiring Hardware

RS232 Wiring Diagram

PC Interface Cable

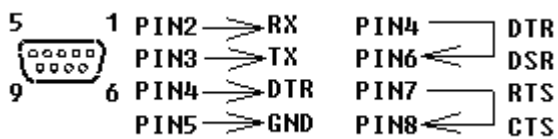
Meter side of PC Interface Cable

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



Computer’s Serial Port side of Interface Cable

The RS-232 “DB-9” side of the PC Interface Cable connects to the PC’s COM port. Refer to the diagram below for wiring information. Note that a SERIAL to USB Adapter may be used.



RS232 Settings

9600, N, 8, 1

RS232 Code

Transmitting Byte Code

Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7
02	Flags	Humidity		Celsius		03

Byte1 : Starting Byte (02)

Byte2 : Flags Byte

Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
Don't care					HOLD	REC	Full

Byte3,Byte4 : Humidity

Byte3:

Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
Bt	Humidity High Byte						

Byte4:

Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
Humidity Low Byte							

Byte5,Byte6 : Celsius Value

$$\text{Celsius} = (\text{Byte5} * 256 + \text{Byte6}) / 100 - 50$$

Data Logger Commands

“A” : 02 + Last Address + No.s of Recorded set + 03 + K

Follow K : :

“D” : R + R + B + T

+ DD + HH + MM + SS + Intv. + Rec.s + Humidity + Celsius
 + Humidity + Celsius
 +.....+ BTK

“X” :

DD + HH + MM + SS + Intv. + Rec.s + Humidity + Celsius
 + Humidity + Celsius
 +.....(4096 Bytes)

Wait for K command(s) if 4096 more bytes

Hardware Requirements and Setup

PC Hardware Requirements :

HDD, CD Rom, 486 PC or above, with available COM 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 socket (female) of RS232 cable to available COM port
- 3) Switch on all related power
- 4) Connect the phono plug end of the RS232 cable to the meter

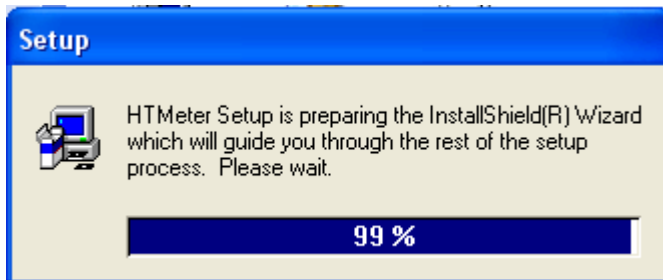
Software Requirements and Setup

- 1) Start up windows 95 / 98 / 2000 / XP operating system
- 2) Close all application
- 3) Insert disk in CD drive

Wait for “Autorun” to start and follow on-screen instructions

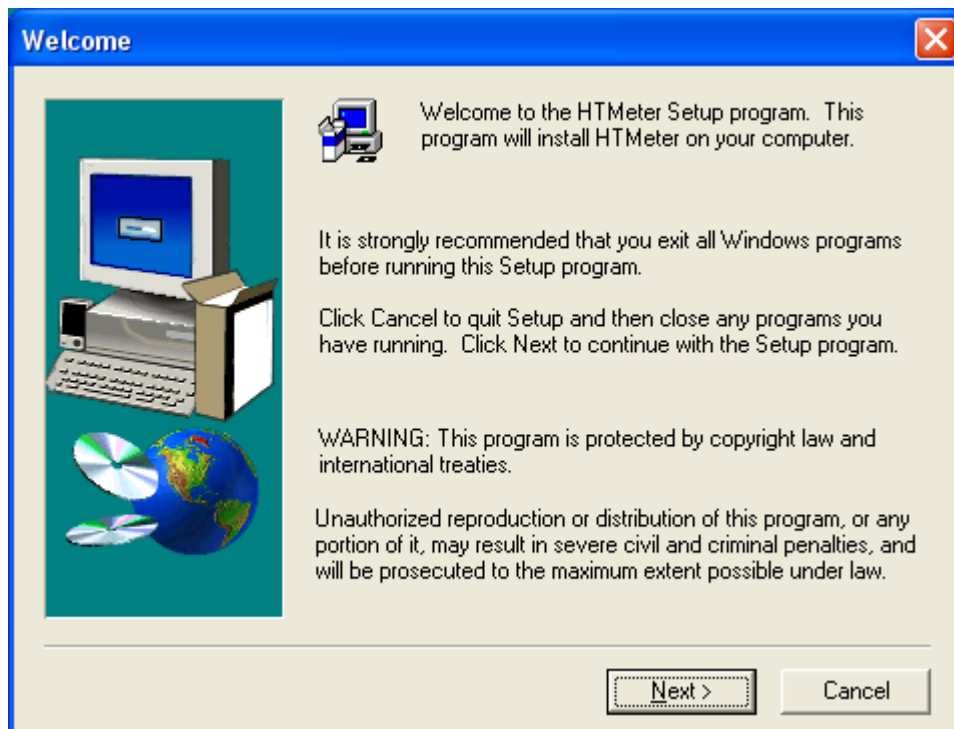
(If “autorun” does not start, click on “Start” then “Run”. Type the drive letter and “:\Disk1\Setup.exe” and click “OK” .)

1).



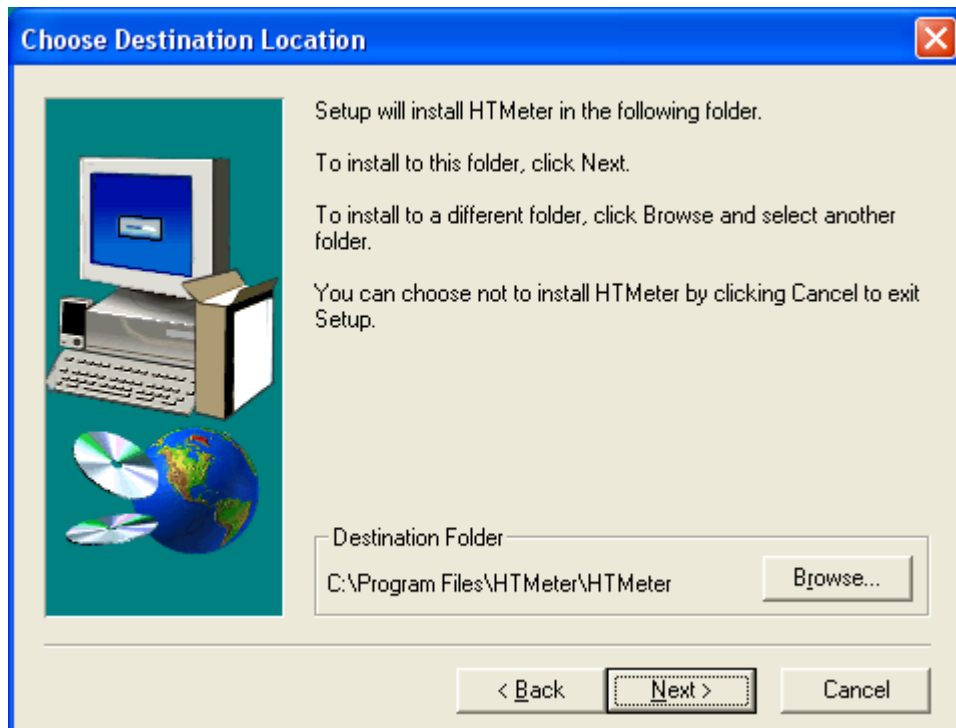
Setup program will run automatically.

