

Datalogger and RS232 Interface

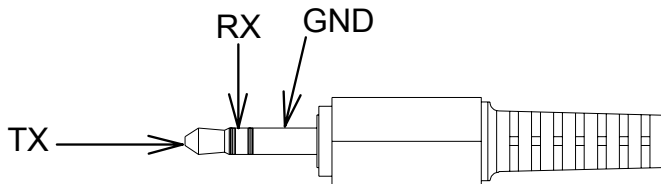
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RS232 Wiring Hardware

PC Interface Cable

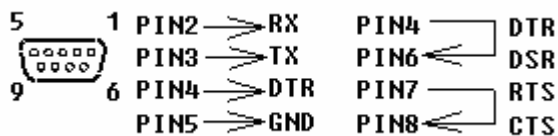
Meter side of PC Interface Cable

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 USB to Serial adapter may be used.



RS232 Settings

9600, N, 8, 1

Protocol

Byte1	Byte2	Byte3	Byte4	Byte5	Byte6 7	Byte8 9	Byte10
02	Timer-H	Timer-L	STATUS1	STATUS2	UP value	DOWN value	03
					T1 value	T2 value	

STATUS1:

	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
0	K							
1	T		REC	HOLD	BAT	REL	FULL	⑦

STATUS2:

	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
0					UP : T1 DOWN : T2			
1	M	MAX	MIN	AVG	UP : T2 DOWN : T2	T1-T2		
						Bit1	0:T1 1:T2	

T1 / UP Value

	Byte6				Byte7	
	Bit7	Bit6	Bit5、Bit4	Bit3 ~ Bit0	Bit7 ~ Bit4	Bit3 ~ Bit0
0		+	Hundred	Denary	Digit	Decimal
1	T1 Decimal	-				

T2 / DOWN Value

	Byte8				Byte9	
	Bit7	Bit6	Bit4 5	Bit3 ~ Bit0	Bit7 ~ Bit4	Bit3 ~ Bit0
0		+	Hundred	Denary	Digit	Decimal
1	T2 Decimal	-				

Values : FFFF : ---- FF00 : - **OL** BF00 : **OL**

Download : data sets+ last address+ YY+ MM+ DD+ HH+ mm+ SS+ Status1+ status2+ Intv+sets+T1+T2
1byte 2bytes 6bytes 1 1 2 2 2 2

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 DB9 (female) end of the supplied RS-232 cable to available COM port or USB cable to USB 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 XP / 7 operating system
- 2 Close all other applications
- 3 Insert the disk in CD drive

Meter Software

Manual

To install meter software, click [Meter Software](#).

Follow the on-screen instructions.

1).



Setup will run automatically.

2).



Click Next> button

3).



Click **Install** button

If there shows a “User Account Control” window that asks
“Do you want to allow the following program from an unknown
publisher to make changes to this computer?”

Click **Yes** button

5).

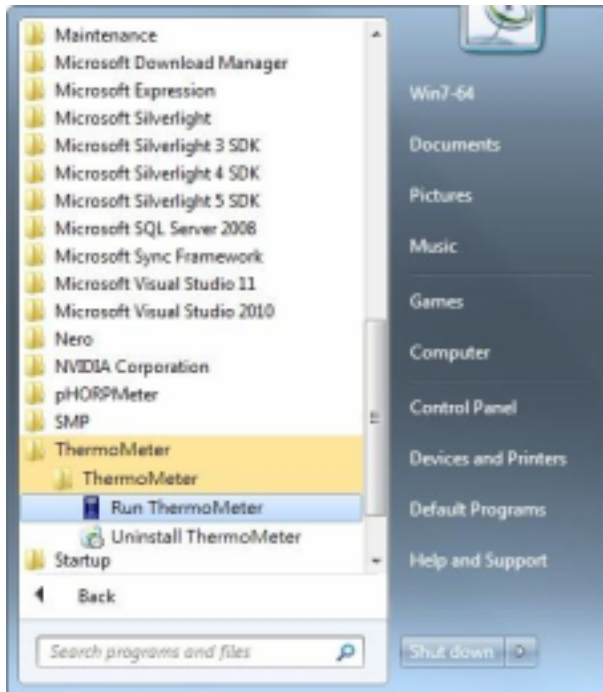


Click **Finish** button to complete.

