

Datalogger and RS232 Interface

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RS232 Wiring Hardware

RS232 Wiring Diagram

Meter Side

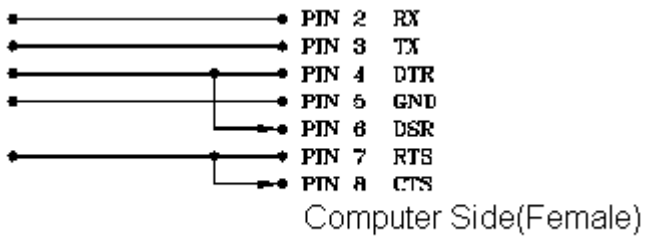


Figure-2

RS232 Connector Diagram

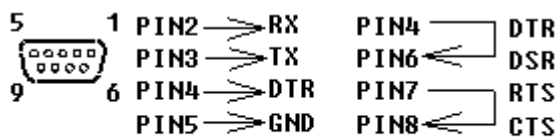


Figure-3

9 to 25 pins Wiring Diagram

If 9 pins COM port is occupied, the 9 to 25 pins connector will be needed.

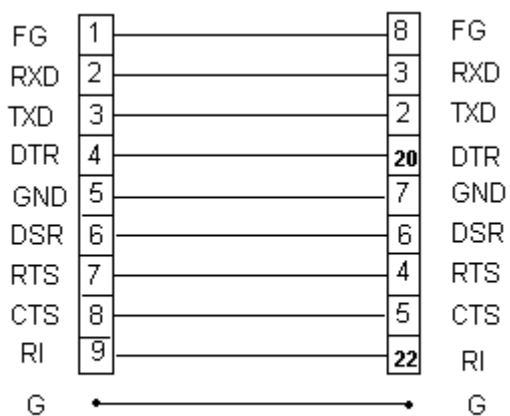


Figure-4

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**

RS-232 Software Communication

1. Command Format :

Command	Content							
“ R ” 52H + 2 bytes	Read data from EEPROM address, and forward to PC							
“ W ” 57H + 2 bytes + 1 byte	Write data into EEPROM address							
“ S ” 53H	Start recording							
“ O ” 4FH	Record one data only							
“ T ” 54H	Stop recording							
“ EEE ” 45H	Erase data logger (EEPROM)							
“ F ” 46H + 1 bytes	The illustration of function byte							
	7	6	5	4	3	2	1	0
	x	x	x	0 Normal 1 Range	0 Lux 1 Fc	0 Normal 1 Hold	0 Normal 1 Max	x
“ I ” 49H	Output Format : Sets (1 byte) + “ YY, MM, dd, hh, mm, ss ” + Status (1 byte)+ Sampling Rate (2 bytes) + Records (2 bytes)							
“ K ” 4BH + 1 byte	Output Format the n set data : “ YY, MM, dd, hh, mm, ss ” + Status (1 byte)+ Sampling Rate (2 bytes)+ 1 st record + 2 nd record + + the N record							
“ D ” 44H + 6 bytes	Write the system time into RTC “ YY, MM, dd, hh, mm, ss ”							
“ Y ” 59H	Output Format : <u>ID Code</u> + <u>Version</u> + <u>ROM</u> + <u>Data sets</u> + <u>Last Write Address</u> + <u>Sampling Rate</u> (2 Bytes) (1 Byte) (1 Byte) (1 Byte) (2 Bytes) (2 Bytes)							
“ C ” 43H	Output RTC “ YY, MM, dd, hh, mm, ss ” Data / Time							
“ U ” 55H	Read all of the Memory content							

2. Transfer Format :

Command : Double "SPACE"

Content :

Byte 1	Byte 2	Byte 3	Byte 4	Byte 5
02H	Hi Byte	Lo Byte	Status	03H

Hi Byte :

Bit7	Bit6(Lo Bat)	Bit5(+/-)	Bit4(hundred)	Bit3~0(denary)	Bit7~4(digit)	Bit3~0(2 nd decimal)
x	0	0(+)	00~19		00~99	
x	1"BT"	1(-)				

Status :

Bit7~bit3	Bit2 , bit1	bit0
x x x x x	00→20 Lux/Fc	0→Lux
	01→200 Lux/Fc	1→Fc
	10→2000 Lux/Fc	
	11→20000 Lux/Fc	

X : don't care

Hardware Requirements and Setup

PC HardWare Requirements :

HDD, CD Rom, 486 PC or above, with available COM port

EGA or higher monitor

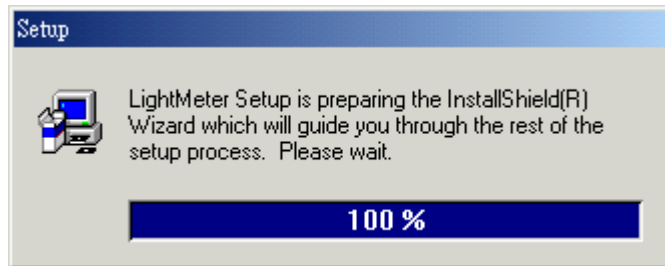
4M bytes or more memory size

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 plug of RS232 cable to Light Meter

