KANOMAX

Measurement Software for Light Scattering Digital Dust Monitor

MODEL S344-30

Operation Manual

Please read this operation manual carefully and understand the warnings described within before operating this instrument.
Keep this manual handy for future reference.

03001
19.01

* This operation manual is stored in Adobe PDF format, which can be read by Adobe Acrobat 4.x or higher.

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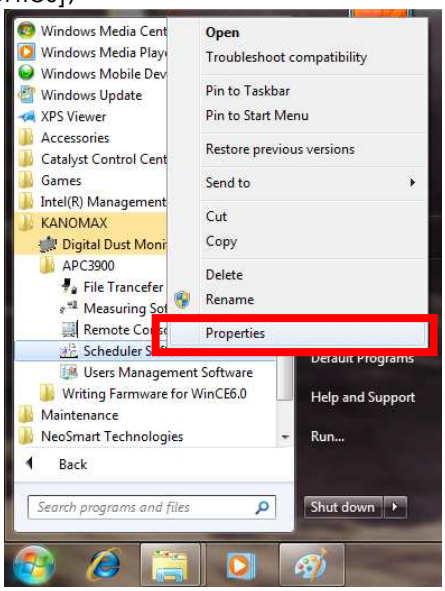
* The contents of this Operation Manual are subject to change for quality improvement without notice

Precautions When Using Kanomax Software Products in Windows 7 or 8/8.1 or 10

1. Setting icon of the software :

1. Click [Start] -> [ALL Programs] -> [KANOMAX] or right-click the desktop icon of the software.

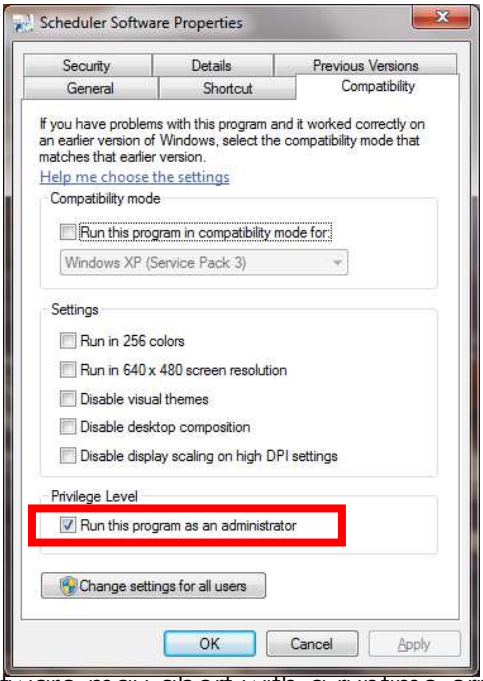
2. Right-click the icon of the software and click [Properties], or click [Properties] of the desktop icon.



3. Click the [Compatibility] tab in the Software Properties window.

4. Check "Run this program as an administrator" under Privilege Level.

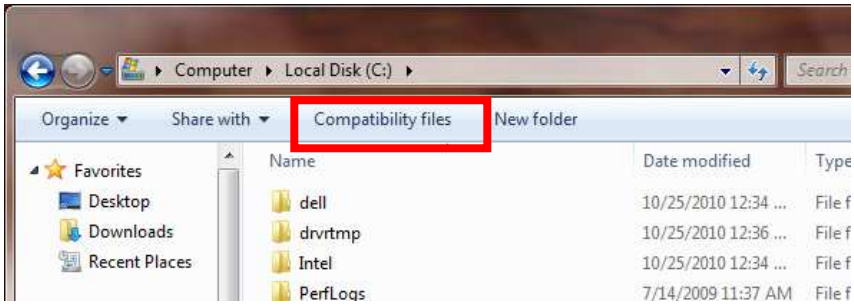
5. Click [OK] to close the window.



Note: If you do not follow the above procedure, the software may abort with a runtime error when reading or printing data.

2. For Stored data:

Stored data may not appear in Windows Explorer if it was saved in the C:¥ folder or one of the folders in Program Files (Program Files(x86) for 64 bit).
Click "Compatibility files" in Windows Explorer to display the data.
If you cannot perform this operation, or "Compatibility files" does not appear, you need to save the data in a folder such as "My Documents" which users can read and write to.



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1. Overview

1.1. Packing List

The following item is included in this package.

	Qty
1. Software CD-ROM for Light Scattering Digital Dust Monitor (MODEL S344-30) (This operation manual is included.)	1

In case there is any missing item or damage, please contact your local distributor immediately.

1.2. System Overview

This software allows you to collect data from Light Scattering Digital Dust Monitor, Model 3443, display the data in graph and save it as a file.
Also you can download data saved in the Light Scattering Digital Dust Monitor, Model 3443, to your computer and save it in a file.

Applicable Computer Requirements:

Model: IBM PC compatible
USB Port: More then one port shall be equipped.
OS: English or Japanese Windows 7,8/8.1,10

2. Installing Software

2.1. Software Installation

When installing the software, be sure to log in with the user having administrative rights and follow the procedure below.

Insert the product CD-ROM into the CD-ROM drive. The installer starts up automatically and the installation will begin. Then follow the instructions displayed on the screen.

If the installer does not start up automatically, follow the instructions below to install the software.
Start below operations from Explorer.

(1) First, install USB driver. Execute “PreInstaller.exe” stored in the [Driver] folder in the product CD-ROM.
(2) Follow the instructions displayed on the screen.
(3) Next, install the software. Execute “Setup.exe” stored in the product CD-ROM.
(4) Follow the instructions displayed on the screen.
(5) When the installation is completed successfully, “Kanomax” will be added in the “Program” of the “Start” menu.

2.2. Starting and Closing the Software

To start the Light Scattering Digital Dust Monitor Software (Model 344-30):

From the start menu, click: [All Programs]→ [Kanomax]→ [Digital Dust Monitor Model 3443 Software]. The main window of the software will be displayed.

To close the Light Scattering Digital Dust Monitor Software (Model 344-30):

- From the [File] menu, select [Exit], or
- Click the [x] button located at the right end of the title bar of the main window.

2.3. Uninstallation

(1) Open [My Computer] →[Control Panel] → [Add or Remove Programs]
(2) Select [Digital Dust Monitor Model 3443 Software] from the list, and click [Remove] button.

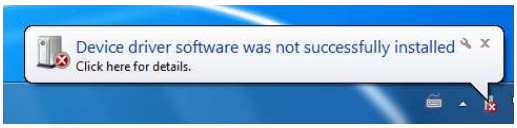
3. Installing Device Driver

3.1. Device Driver Installation

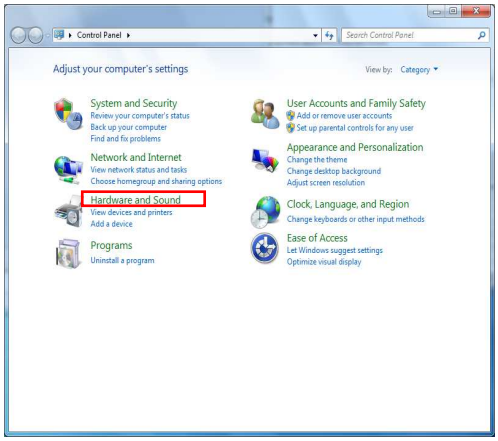
When you connect the Light Scattering Digital Dust Monitor (Model 3443), “Found New Hardware Wizard” window will be displayed. Install the device driver following the procedure below. To install the device driver, be sure to insert the product CD-ROM into the CD-ROM driver.

1)Please wait while “Installing device driver software” message is being displayed in the lower right of the screen.