2).



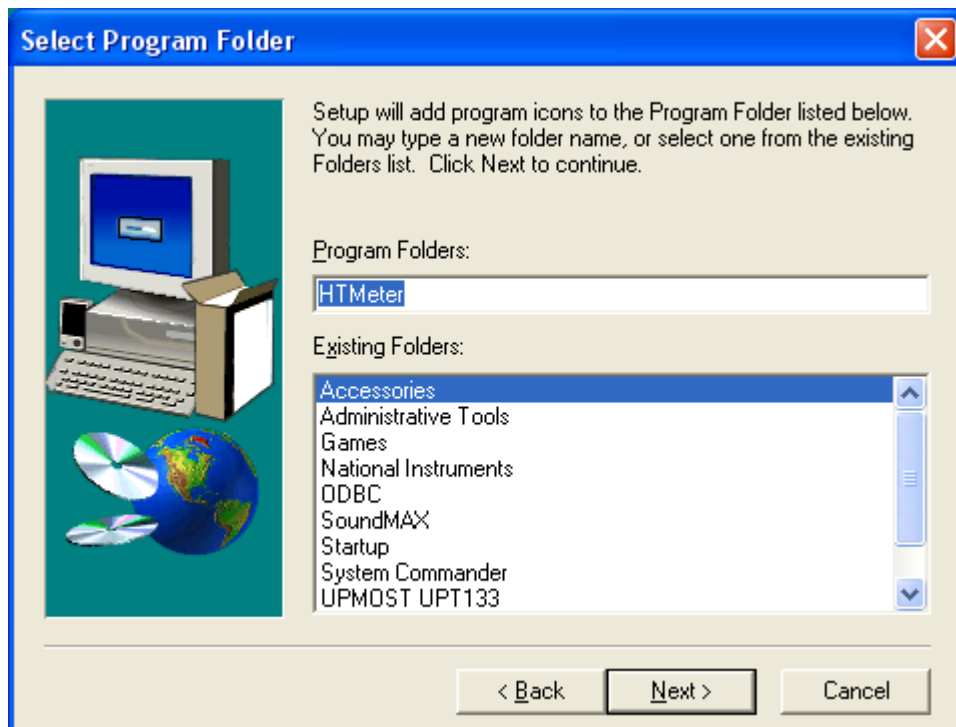
Click Next> button

3).