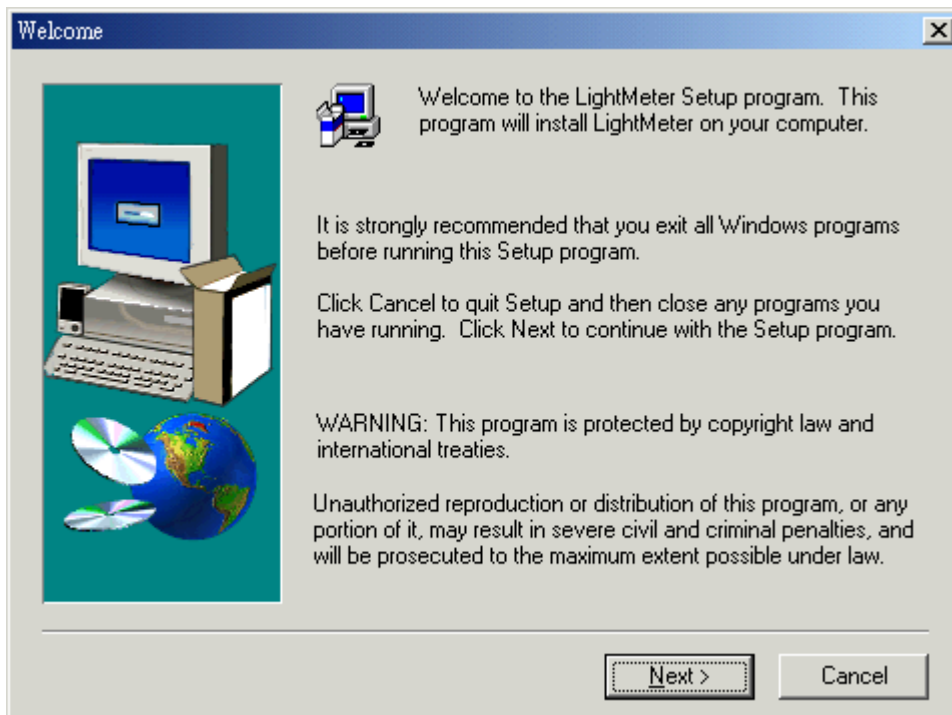
Software Requirements and Setup

- 1) Start up windows 95 or later operating system
- 2) Close all application
- 3) Insert disk in CD drive
 - 1). 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” .)



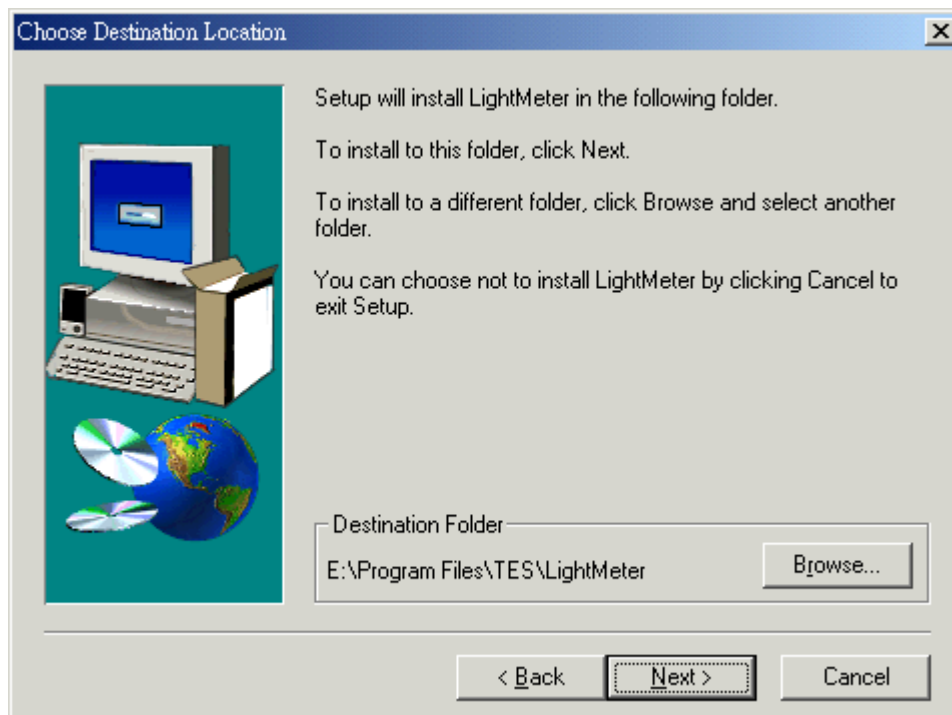
Setup program will run automatically.

2).