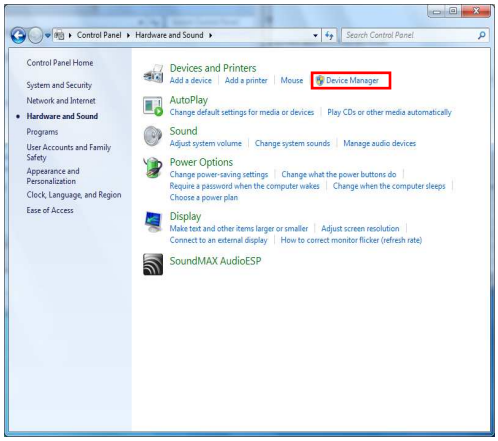
2)In a short time, “Device drive software was not successfully installed” message will appear.



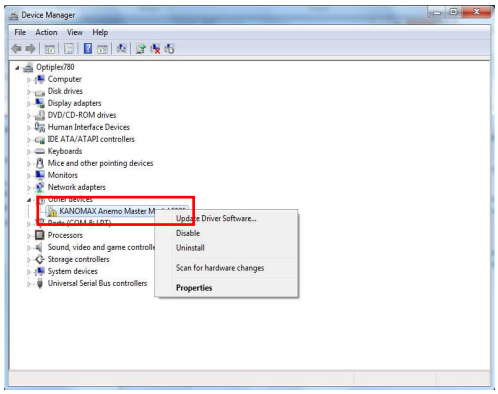
3)Click “Start” → “Control Panel” → “Hardware and Sound”.



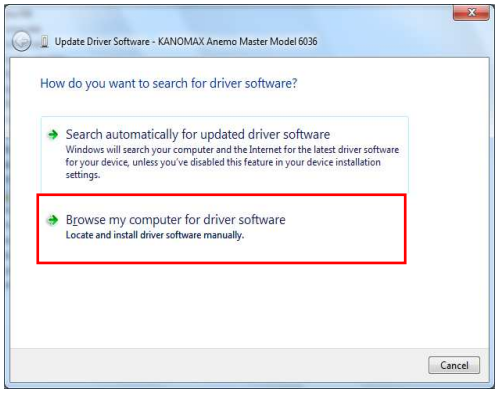
4)Click “Device Manager”.



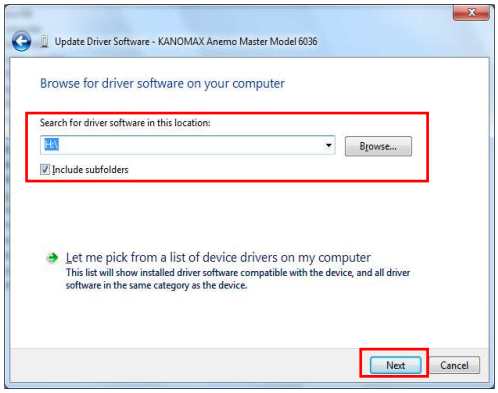
5)After opening the Device Manager window, confirm that “KANOMAX DIGITAL DUST MONITOR MODEL 3443” is listed in “Other Device” and right-click it. Highlight and click on “Update Driver Software” in the menu.



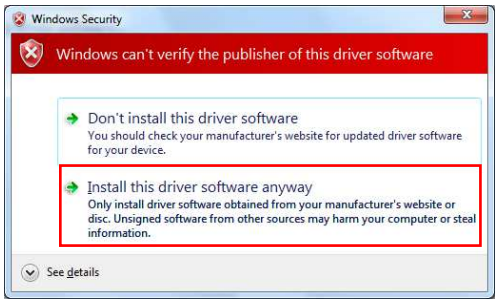
6)Click “Browse my computer for driver software”.



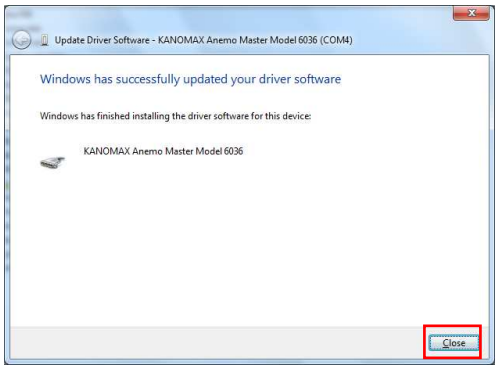
7)Type the name of the CD-ROM drive in “Search for driver software in this location:” box and click “Next”.



8) In the resulting “Windows Security” dialogue, click “Install this driver software anyway” to start the installation of the driver software.

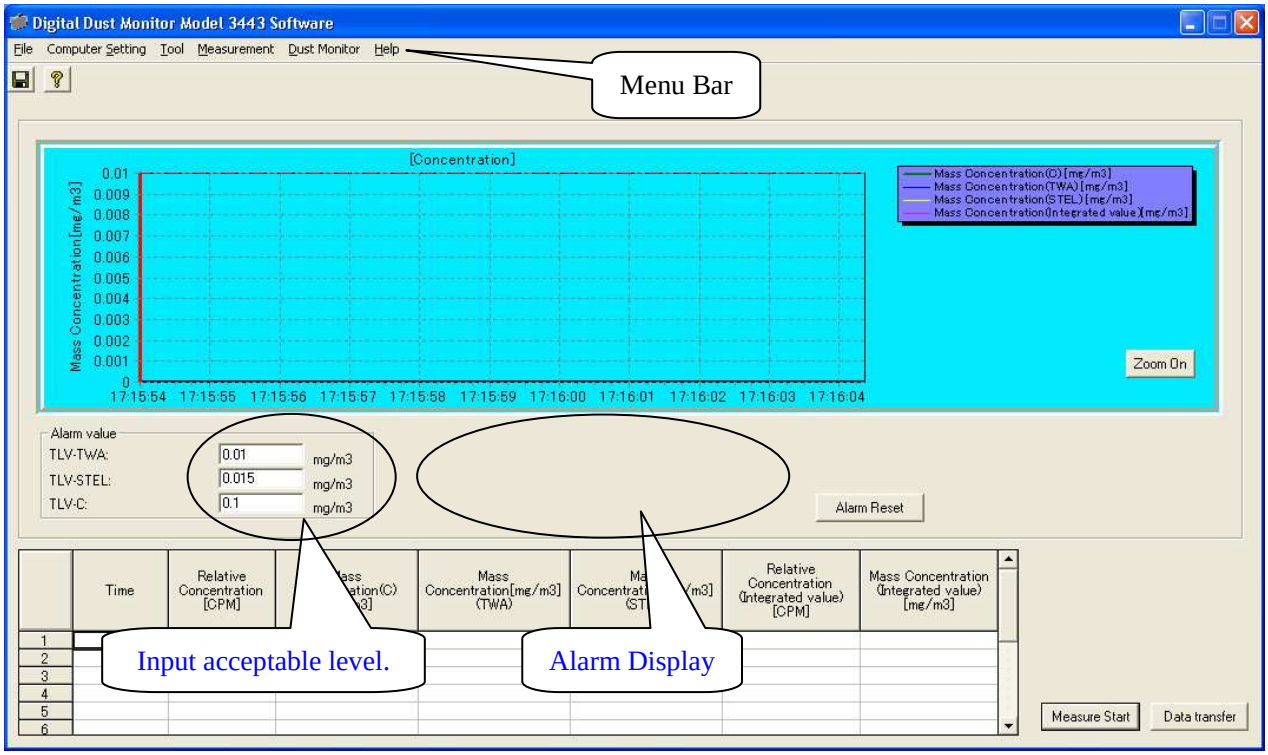


9) When the installation is complete as shown in the right figure, click “Close”.



4. Main Screen

4.1. Menu Bar



4.2. Menu List

File Menu

For file related operations

[Save] To save measurement data in CSV format (Or click button at the upper left.)