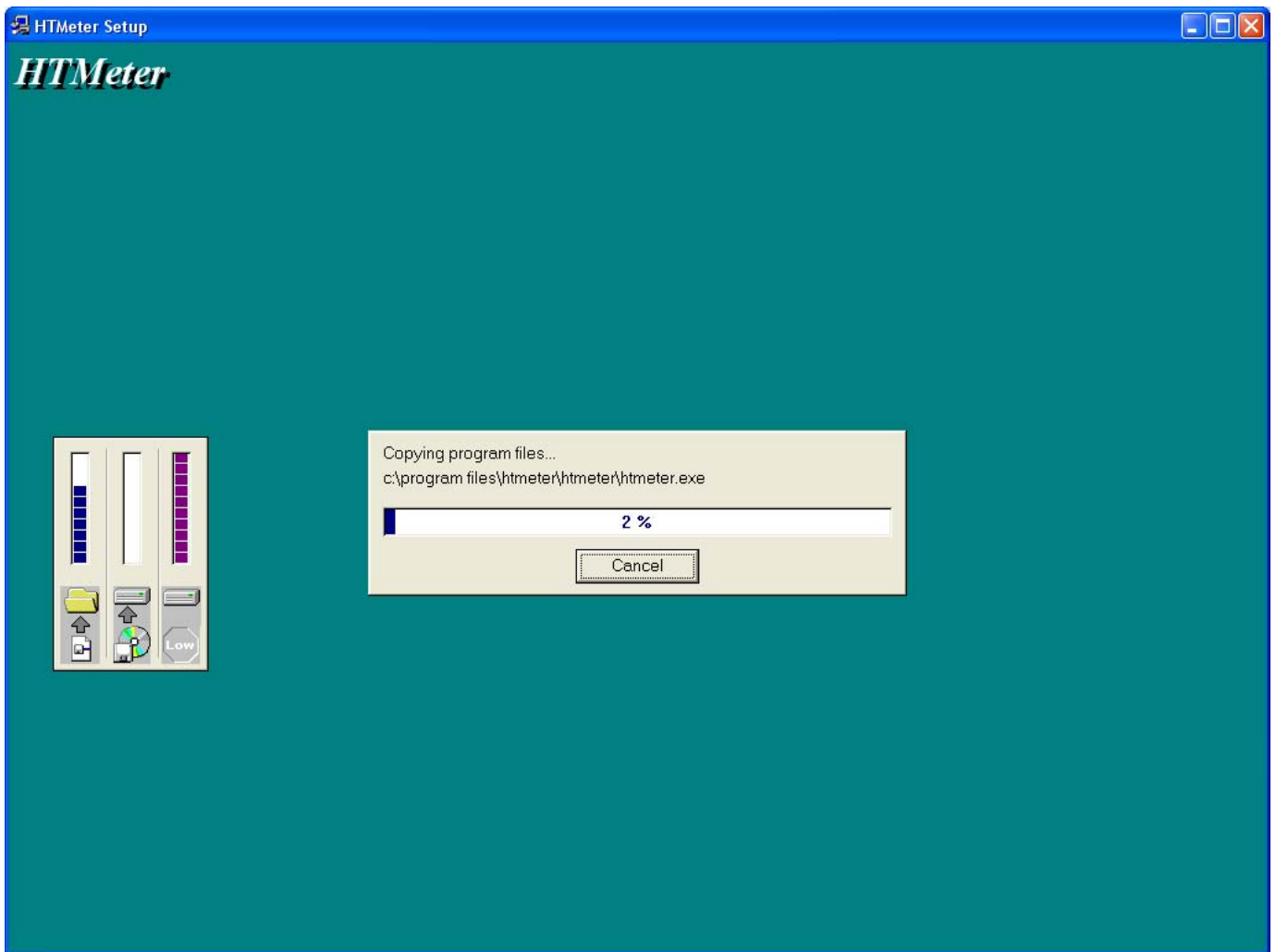


- a. Click Next> button to setup on the default folder or
- b. Click Browse...button to setup on a different folder

4).



Click Next> button

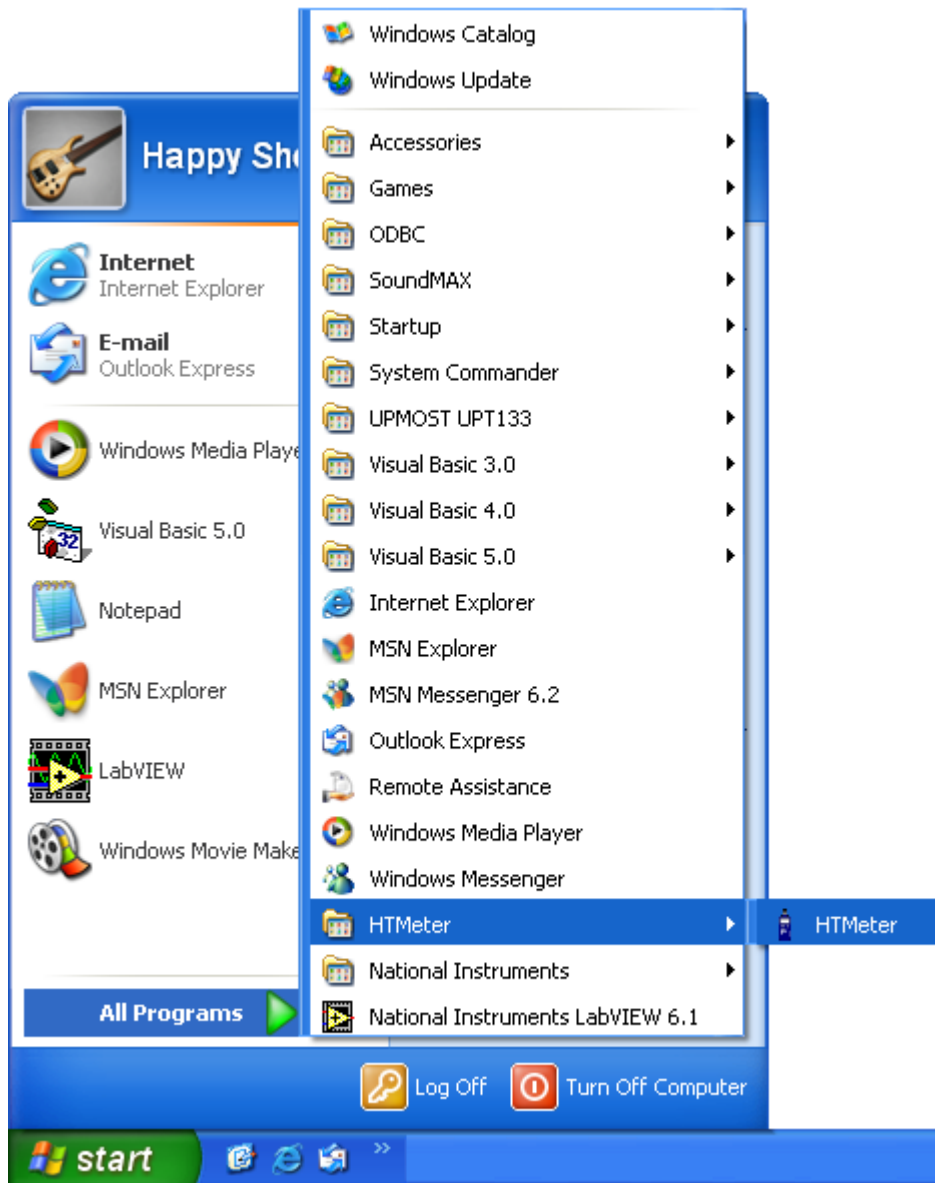


Setup is completed.

Communicating Operation

■ Run the software

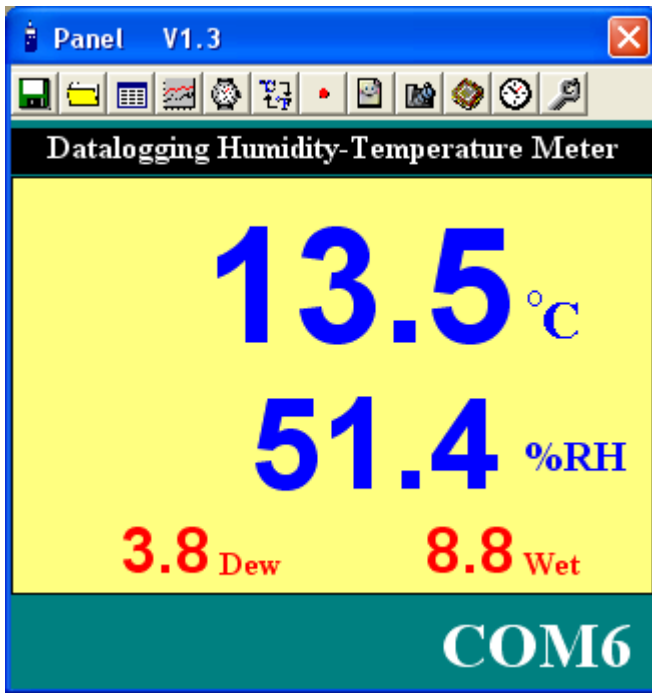
1. Click "Start" form Start menu and then move mouse pointer to "All Programs" (or "Programs") then "HTMeter" and then click the "HTMeter" icon.