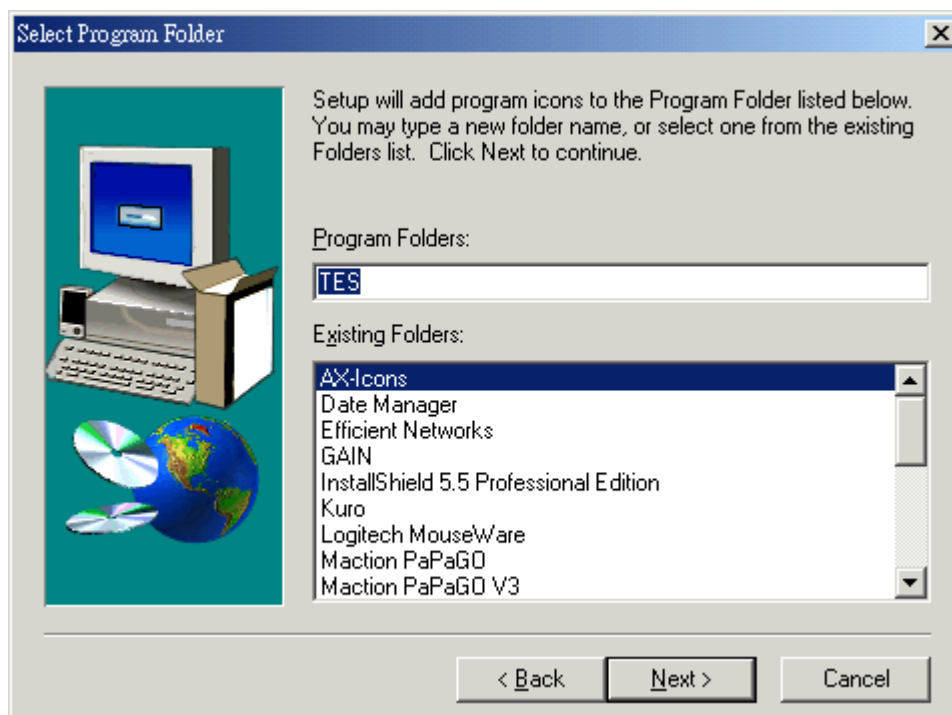
Click Next> button

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

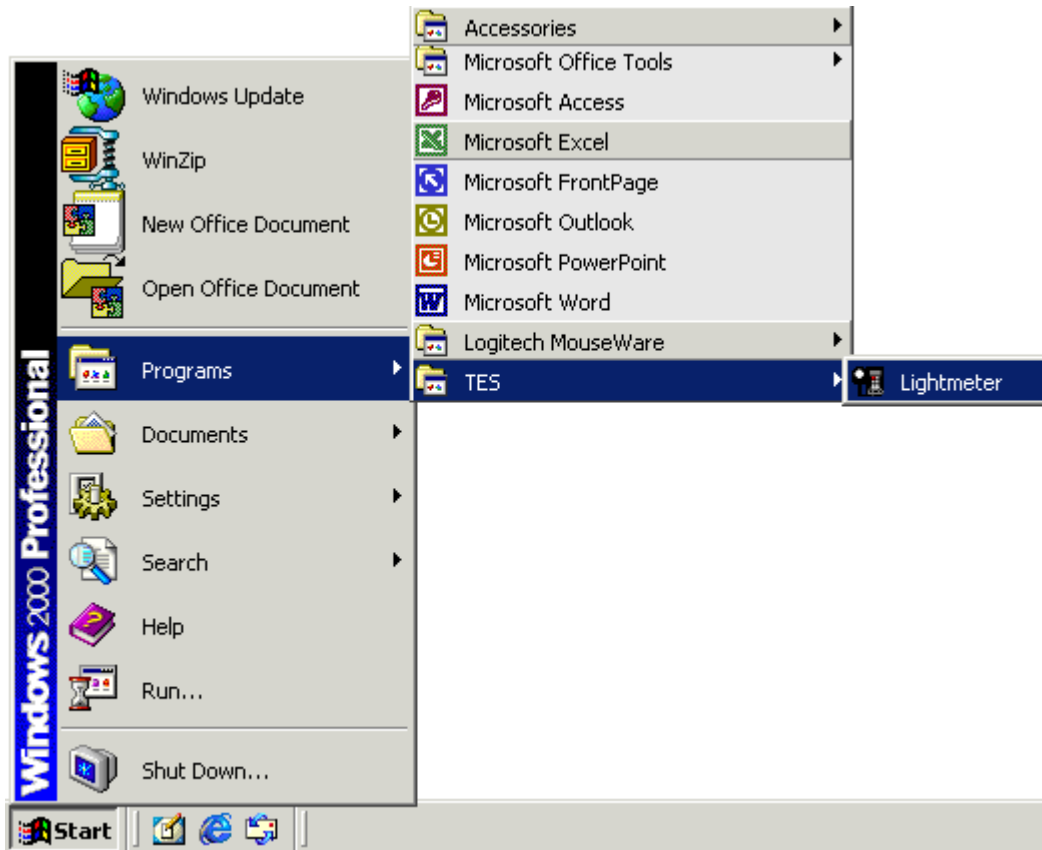


Setup is completed.

Communicating Operation

■ Run the software

1. Click "Start" form Start menu and then move mouse pointer to "Programs" then "TES" and then click the "Lightmeter" icon.