[Exit] To close the program

Computer Setting Menu

To set each parameter

[Communication Setting] To set the communication setting

[Option] To set the folder where measurement data is to be saved

Tool Menu

To set graph setting

[Graph Setting] To set graph display shown during a measurement

Measurement Menu

For measuring related operations

[Measure Start]	To start a measurement Data will be acquired based on the conditions set in [Measure Setting].
[Measure End]	To finish a measurement
[Measure Setting]	To configure parameter setting for a measurement

Dust Monitor Menu

[Instrument Setting]	To set Calculation, Dust Monitor's Time and K-Factor setting

Help Menu

[About Dust Monitor]	To view the version information of the software

(Or click button at the upper left.)

4.3. Command Button

[Measure Start]

Click [Measure Start] button to start measuring based on the measurement conditions configured in "Measure Setting".

If the data from the previous measurement is not saved, a dialog of "Data is not saved. Do you save?" will be displayed.

Click "Yes" to display "Save As" window to save the data. Then click [Measure Start] button again to start a measurement.

Click "No" to discard the previous data and start a measurement.

[Data transfer]

Click [Data transfer] to transfer data saved in the dust monitor to the computer.

After clicking [Data transfer] button, a list of data saved in the dust monitor will be displayed.

Next the user selects the data to be transferred.

* It may take a few minutes to display a list of saved data when large amount of data is saved in the instrument.

[Zoom On] ([Zoom Off])

Click [Zoom On] button to enlarge a graph. Then [Zoom On] button will become [Zoom Off].

While the button is displayed as [Zoom Off], graph enlargement function is activated.

Click [Zoom Off] button to reset the graph to the original size.

While measuring, the graph enlargement function is not activated.

[Alarm Reset]

Click [Alarm Reset] to reset each alarm occurred during a TWA mode measurement. If an alarm occurs again after resetting it, an alarm will be output.

4.4. Graph

To Enlarge Graph

Click [Zoom On] button. Then select the area to be enlarged by dragging the mouse from the upper left to the lower right.

To reset the graph to the original size, drag the mouse towards the left side or click [Zoom Off] button.

While measuring, the graph enlargement function is not activated.

To Display Integrated Value Graph

To display an integrated value graph, check the box for “Integrated Value View”.

4.5. To Input TWA Measurement Acceptable Value and TWA

<Time-weighted average (TWA)>

Input Range: The short term exposure limit (STEL) or less in the range of [0.001-10.000] mg/m3

Time-weighted average (TWA) is the time-weighted average concentration for the regular working hours of 8 hours a day and 40 hours a week. When the average concentration (mg/m3) from the beginning to the ending of the TWA mode measurement exceeds this set value, an alarm will be activated. The TWA measurement value is displayed in real time.

If the measurement time is less than 8 hours, the time length till the end of the measurement is subject to this measurement.

<Short term exposure limit (STEL)>

Input Range: Between the time-weighted average (TWA) and the upper limit tolerance (C) in the range of [0.001-10.000] mg/m3

If the latest moving average concentration (mg/m3) for 15 minutes exceeds this setting value, alarm will be activated.

The short term exposure limit (STEL) is displayed in real time.

The alarm will also be activated if the concentration exceeds the time-weighted average (TWA) 5 times or more within 8 hours or the concentration exceeds TWA twice or more within 60 minutes.

If the measurement time is less than 8 hours, the time length till the end of the measurement is subject to this measurement.

<Upper limit tolerance (C)>

Input Range: The short-term exposure limit (STEL) or less in [0.001-10.000]mg/m3

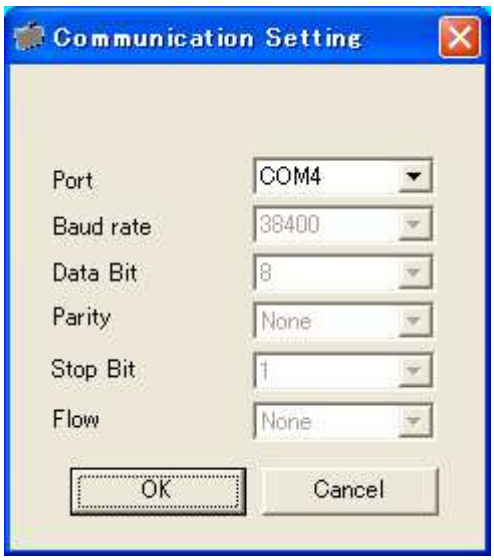
If the instantaneous concentration (one sampling) (mg/m3) exceeds this set value, an alarm will be indicated.

The upper limit tolerance (C) is displayed in real time.

5. Computer Setting

5.1. Communication Setting

To configure the communication settings, click [Computer Setting] -> [Communication Setting].
Then the window shown below will be displayed.



Baud rate:	fixed value of “38400”
Data Bit:	fixed value of “8”
Parity:	fixed value of “None”
Stop Bit:	fixed value “1”
Flow:	fixed value of “None”

Port Number: Set the connection port number. Click the down arrow to display a list of the port numbers that are currently equipped. Select one from the list.

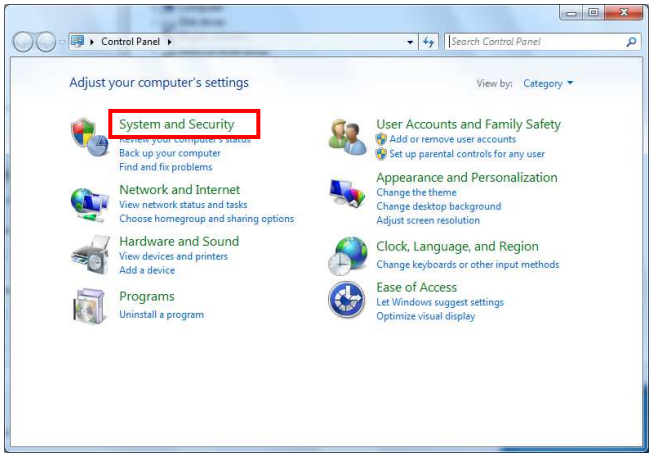
[Note] The port number that this software can recognize is from COM1 to COM15.
If the COM number other than from COM1 to COM15 is selected when the Digital Dust Monitor is connected, you need to change the COM number.

5.2. How to Change COM Number

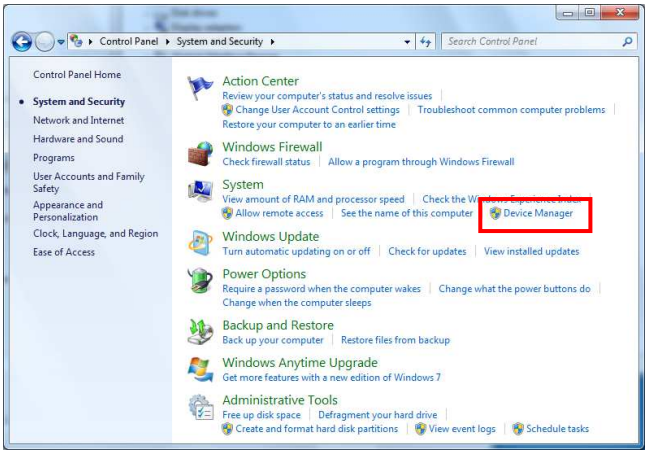
(Below procedure is using Windows XP.)

1) Open Control Panel
([start] -> [Control Panel])

2) Double-click [System and Security]

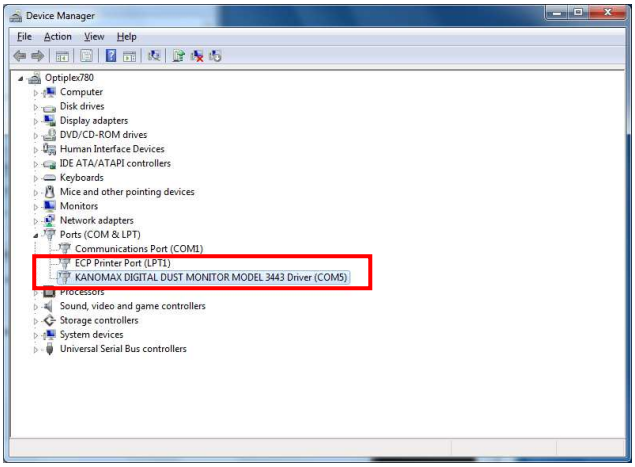


3) Click Device Manager].