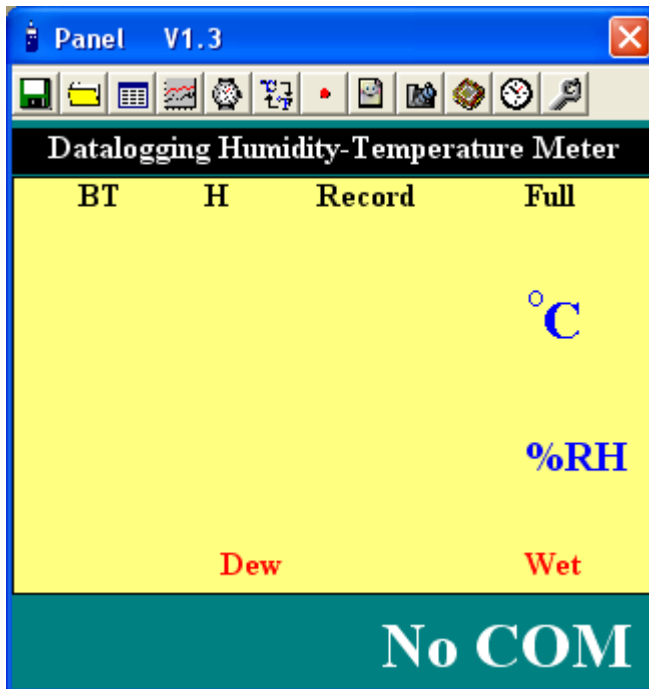
2. Click an available COM port



3. Main software screen



If no connection, shows as below: "No COM"



Communication Distance

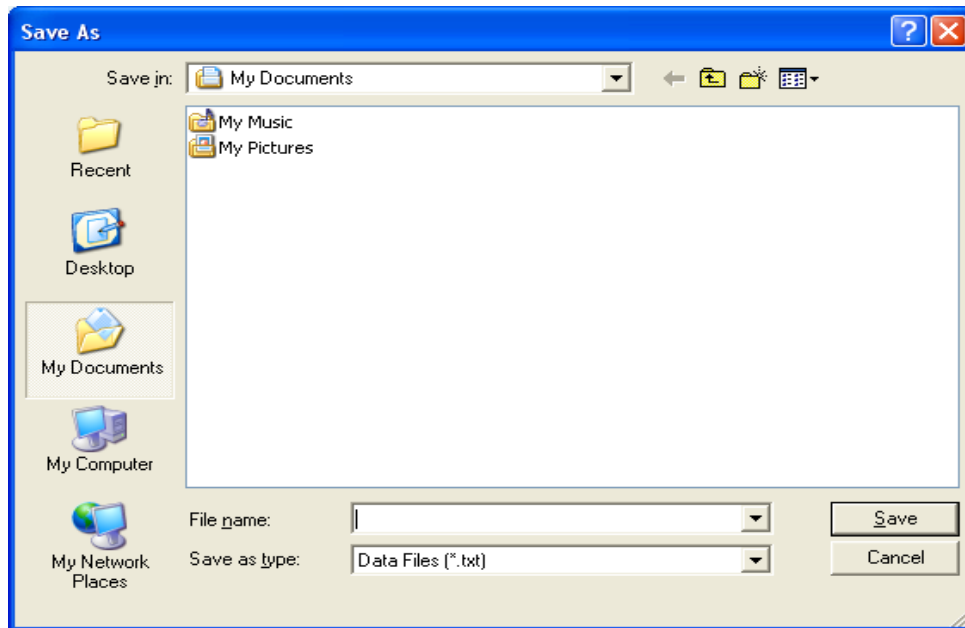
RS232: 15 Meters

RS485: 1000 Meters (Additional adaptor and cable are required.)

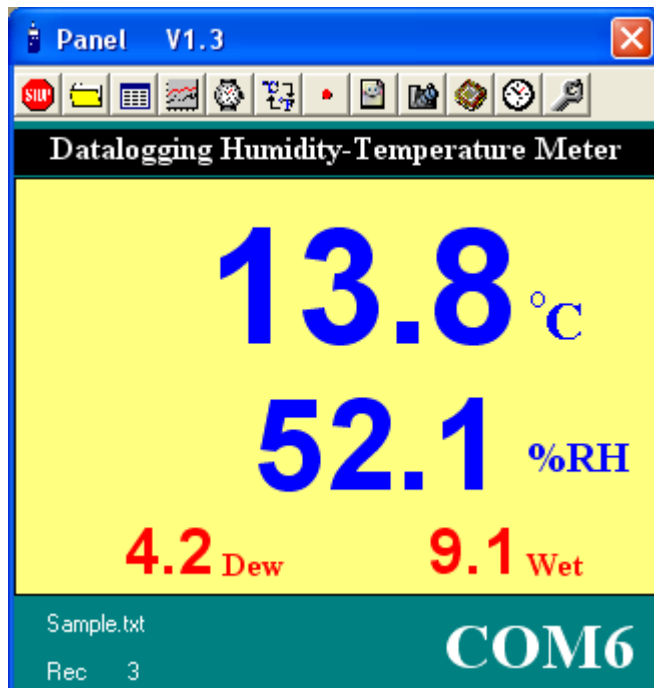
■ Record


Save to Hard Disk (PC)

Click  button. The dialog box shown below will appear.




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



Click  button to stop recording.


Save to EEP Rom (Humidity Temperature Meter)

1. Automatically Record

Click  or keep pressing the **RECORD** key on the meter for about 3 seconds till **RECORD** symbol shows on the LCD. The meter begins to record data automatically.


Click  or press the **RECORD** key momentarily to stop recording.

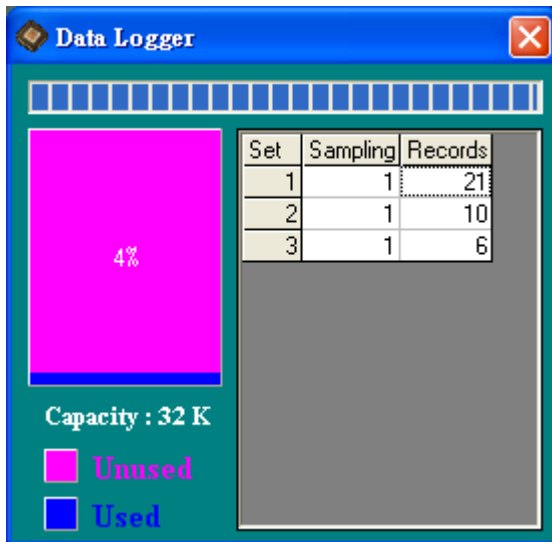
2. Manually Record

Click  or press the **RECORD** key on the meter momentarily to store one reading. The “**RECORD**” symbol will flash once.