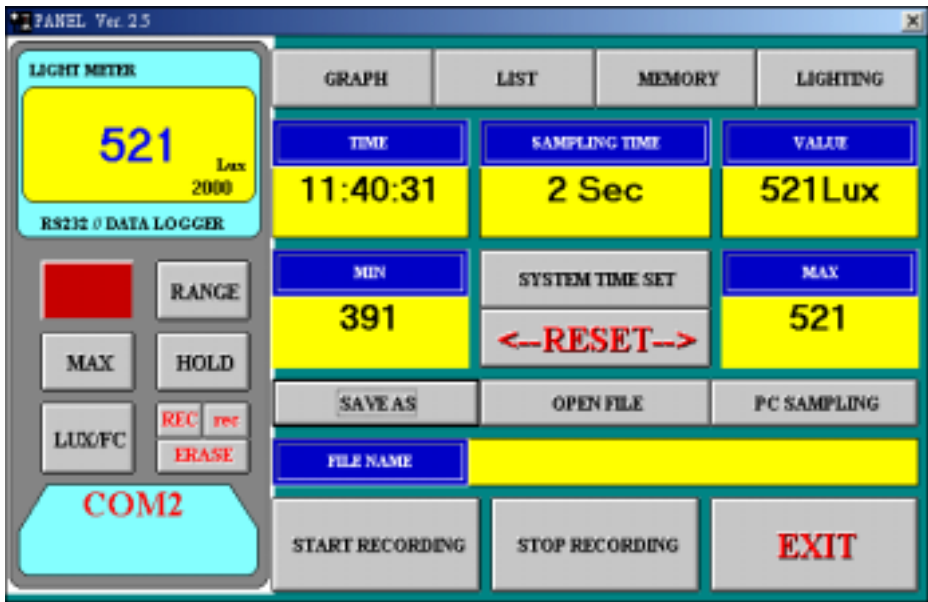


2. Click on an available COM port and then press "OK" button.



- 3.

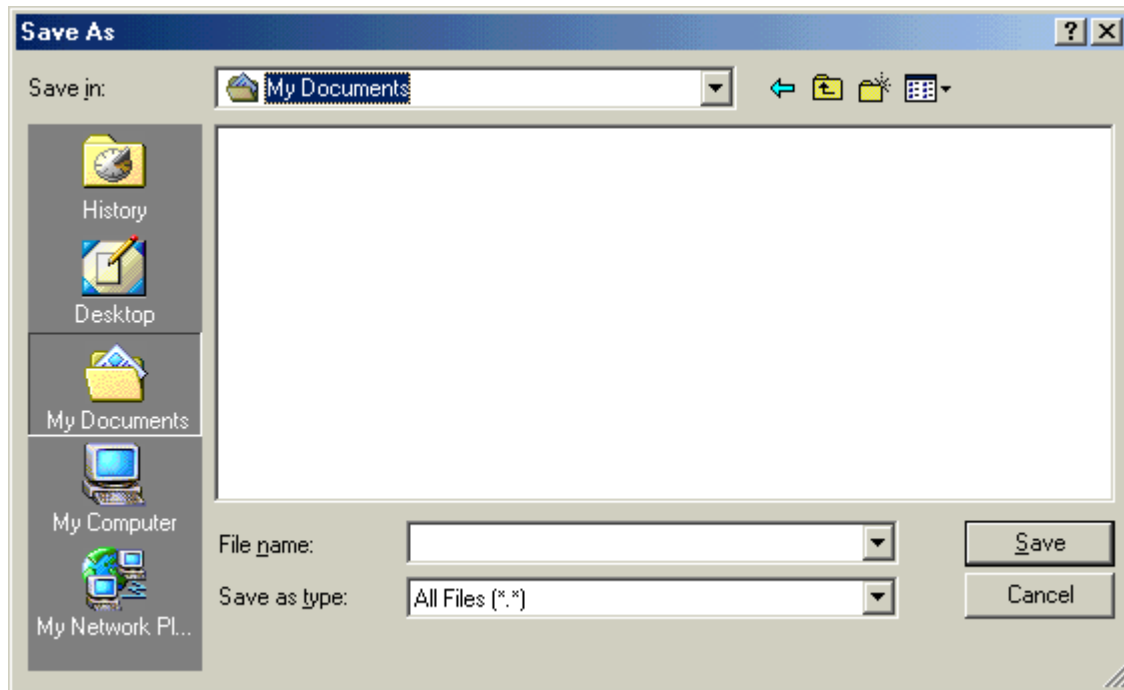
Main tableau



■ Record

Save to H.D.D

Click . There comes a dialog box as below



Input a willing file name and then click "Save" to creat a file.

Click  to save data.


Click  to stop recording.