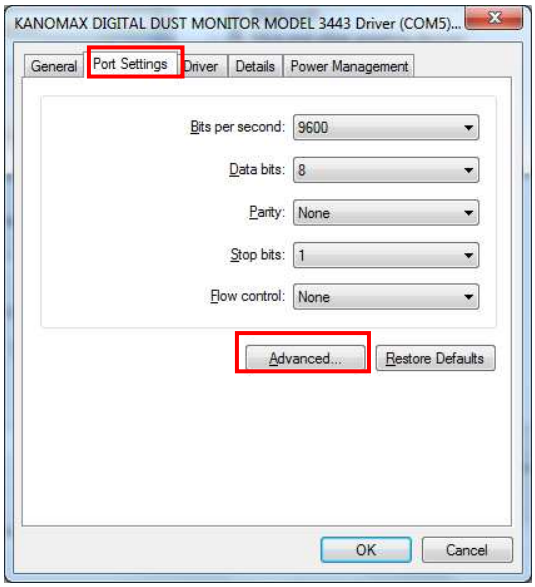
3) When “Device Manager” window is open, click “Ports (COM & LPT)”.

4) Double-click “KANOMAX DIGITAL DUST MONITOR MODEL 3443 (COMxx)”.

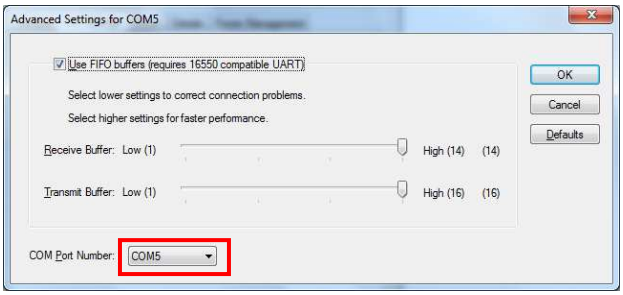


6) Click [Port Settings] tab.

7) On the Port Settings tab, click [Advanced…]



8) Select COM from the “COM Port Number” combo box.
Make sure to select the empty port from COM1 to COM15.



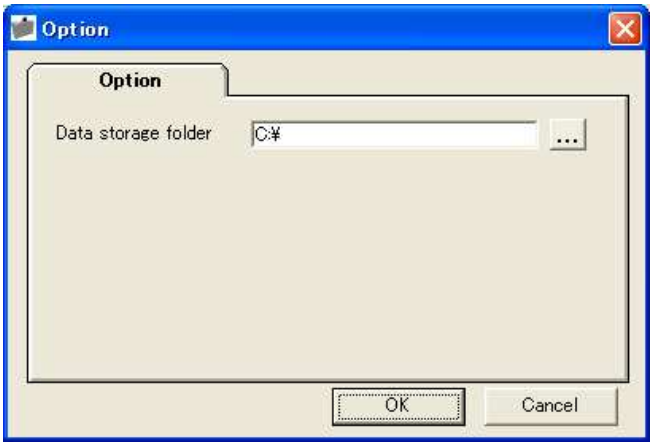
9) Now COM port setting is done.
To activate this COM port, restart the software application.

5.3. Option

Data storage folder:

Set the folder where measurement data or transferred data to be saved.

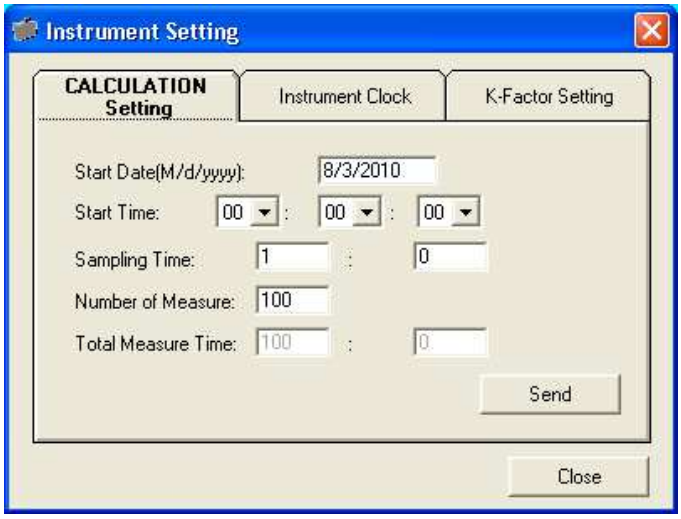
Either enter a folder name directly (enter full path) or select a folder by clicking the reference […] button.



6. Digital Dust Monitor Setting

6.1. Instrument Setting Window

To configure these settings, turn the Digital Dust Monitor on and connect it to the computer via USB cable.
Go to [Dust Monitor] -> [Instrument Setting] from the menu bar to display the "Instrument Setting" window as shown below.



6.2. Instrument Settings

(1) CALCULATION Setting

CALCULATION Setting on the software sends the configuration to the 3443.
However user needs to activate CALCULATION Mode on the 3443 to start measurement (See p16 of Operation Manual).

Start Date: Set the date when you want to start a measurement.

*Note: The date format configured in "Customize Regional Options" on your system ([Control Panel] -> [Regional and Language Options]) is applied.
The example screen above adopts [M/d/yyyy] (Windows, United States)

Start Time: Set measurement start time.
Select hour, minute and second from the combo box. Time is displayed in 24 hour system.

Measure Time: Set sampling time.
Settable range: 1 sec ~ 99 min 59 sec

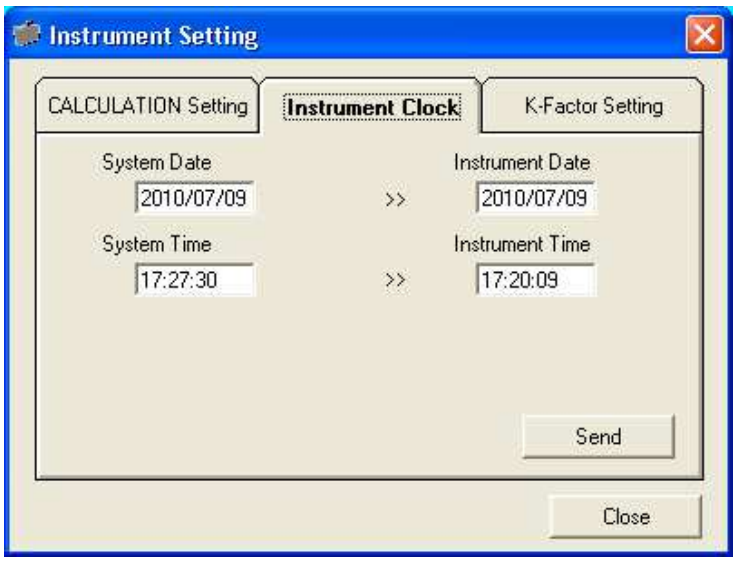
Number of Measure: Set how many times to take samplings.
Settable range: 1 ~ 30,000

Command Button

[Send]: To send the settings to the instrument
[Close]: To close the "Instrument Setting" window

(2) Time Setting

Select “Instrument Clock” tab on the “Instrument Setting” window.



The current date and time of the computer and instrument are displayed.