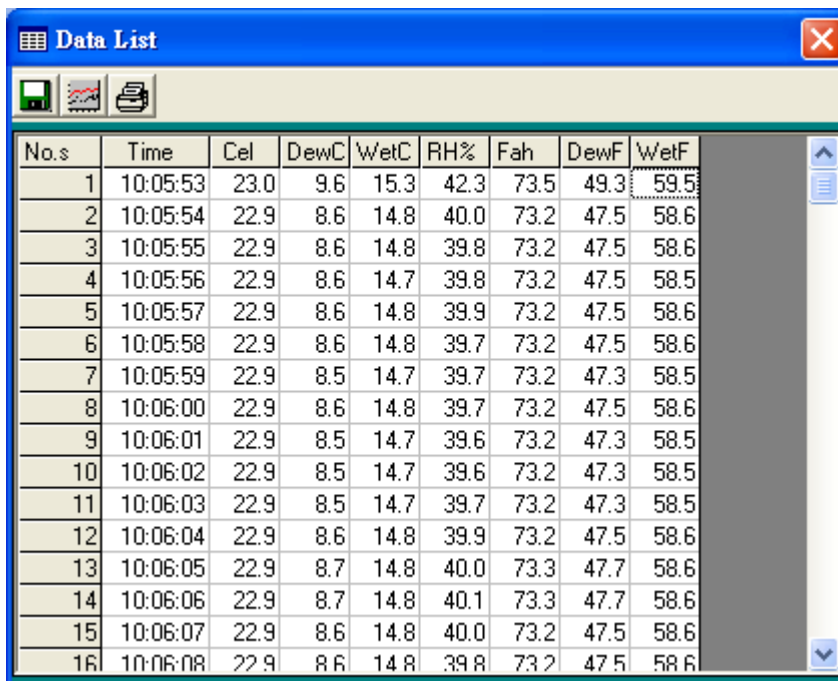
■ Download Data

1. Download Data from EEPROM

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




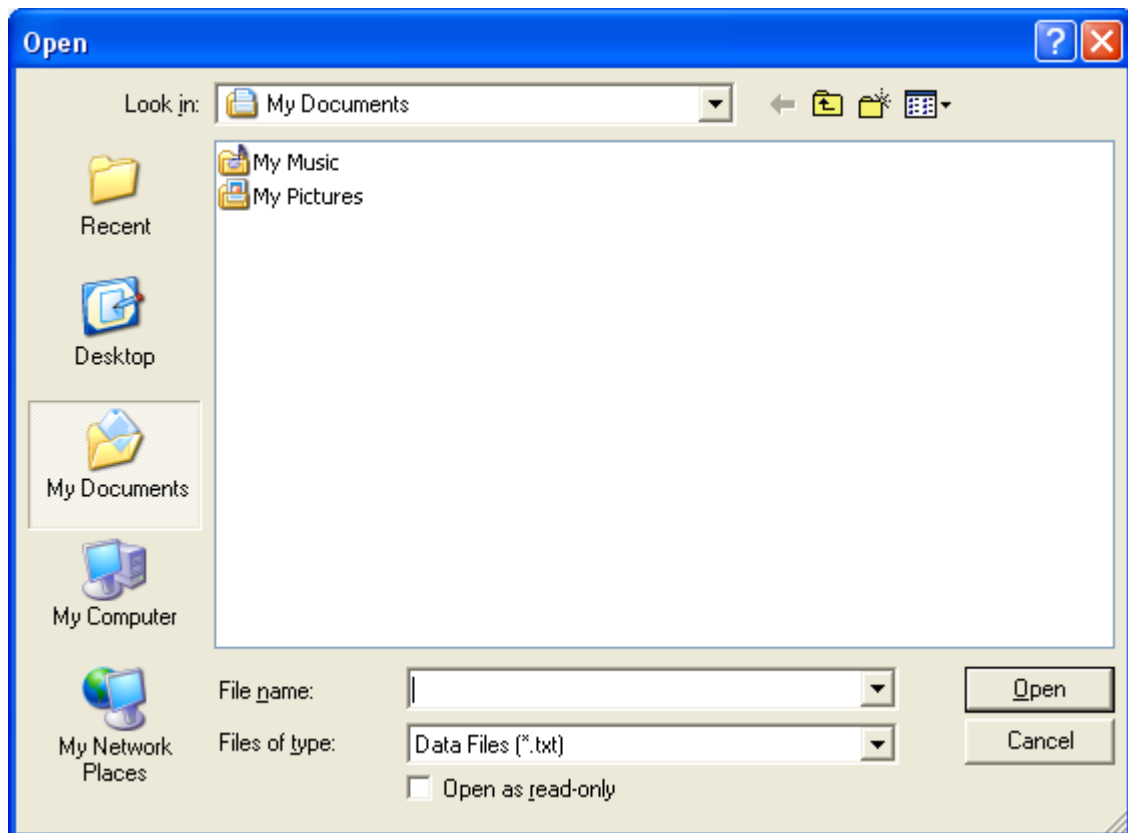
Click on a SET number to view the set's details. For example, in the window above, there are 3 sets from which to choose. The list below is an example of an opened set.