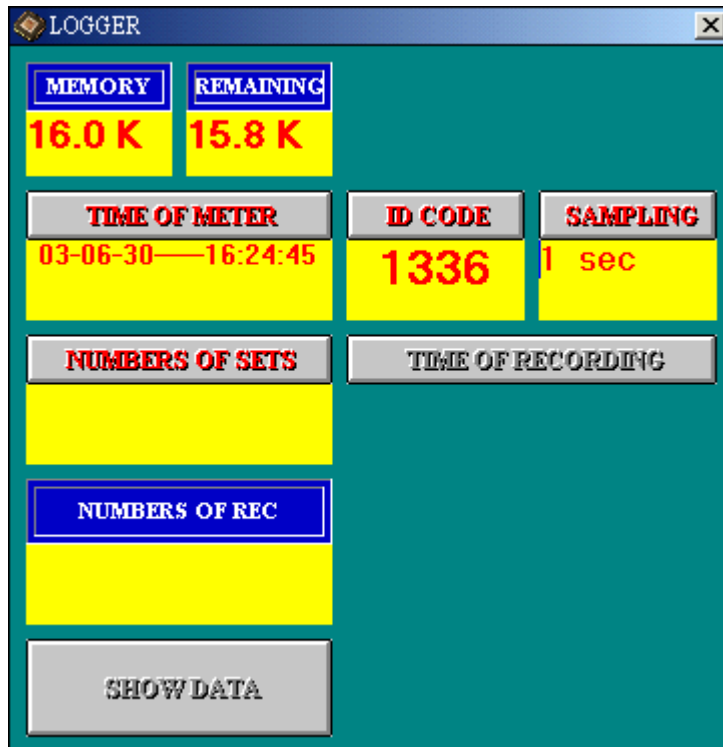
Save to EEPROM (Light Meter)

Click  to record data automatically or  manually.

■ Download Data

1. Download Data from EEP ROM

Click . There shows a Logger window as below:



The Logger window displays the following information:


MEMORY	REMAINING
16.0 K	15.8 K

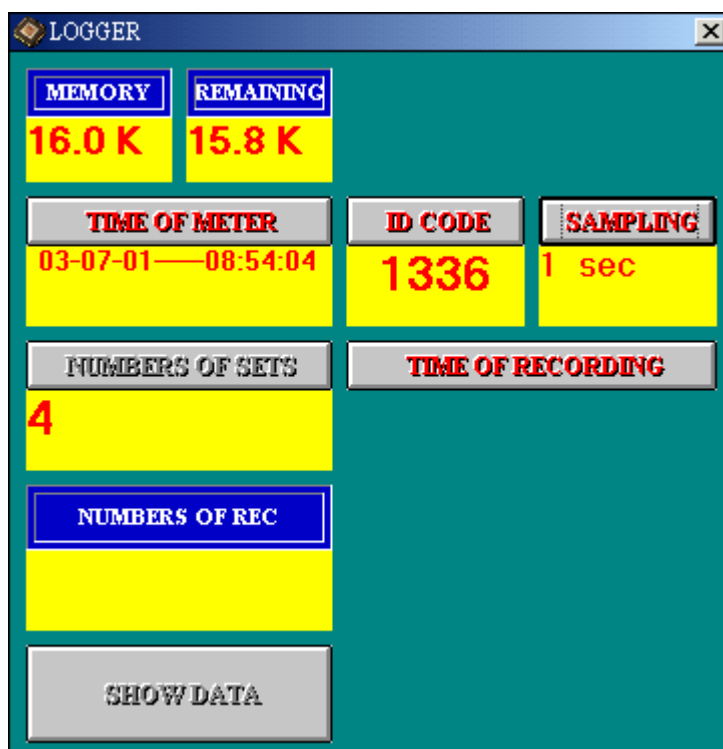
TIME OF METER	ID CODE	SAMPLING
03-06-30—16:24:45	1336	1 sec

NUMBERS OF SETS	TIME OF RECORDING

NUMBERS OF REC

SHOW DATA

Click  to get numbers of recorded sets.



The Logger window displays the following information:

MEMORY	REMAINING
16.0 K	15.8 K

TIME OF METER	ID CODE	SAMPLING
03-07-01—08:54:04	1336	1 sec

NUMBERS OF SETS	TIME OF RECORDING
4	

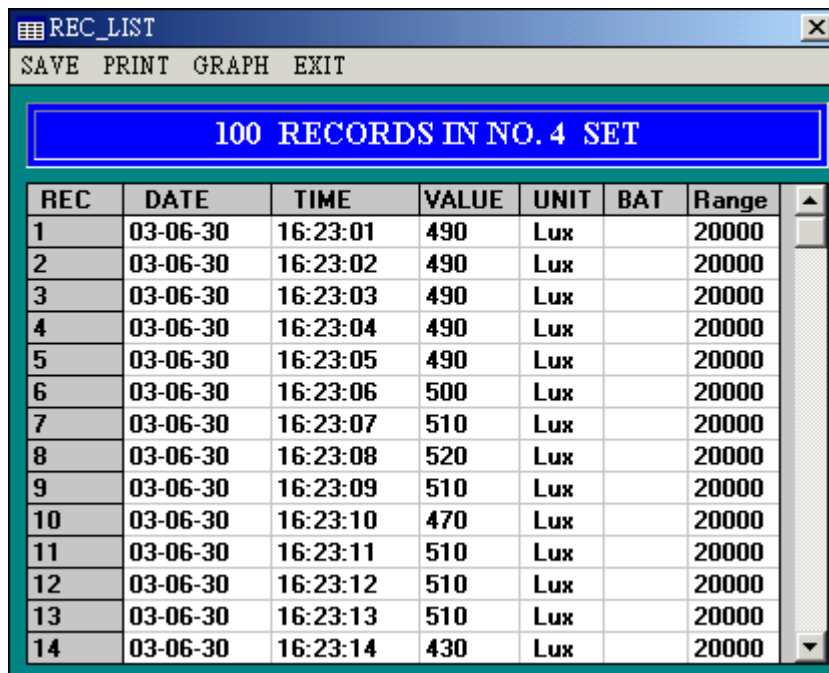
NUMBERS OF REC

SHOW DATA

Click **TIME OF RECORDING** to download the main recorded information.