On-Line Operation

■ Run the software

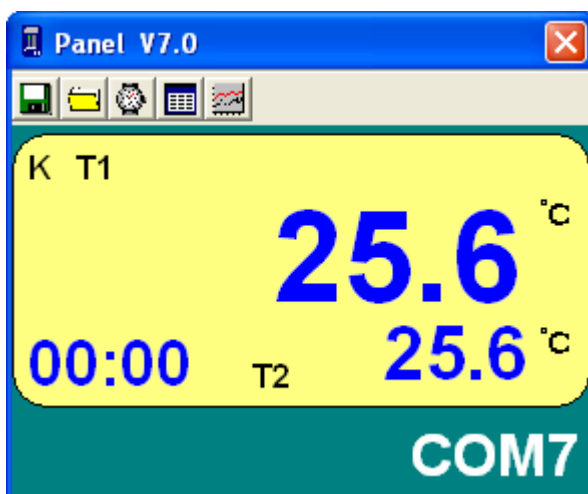
1. Start → All Programs → ThermoMeter → ThermoMeter .



2. Click an available COM port



3. Main software screen




■ Record

Save to Hard Disk (PC)

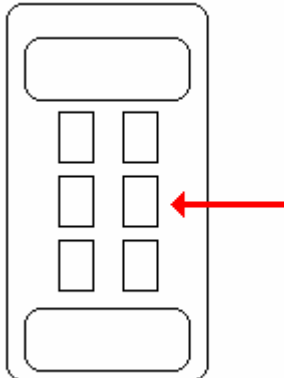
Click  button. The dialog box shown below will appear.



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 (Light Meter)



1. Automatically Record


Press the button (see read pointer) for about 3 seconds till 2 beeps heard. The REC symbol starts flashing on the LCD. Press that button again (momentarily) to stop recording.

2. Manually Record

Press the button as above momentarily to store one reading. The "REC" symbol will flash once.

Download Data

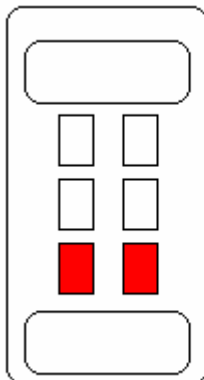
1. Download Data from Hard Disk

Click  button. The Open window, shown below, appears

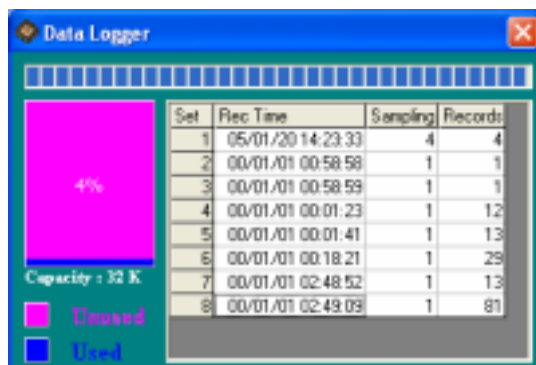


Input the file that was selected earlier and then click the Open button.

2. Download Data from EEP ROM



Press the above 2 buttons on the meter at the same time to download data. The Data Logger window, shown below, will open.

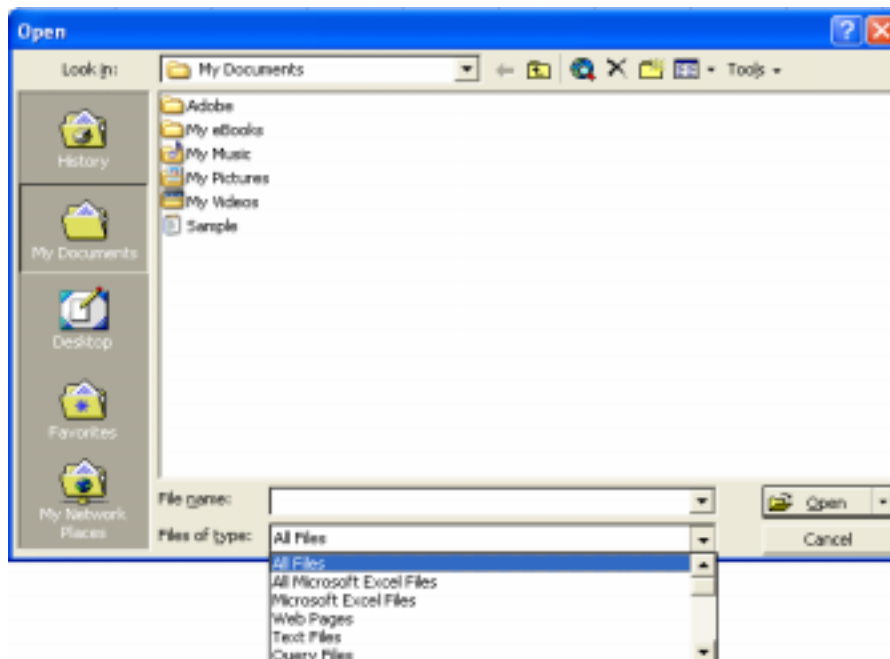


Click on a SET number to view the set's details. For example, in the window above, there are 8 sets from which to choose