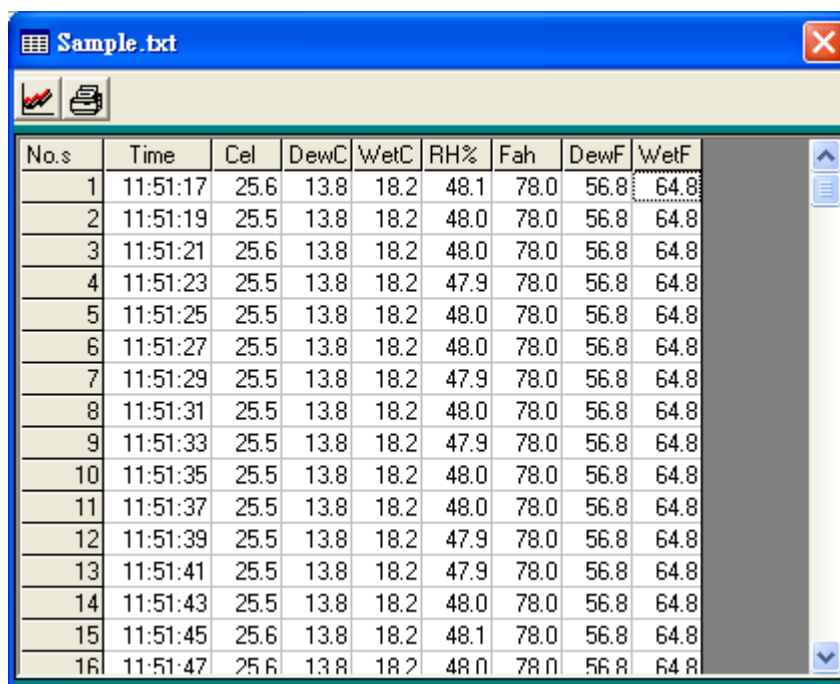
No.s	Time	Cel	DewC	WetC	RH%	Fah	DewF	WetF
1	10:05:53	23.0	9.6	15.3	42.3	73.5	49.3	59.5
2	10:05:54	22.9	8.6	14.8	40.0	73.2	47.5	58.6
3	10:05:55	22.9	8.6	14.8	39.8	73.2	47.5	58.6
4	10:05:56	22.9	8.6	14.7	39.8	73.2	47.5	58.5
5	10:05:57	22.9	8.6	14.8	39.9	73.2	47.5	58.6
6	10:05:58	22.9	8.6	14.8	39.7	73.2	47.5	58.6
7	10:05:59	22.9	8.5	14.7	39.7	73.2	47.3	58.5
8	10:06:00	22.9	8.6	14.8	39.7	73.2	47.5	58.6
9	10:06:01	22.9	8.5	14.7	39.6	73.2	47.3	58.5
10	10:06:02	22.9	8.5	14.7	39.6	73.2	47.3	58.5
11	10:06:03	22.9	8.5	14.7	39.7	73.2	47.3	58.5
12	10:06:04	22.9	8.6	14.8	39.9	73.2	47.5	58.6
13	10:06:05	22.9	8.7	14.8	40.0	73.3	47.7	58.6
14	10:06:06	22.9	8.7	14.8	40.1	73.3	47.7	58.6
15	10:06:07	22.9	8.6	14.8	40.0	73.2	47.5	58.6
16	10:06:08	22.9	8.6	14.8	39.8	73.2	47.5	58.6

2. Download Data from Hard Disk

Click  button. The Open window, shown below, appears



Input the file that was selected earlier and then click the Open button.