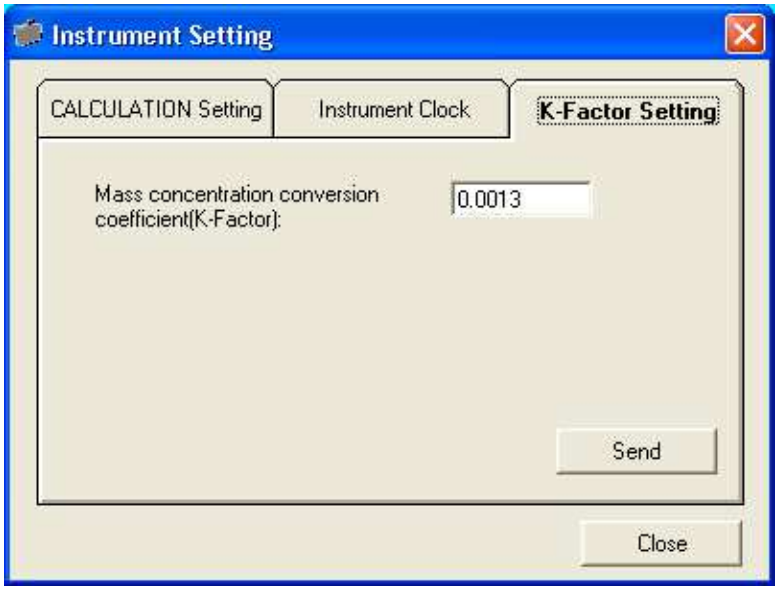
Command Button

[Send]: To make the instrument’s date and time same as the ones displayed on the computer

[Close]: To close the “Instrument Setting” window

(3) Mass Concentration Conversion Coefficient (K-Factor Setting)

Select “K-Factor Setting” tab on the “Instrument Setting” window.



Mass concentration conversion coefficient (K-Factor):

Set the instrument’s mass concentration conversion coefficient (K-Factor).

Settable Range: 0.0001 ~ 0.0099

Command Button

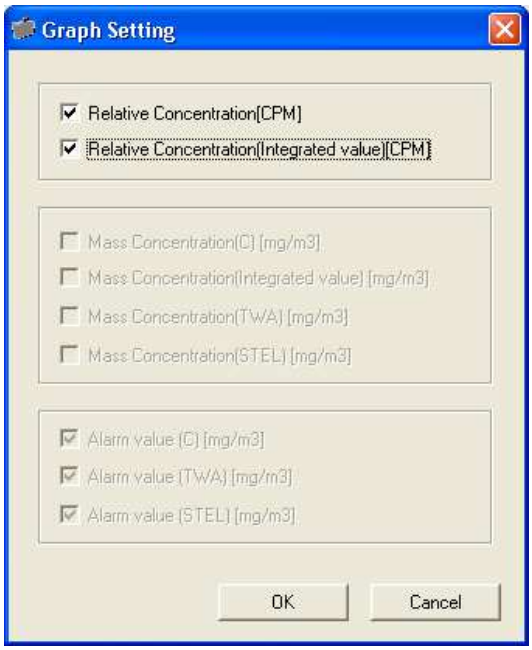
[Send]: To set the instrument’s K-Factor to the figure entered in this tab.

[Close]: To close the “Instrument Setting” dialog box

7. Tool

7.1. Graph Setting

From the menu bar click [Tool] -> [Graph Setting]



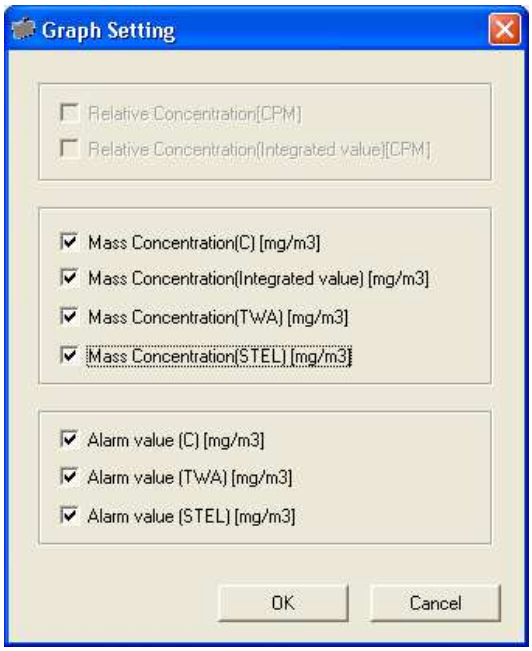
(1) Relative Concentration Grapy Display

To view relative concentration only, check the box for "Relative Concentration [CPM]".

To view integrated values of relative concentration only, check the box for "Relative Concentration (Integrated value) [CPM]".

To view both graphs, check both of the boxes.

Note that when selecting relative concentration graph, mass concentration graph cannot be selected.



(2) Mass Concentration Graph Display

To view mass concentration graph, check the box for "Mass Concentration". There are four different graph options. Please select the type of graph that you want to view. (You can select multiple graph types.)

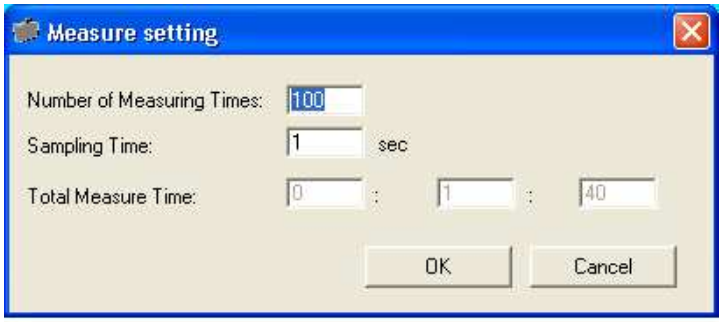
Note that when selecting mass concentration graph, relative concentration graph cannot be selected.

When displaying mass concentration graph, alarm value can also be indicated on the graph. The acceptable level that is set in **4.5. To Input TWA Measurement Acceptable Value and TWA** will be indicated. To view the alarm level, check the box for the alarm level that you want to display on the graph.