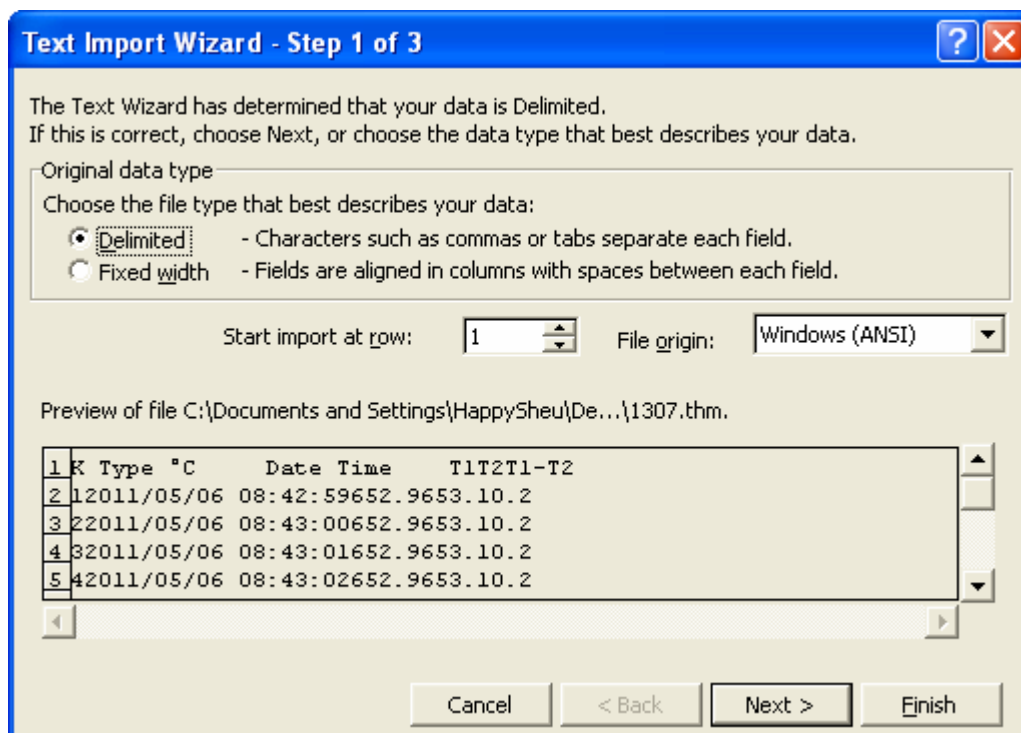
■ Data Convert

Apply for Excel

Open Microsoft Excel, find the file already saved in HDD, for example, sample.dat.



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



Click Next> button

Text Import Wizard - Step 2 of 3

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

K	Type	°C	Date	Time	T1	T2	T1-T2
1			2011/05/06	08:42:59	652.9	653.1	0.2
2			2011/05/06	08:43:00	652.9	653.1	0.2
3			2011/05/06	08:43:01	652.9	653.1	0.2
4			2011/05/06	08:43:02	652.9	653.1	0.2

Cancel < Back Next > Finish

Click Next> button

Text Import Wizard - Step 3 of 3

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
K	Type	°C	Date	Time	T1
1			2011/05/06	08:42:59	652.9
2			2011/05/06	08:43:00	652.9
3			2011/05/06	08:43:01	652.9
4			2011/05/06	08:43:02	652.9