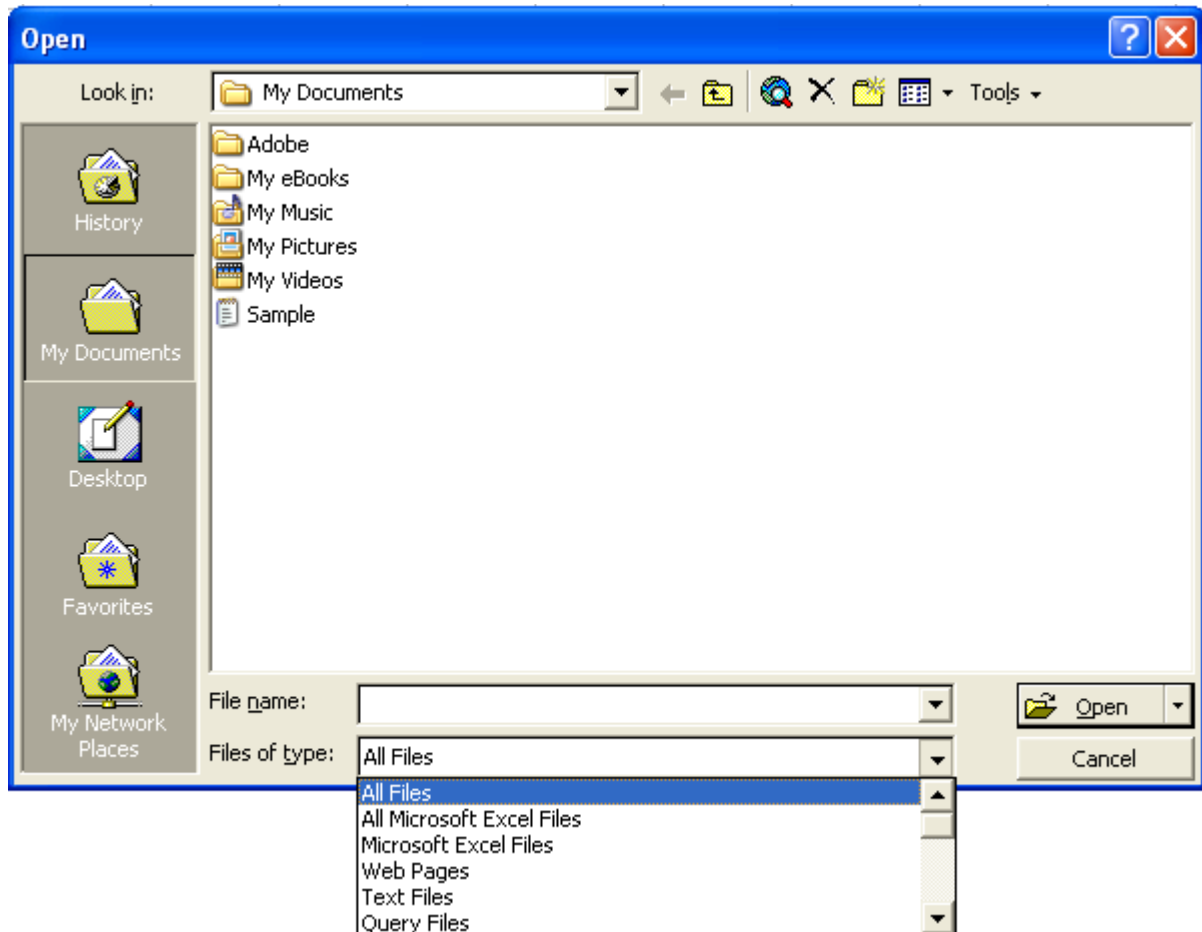


No.s	Time	Cel	DewC	WetC	RH%	Fah	DewF	WetF
1	11:51:17	25.6	13.8	18.2	48.1	78.0	56.8	64.8
2	11:51:19	25.5	13.8	18.2	48.0	78.0	56.8	64.8
3	11:51:21	25.6	13.8	18.2	48.0	78.0	56.8	64.8
4	11:51:23	25.5	13.8	18.2	47.9	78.0	56.8	64.8
5	11:51:25	25.5	13.8	18.2	48.0	78.0	56.8	64.8
6	11:51:27	25.5	13.8	18.2	48.0	78.0	56.8	64.8
7	11:51:29	25.5	13.8	18.2	47.9	78.0	56.8	64.8
8	11:51:31	25.5	13.8	18.2	48.0	78.0	56.8	64.8
9	11:51:33	25.5	13.8	18.2	47.9	78.0	56.8	64.8
10	11:51:35	25.5	13.8	18.2	48.0	78.0	56.8	64.8
11	11:51:37	25.5	13.8	18.2	48.0	78.0	56.8	64.8
12	11:51:39	25.5	13.8	18.2	47.9	78.0	56.8	64.8
13	11:51:41	25.5	13.8	18.2	47.9	78.0	56.8	64.8
14	11:51:43	25.5	13.8	18.2	48.0	78.0	56.8	64.8
15	11:51:45	25.6	13.8	18.2	48.1	78.0	56.8	64.8
16	11:51:47	25.6	13.8	18.2	48.0	78.0	56.8	64.8

■ Data Convert

Apply for Excel

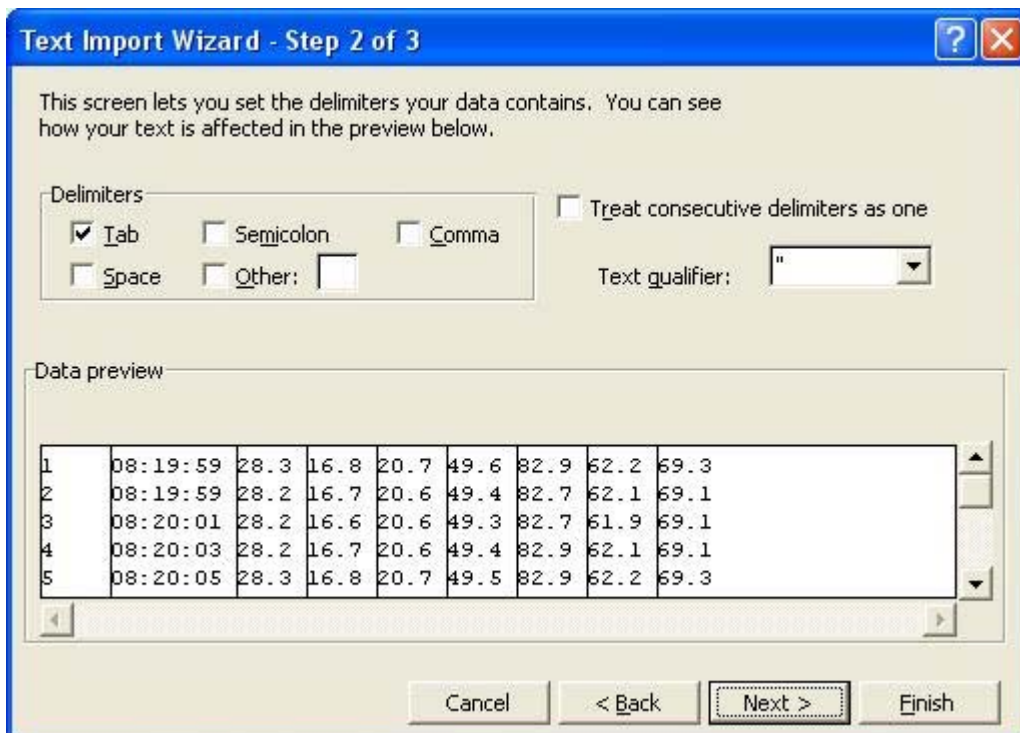
Open Microsoft Excel, find the file saved in Excel type, for example, test.xls.
or find any file already saved in HDD, for example, sample.txt



The "Text Import Wizard" then appears. Follow the steps 1 to 3 to complete.



Click Next> button



Click Next> button

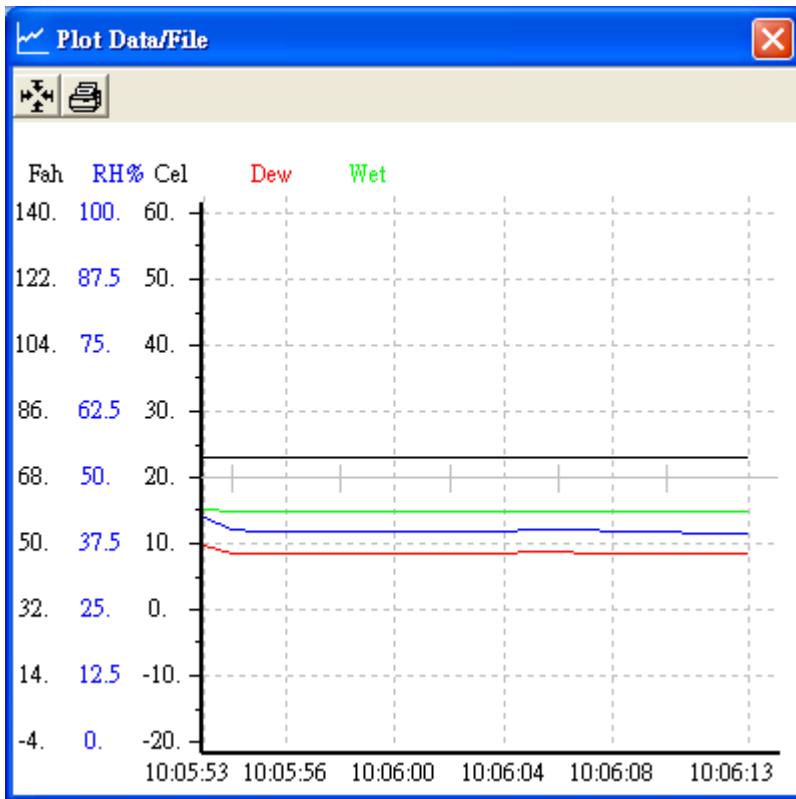


Click **Finish** to complete.