SHOW DATA

If willing to read details select a set and then click

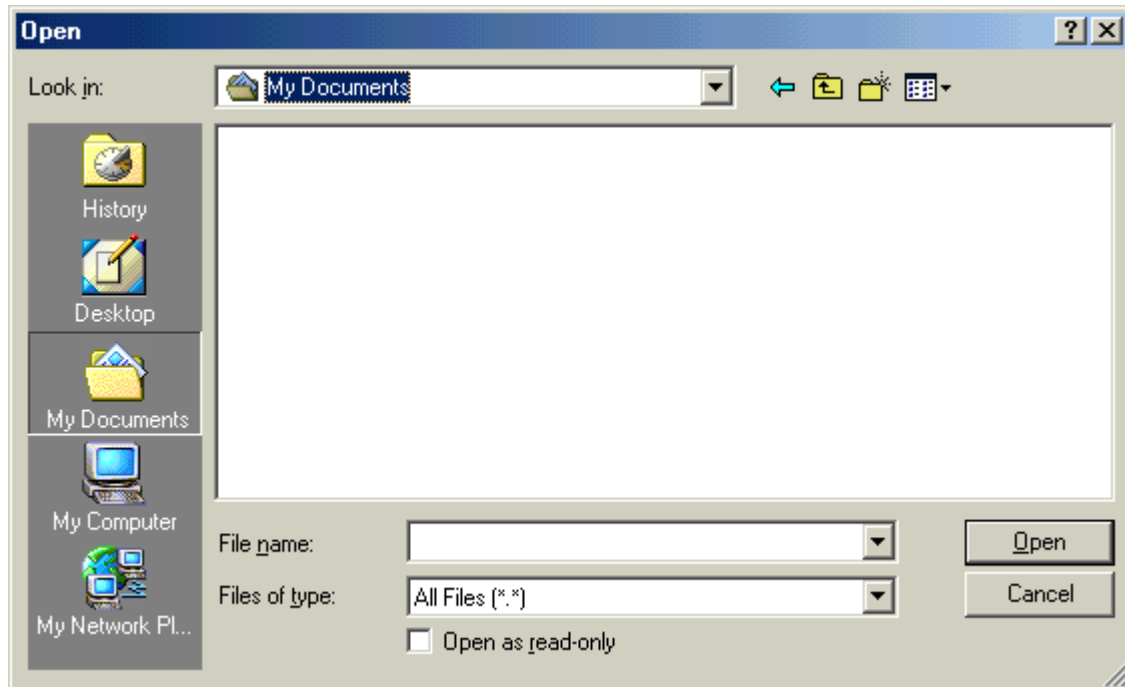


The screenshot shows a window titled "REC_LIST" with a menu bar containing "SAVE", "PRINT", "GRAPH", and "EXIT". Below the menu bar is a blue header bar with the text "100 RECORDS IN NO. 4 SET". The main area of the window contains a table with 7 columns: REC, DATE, TIME, VALUE, UNIT, BAT, and Range. The table displays 14 rows of data. A vertical scrollbar is visible on the right side of the table.

REC	DATE	TIME	VALUE	UNIT	BAT	Range
1	03-06-30	16:23:01	490	Lux		20000
2	03-06-30	16:23:02	490	Lux		20000
3	03-06-30	16:23:03	490	Lux		20000
4	03-06-30	16:23:04	490	Lux		20000
5	03-06-30	16:23:05	490	Lux		20000
6	03-06-30	16:23:06	500	Lux		20000
7	03-06-30	16:23:07	510	Lux		20000
8	03-06-30	16:23:08	520	Lux		20000
9	03-06-30	16:23:09	510	Lux		20000
10	03-06-30	16:23:10	470	Lux		20000
11	03-06-30	16:23:11	510	Lux		20000
12	03-06-30	16:23:12	510	Lux		20000
13	03-06-30	16:23:13	510	Lux		20000
14	03-06-30	16:23:14	430	Lux		20000

2. Download Data from Hard Disk

Click **OPEN FILE** . There comes an Open window as below




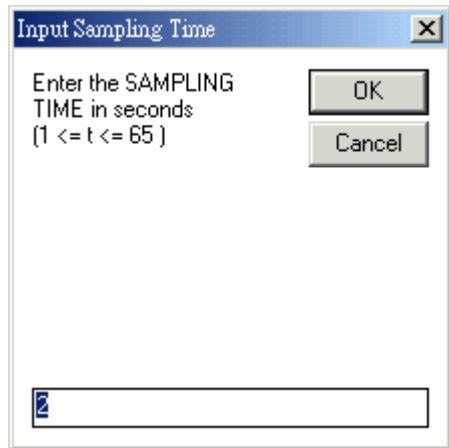
Input the file name and then click Open button if willing to read.