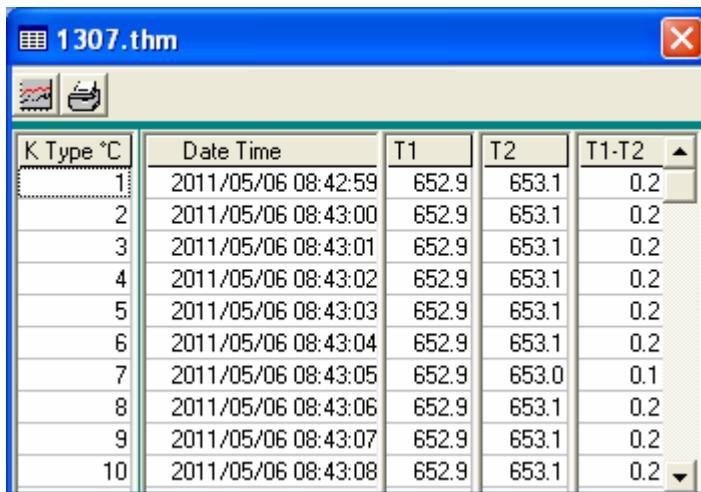
Cancel < Back Next > Finish

Click **Finish** button

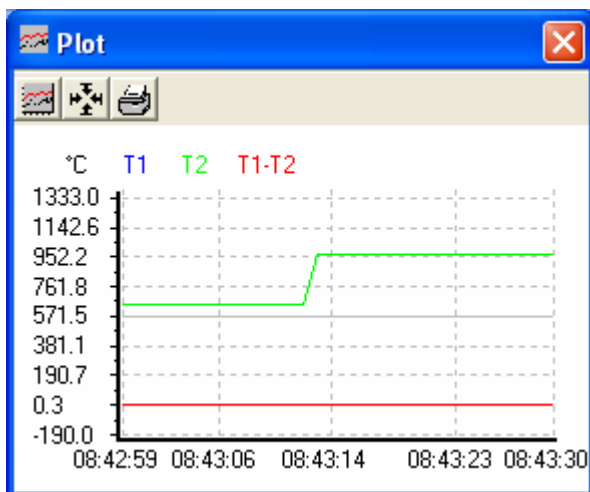
	A	B	C	D	E
1	K Type °C	Date Time	T1	T2	T1-T2
2	1	2011/05/06 08:42:59	652.9	653.1	0.2
3	2	2011/05/06 08:43:00	652.9	653.1	0.2
4	3	2011/05/06 08:43:01	652.9	653.1	0.2
5	4	2011/05/06 08:43:02	652.9	653.1	0.2
6	5	2011/05/06 08:43:03	652.9	653.1	0.2
7	6	2011/05/06 08:43:04	652.9	653.1	0.2
8	7	2011/05/06 08:43:05	652.9	653	0.1
9	8	2011/05/06 08:43:06	652.9	653.1	0.2
10	9	2011/05/06 08:43:07	652.9	653.1	0.2
11	10	2011/05/06 08:43:08	652.9	653.1	0.2
12	11	2011/05/06 08:43:09	652.9	653.1	0.2
13	12	2011/05/06 08:43:10	652.9	653.1	0.2
14	13	2011/05/06 08:43:11	652.9	653.1	0.2
15	14	2011/05/06 08:43:12	652.9	653.1	0.2
16	15	2011/05/06 08:43:13	973.7	974	0.3

Apply for Graph

Open a saved data file in the software program and then click .




K Type °C	Date Time	T1	T2	T1-T2
1	2011/05/06 08:42:59	652.9	653.1	0.2
2	2011/05/06 08:43:00	652.9	653.1	0.2
3	2011/05/06 08:43:01	652.9	653.1	0.2
4	2011/05/06 08:43:02	652.9	653.1	0.2
5	2011/05/06 08:43:03	652.9	653.1	0.2
6	2011/05/06 08:43:04	652.9	653.1	0.2
7	2011/05/06 08:43:05	652.9	653.0	0.1
8	2011/05/06 08:43:06	652.9	653.1	0.2
9	2011/05/06 08:43:07	652.9	653.1	0.2
10	2011/05/06 08:43:08	652.9	653.1	0.2

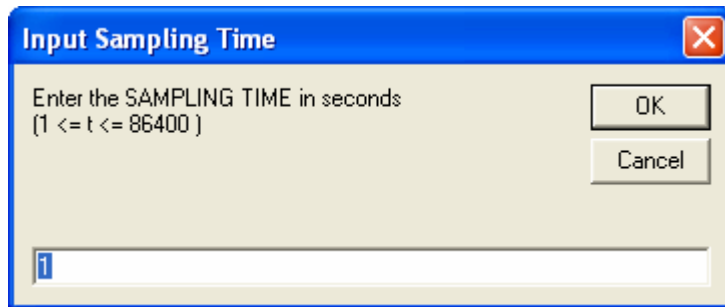


■ Sampling Time

PC Sampling Rate:

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

Click  on the **Menu Bar**.



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