	A	B	C	D	E	F	G	H
1	8:19:59	28.3	16.8	20.7	49.6	82.9	62.2	69.3
2	8:19:59	28.2	16.7	20.6	49.4	82.7	62.1	69.1
3	8:20:01	28.2	16.6	20.6	49.3	82.7	61.9	69.1
4	8:20:03	28.2	16.7	20.6	49.4	82.9	62.1	69.1
5	8:20:05	28.3	16.8	20.7	49.5	82.9	62.2	69.3
6	8:20:07	28.2	16.8	20.7	49.5	82.9	62.2	69.3
7	8:20:09	28.3	16.8	20.7	49.4	82.9	62.2	69.3
8	8:20:11	28.3	16.8	20.7	49.4	83	62.2	69.3
9	8:20:13	28.3	16.8	20.7	49.4	83	62.2	69.3
10	8:20:15	28.3	16.8	20.7	49.4	83	62.2	69.3

Apply for Graph

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

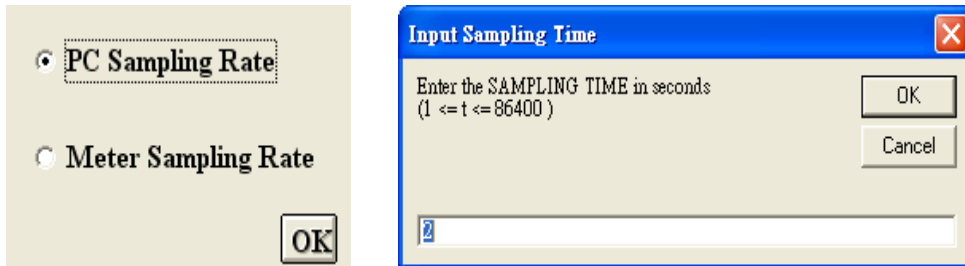


■ Sampling Time

Click  on the **Menu Bar**.

PC Sampling Rate:

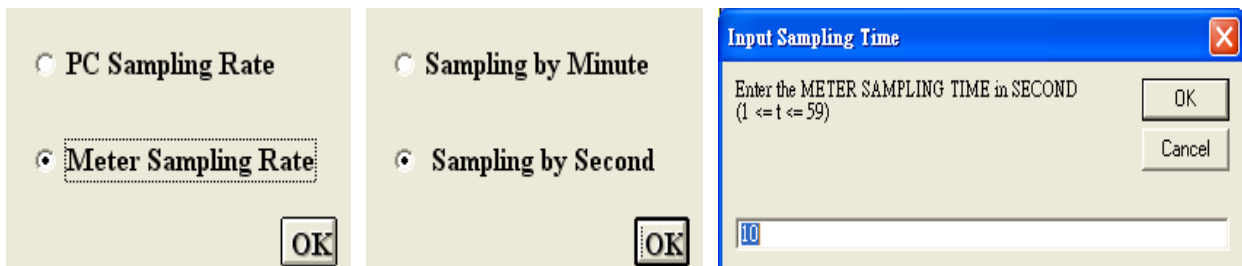
(rate at which the PC collects readings while connected to the meter)



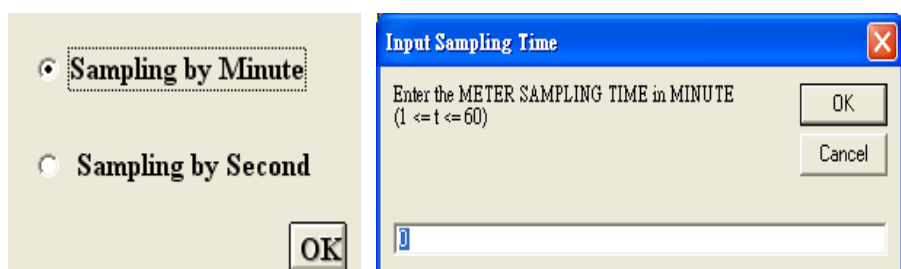
In the **Input Sampling Time** dialog box, input a sampling time and then click "OK" button to confirm.

Meter Sampling Rate:

(rate at which meter stores readings)




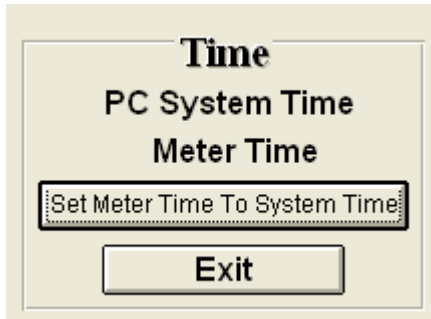
Input a sampling time and then click "OK" button to confirm.



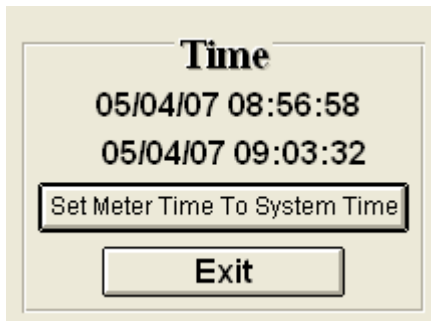
Input a sampling time and then click "OK" button to confirm.


■ RTC (Real Time Clock)

Click  on the **Menu Bar**. The window shown below will appear.




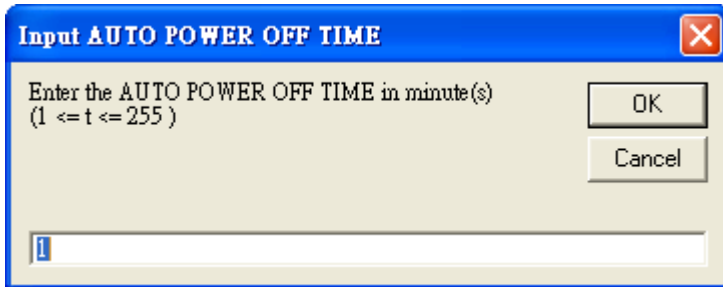
Click **PC System Time** to show PC System Time or **Meter Time** to show Meter Time.



Click  to set the meter time to PC system time.

■ Auto Power Off

Click  on the **Menu Bar**.




The dialog box has a blue title bar with the text "Input AUTO POWER OFF TIME" and a red close button. The main area is light gray and contains the text "Enter the AUTO POWER OFF TIME in minute(s)" and "(1 <= t <= 255)". Below this text is a white text input field with a blue cursor. To the right of the input field are two buttons: "OK" and "Cancel".

As above, enter an expected time period and then click "OK" to confirm.

■ Standard Reference Reading (Offset)

Use standard humidity meter to verify the reading.

1. Click  on the **Menu Bar**.



2. As above, enter the calibrated values and then click “OK” to confirm.