1336.DAT						
PRINT EXIT						
	Date	Time	Value	Unit	Bat	Range
1	05-16-2003	09:45:58	350	Lux		20000
2	05-16-2003	09:46:00	340	Lux		20000
3	05-16-2003	09:46:02	350	Lux		20000
4	05-16-2003	09:46:04	330	Lux		20000
5	05-16-2003	09:46:06	340	Lux		20000
6	05-16-2003	09:46:08	0L	Lux		20
7	05-16-2003	09:46:10	0L	Lux		20
8	05-16-2003	09:46:12	0L	Lux		20
9	05-16-2003	09:46:14	0L	Lux		20
10	05-16-2003	09:46:16	9.56	Lux		20
11	05-16-2003	09:46:18	1.5	Lux		200
12	05-16-2003	09:46:20	32.5	Lux		200
13	05-16-2003	09:46:22	52.6	Lux		200
14	05-16-2003	09:46:24	66	Lux		2000
15	05-16-2003	09:46:26	81	Lux		2000
16	05-16-2003	09:46:28	278	Lux		2000
17	05-16-2003	09:46:30	300	Lux		20000

■ Sampling Time

PC Sampling Rate:



Click . There shows an “Input Sampling Time” dialog box as below:




Input willing sampling time and then click "OK" button to complete.



Sampling Rate of Light Meter:

In “Logger” window, drag mouse to highlight the value of “SAMPLING” ,

then input a willing sampling , and then click  to complete.

■ ID Code

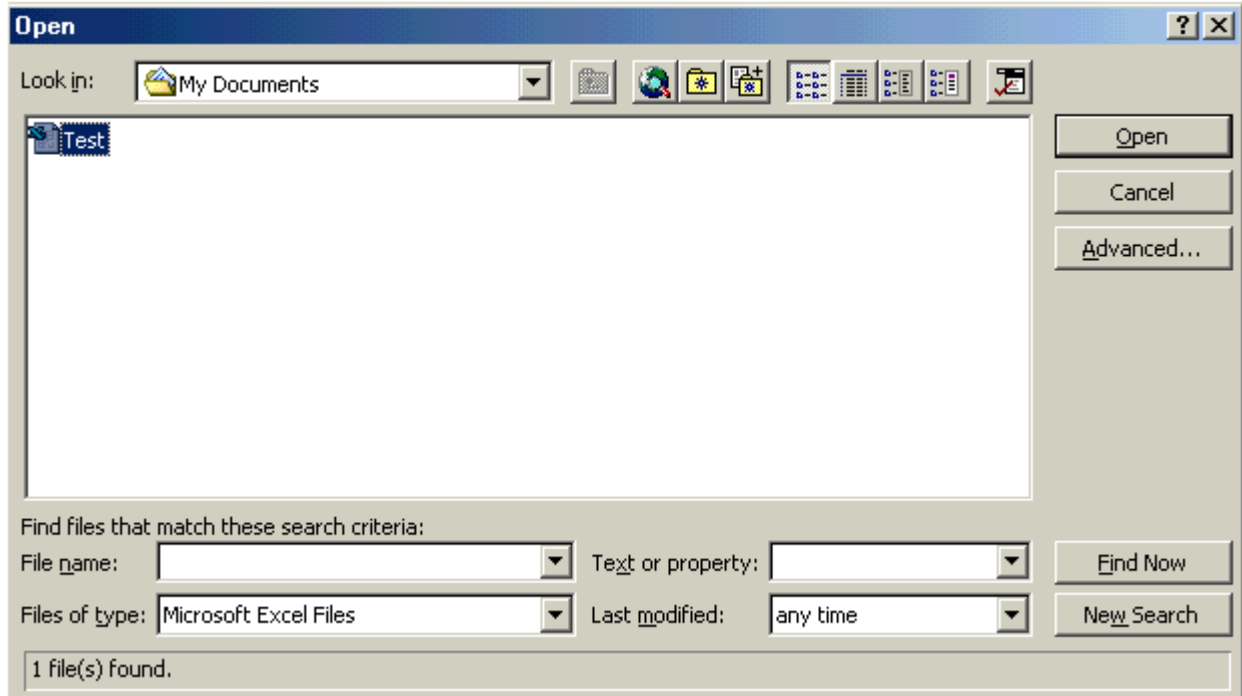
In “Logger” window, drag mouse to highlight the value of “ID CODE” ,

then input a willing ID code , and then click  to complete.

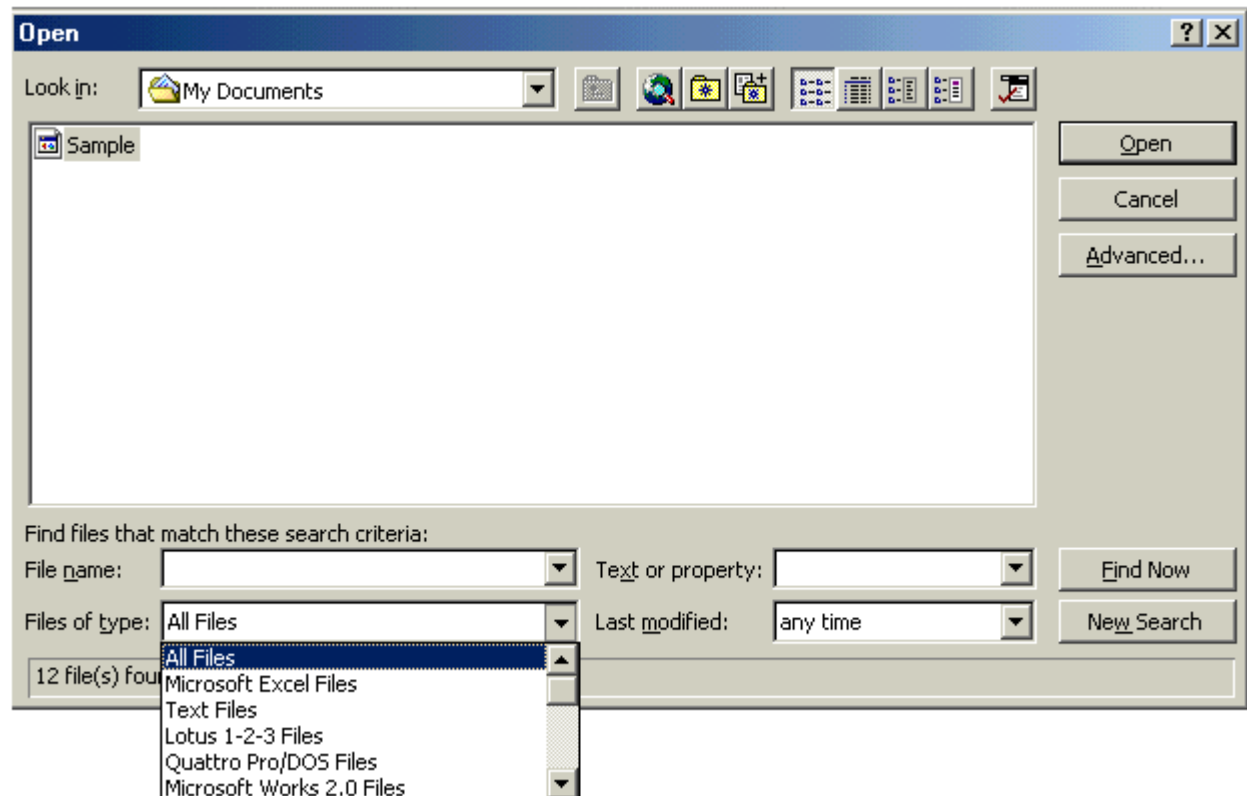
■ Data Convert

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.dat.(see below)



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

Text Import Wizard - Step 1 of 3

The Text Wizard has determined that your data is Delimited.
If this is correct, choose Next, or choose the data type that best describes your data.

Original data type

Choose the file type that best describes your data:

☒ **Delimited** - Characters such as commas or tabs separate each field.
☐ **Fixed width** - Fields are aligned in columns with spaces between each field.

Start import at row: File origin:

Preview of file G:\Project\TES\1336\2.5\1336.DAT.

1	1005-16-200309:45:580350Lux020000
2	2005-16-200309:46:000340Lux020000
3	3005-16-200309:46:020350Lux020000
4	4005-16-200309:46:040330Lux020000
5	5005-16-200309:46:060340Lux020000

Cancel < Back **Next >** Finish

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

1	05-16-2003	09:45:58	350	Lux		20000	
2	05-16-2003	09:46:00	340	Lux		20000	
3	05-16-2003	09:46:02	350	Lux		20000	
4	05-16-2003	09:46:04	330	Lux		20000	
5	05-16-2003	09:46:06	340	Lux		20000	

Cancel < Back **Next >** Finish

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: MDY

☐ Do not import column (skip)

Data preview

	General	General	General	General	General	General	General
1	05-16-2003	09:45:58	350	Lux		20000	
2	05-16-2003	09:46:00	340	Lux		20000	
3	05-16-2003	09:46:02	350	Lux		20000	
4	05-16-2003	09:46:04	330	Lux		20000	
5	05-16-2003	09:46:06	340	Lux		20000	

Cancel < Back Next > Finish

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: MDY

☒ Do not import column (skip)

Data preview

	General	General	General	General	General	General	General
1	05-16-2003	09:45:58	350	Lux		20000	
2	05-16-2003	09:46:00	340	Lux		20000	
3	05-16-2003	09:46:02	350	Lux		20000	
4	05-16-2003	09:46:04	330	Lux		20000	
5	05-16-2003	09:46:06	340	Lux		20000	

Cancel < Back Next > Finish

Click **Finish** to complete.

	A	B	C	D	E	F
1	5/16/2003	9:45:58	350	Lux		20000
2	5/16/2003	9:46:00	340	Lux		20000
3	5/16/2003	9:46:02	350	Lux		20000
4	5/16/2003	9:46:04	330	Lux		20000
5	5/16/2003	9:46:06	340	Lux		20000
6	5/16/2003	9:46:08	OL	Lux		20
7	5/16/2003	9:46:10	OL	Lux		20
8	5/16/2003	9:46:12	OL	Lux		20
9	5/16/2003	9:46:14	OL	Lux		20
10	5/16/2003	9:46:16	9.56	Lux		20
11	5/16/2003	9:46:18	1.5	Lux		200
12	5/16/2003	9:46:20	32.5	Lux		200