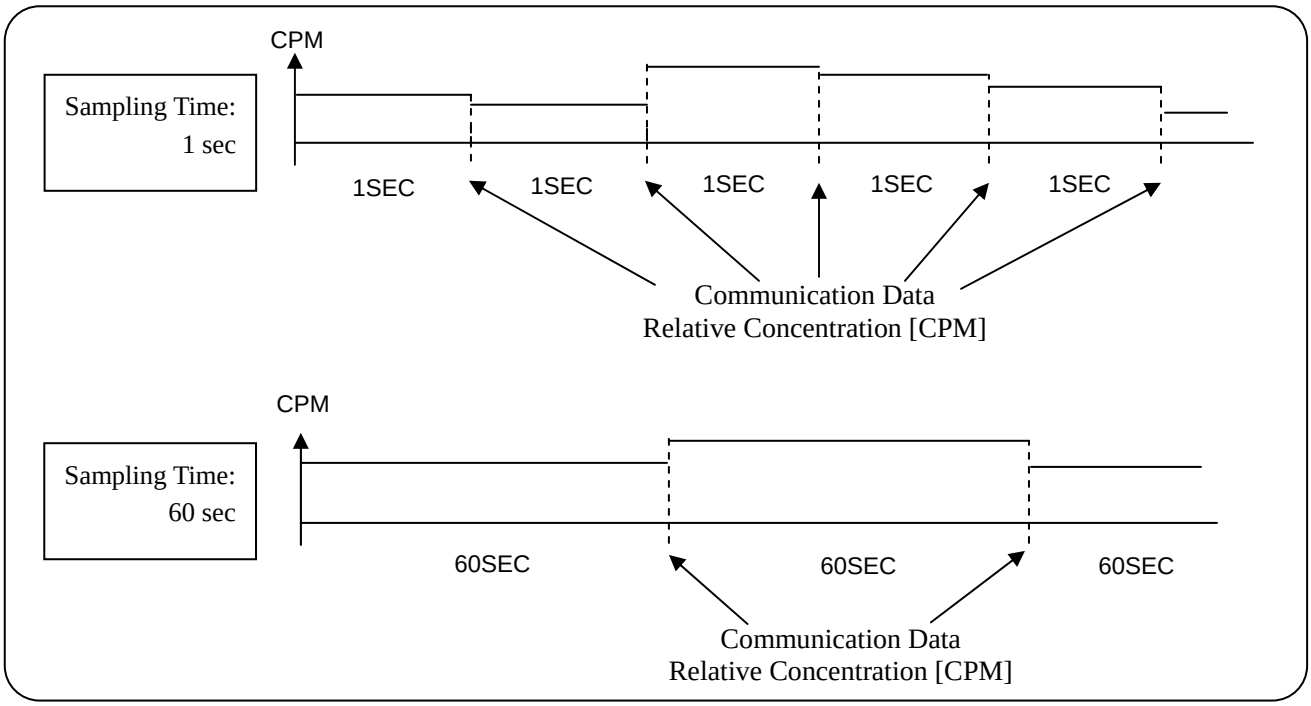
8. Measurement

8.1. Measurement Setting

To configure the measurement settings, click [Measurement] -> [Measure Setting] from the menu bar.
Then the window shown below will be displayed.



Number of Measuring Times:	To set how many times to take sampling After changing this value, the total measurement time will be calculated automatically and displayed as “Total Measure Time”. Settable Range: 1 ~ 65,500
Sampling Time:	To set sampling time Relative concentration [CPM] per sampling time configured in this window will be output. Settable Range: 1 ~ 9,999 sec

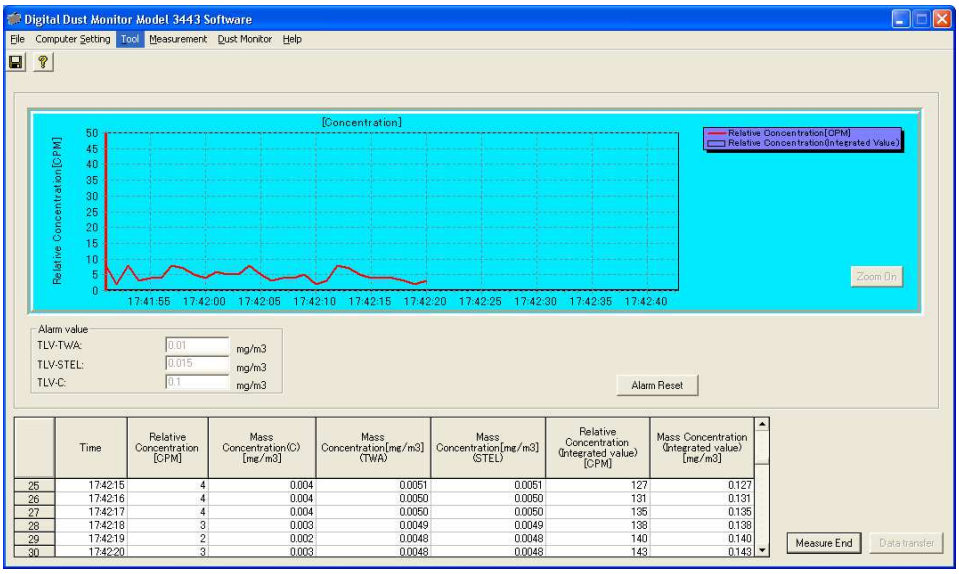


8.2. Starting a Measurement

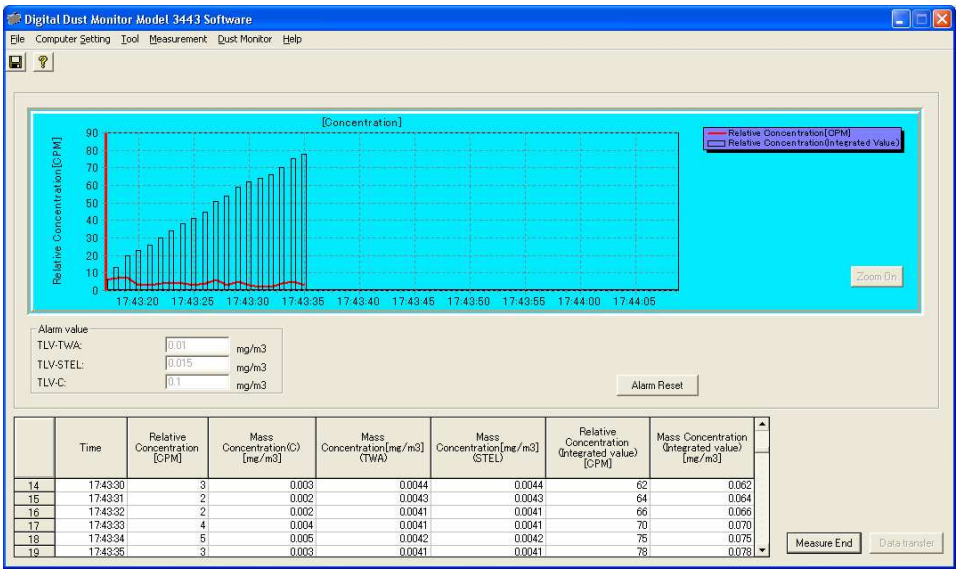
Click [Measure Start] button or go to [Measurement] -> [Measure Start] from the menu bar to start a measurement based on the measurement conditions configured in **8.1. Measurement Setting**.
To save data after a measurement, go to [File] -> [Save].

(1) Relative Concentration Graph

When not using [Integrated Value View]:



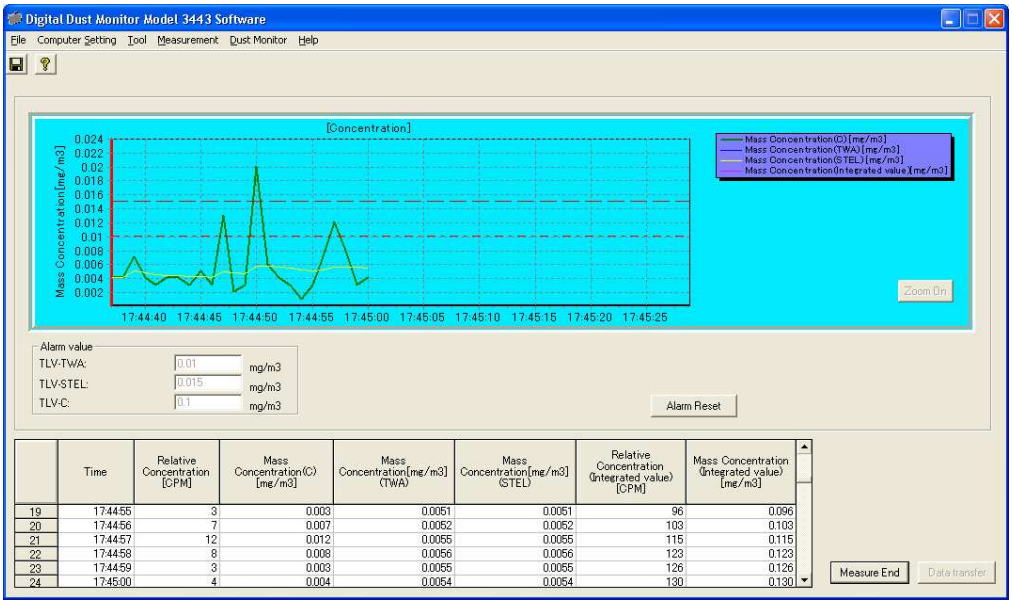
When using [Integrated Value View]:



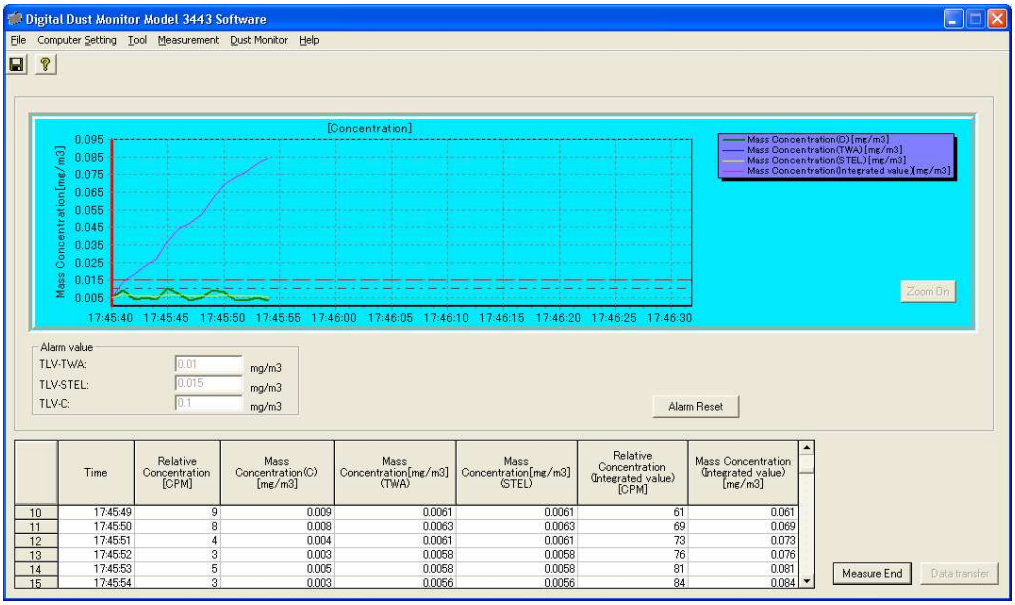
[NOTE]
The value of the “Relative Concentration (Integrated value)” indicated in the table in the above picture is obtained by simply adding up the value of the “Relative Concentration [CPM]” for each sampling time configured in “Measure Setting” window (Refer to **8.1. Measurement Setting**).

(2) Mass Concentration Graph

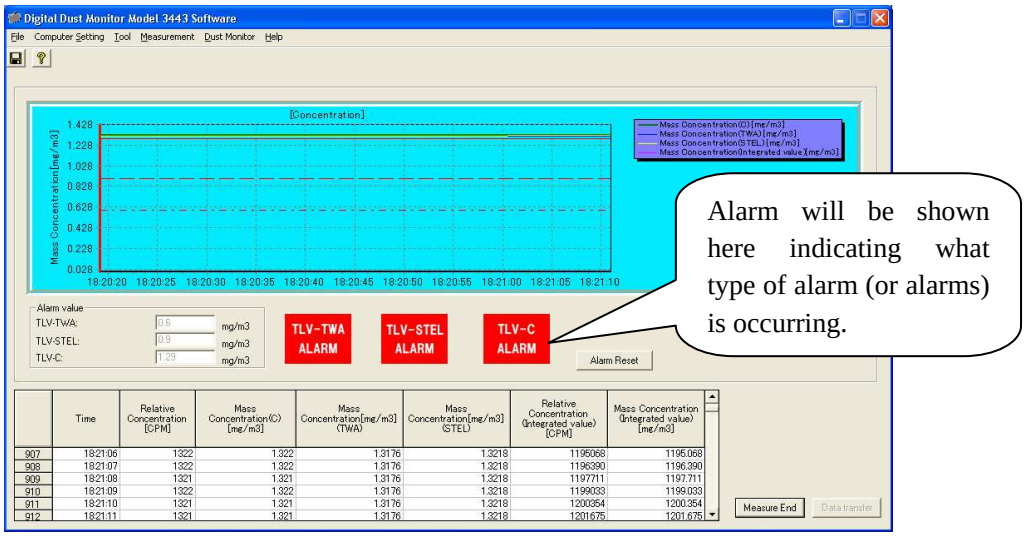
When not using [Integrated Value View]:



When using [Integrated Value View]:

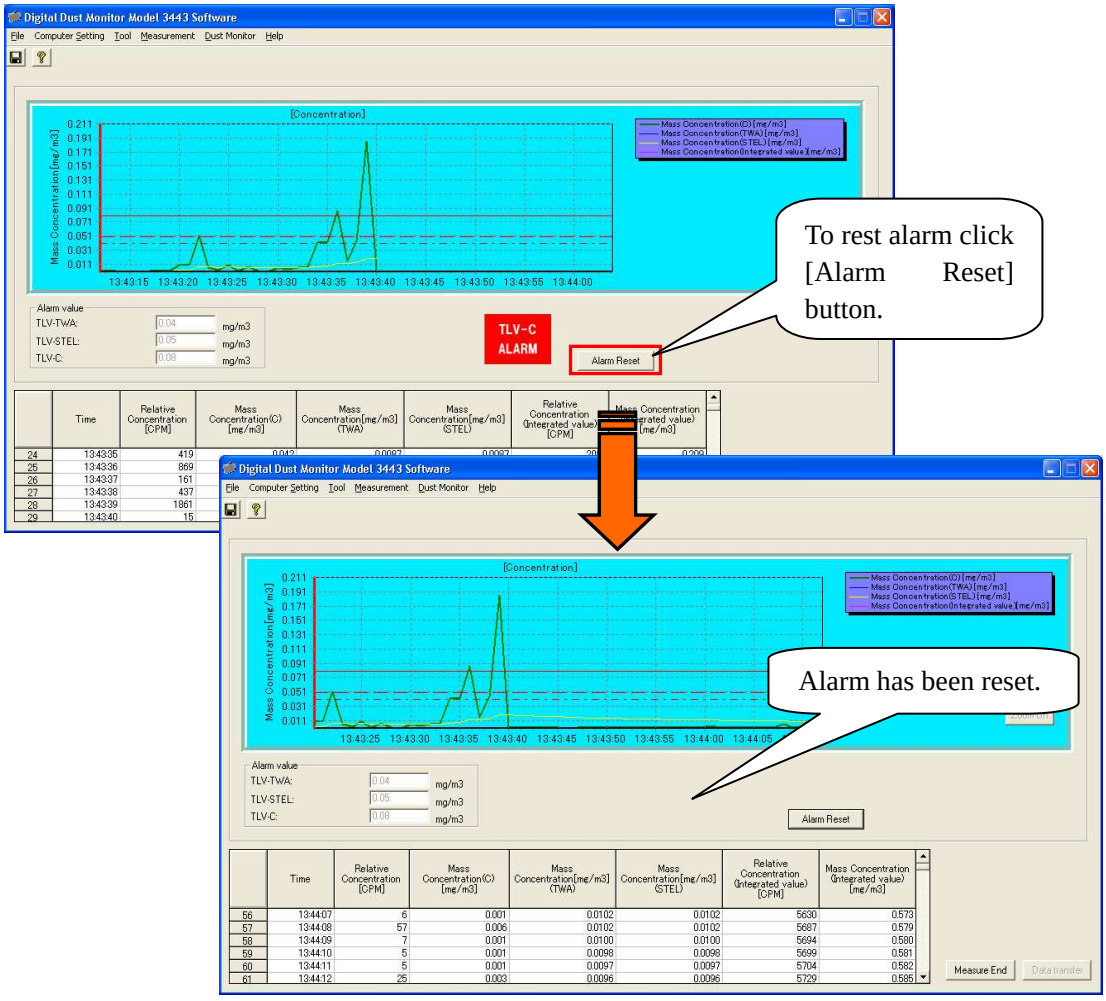


Alarm Display



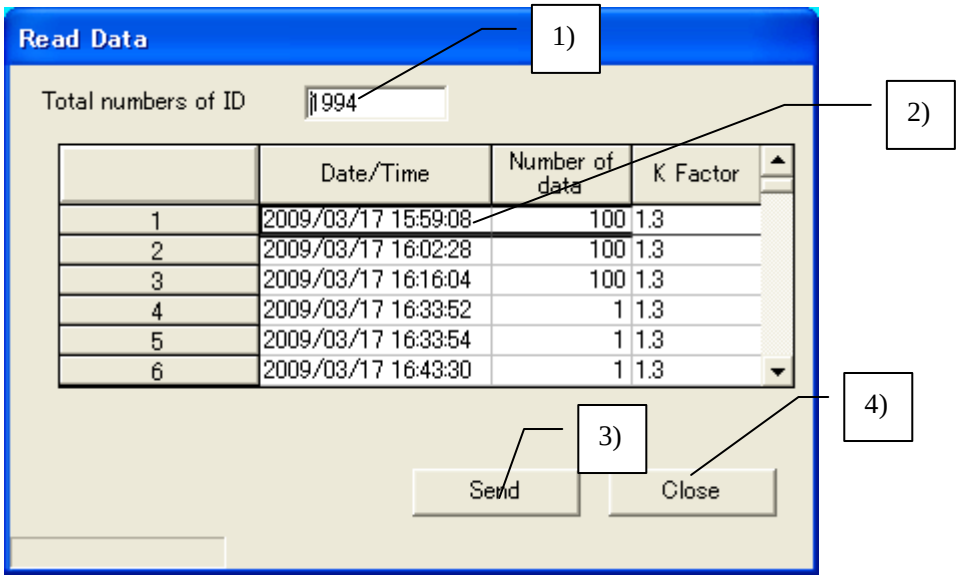
Please refer Section 4.5 for the detail about TWA Measurement

To reset alarm



9. Data Transfer

9.1. Data Transfer

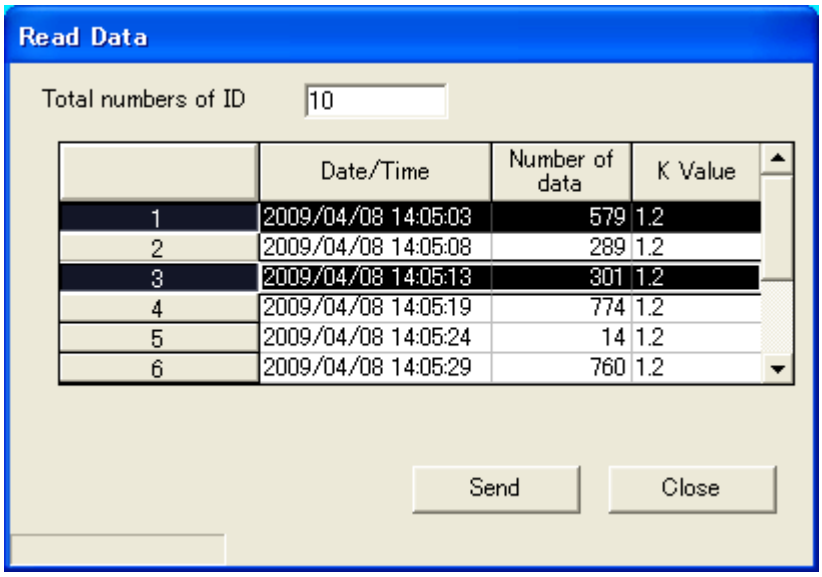


Click [Data transfer] on the main screen to display the window shown above.
If there is any unsaved data upon clicking [Data transfer], a message of “Data is not saved. Do you save?” will be displayed.
Click [Yes] to save data. After saving data, click [Data transfer] button again to transfer data.
Click [No] to open “Read Data” window to display a list of data saved in the instrument.
Unless the instrument transfers data, data will not be discarded. If you want to save data at this stage, click [Close] on “Read Data” window to stop data transfer process. Then save data from the main screen.

“Read Data” Window

1) Total amount of ID saved on the instrument
2) Data details stored in the instrument
3) Click [Send] to start data transfer
4) Click [Close] to close this window. If data is still transferring, data transfer will stop and the window will be closed.

How to specify which data to be transferred:



1) When a list of data saved in the instrument is displayed, click the row of data that you want to transfer to the computer.
   To specify multiple data, follow the procedure below:
   For example, to select the first and the third row of data, click the rows while pressing [Ctrl] key.
   To select all of the data, click the first row, then click the last row while pressing [Shift] key.
2) Click [Send] button.
3) The selected data start to be transferred to the computer. The transferred data will be saved automatically as a file name generated by the measurement data and time.
   In the case of this example, two files will be saved, and the file names are;
   “20090408 140503.csv” and “20090408 140513.csv”

   The transferred data will be saved in the folder configured in **5.3. Option**.

10. Help

To check the version of the software, go to [Help] -> [About Dust Monitor Software] from the menu bar. Then the display shown below will be displayed.

11. File Description

Measurement data and transferred data can be saved in any file name.

11.1. Data Storage File

File Name: any file name.csv

Contents

Format: CSV file format text file
Program Ver.,DustMonitor_Ver.XXXX
Date,2009/02/18
Data,24
K Factor,1.2
Time, Relative Concentration([CPM]),Mass Concentration([mg/m3])
,Relative Concentration (Integrated Value[CPM])
TT:TT:TT,CCCCCC,MMMMMM,PPPPPP
|
TT:TT:TT,CCCCCC,MMMMMM,PPPPPP

TT:TT:TT: Time Data CCCCCC: Relative Concentration Data (CPM)
MMMMMM: Mass Concentration Data (mg/m3)
NNNNNN: Time-weighted average (TWA)(mg/m3) OOOOOO: Short term exposure limit (STEL) (mg/m3)
PPPPPP: Relative concentration data (Integrated value CPM)

11.2. Transferred Data File

File Name: yyyymmdd hhmmss.csv

Content

Format: CSV file format text file
Program Ver.,DustMonitor_Ver.XXXX
Date,2009/02/18
Data,254
K Factor,1.2
Time, Relative Concentration([CPM]),Mass Concentration([mg/m3])
,Relative Concentration (Integrated Value[CPM])
TT:TT:TT,CCCCCC,MMMMMM,PPPPPP
|
TT:TT:TT,CCCCCC,MMMMMM,PPPPPP

TT:TT:TT: Time Data CCCCCC: Relative Concentration Data (CPM)
MMMMMM: Mass Concentration Data (mg/m3)
PPPPPP: Relative Concentration Data (Integrated Value CPM)

11.3. DustMonitor.INI File

Parameters required to start up this software are saved.
Please note that if you delete this file, the settings will go back to the initial settings.

12. Troubleshooting

12.1 Startup of Communication Setup Window is Slow

The setup window is displayed after searching for communication port equipped to the computer.
Since the required time is dependent on factors such as the computer's processing speed, please wait for the window to be displayed.

12.2 Operation Failure Under Windows 9x Systems or Windows NT

The operation of this software is guaranteed only for running under Windows 2000/XP/Vista.
Please prepare a Windows 2000/XP/Vista computer for proper use.

13. Contact Information

KANOMAX

U.S.A.

KANOMAX USA, INC.
219 US Hwy. 206, PO Box 372, Andover, NJ 07821 U.S.A.
Tel: (800)-247-8887 / (973)-786-6386 **FAX:** (973)-786-7586
URL: http://www.kanomax-usa.com/
E-Mail: info@kanomax-usa.com

JAPAN

KANOMAX JAPAN, INC.
2-1 Shimizu Suita City, Osaka 565-0805, Japan
TEL: 81-6-6877-0183 **FAX:** 81-6-6877-5570
URL: http://www.kanomax.co.jp/
E-Mail: sales@kanomax.co.jp

CHINA

Shenyang Kano Scientific Instrument Co., Ltd
2610, 51 Wulihe Street, Heping District
Shenyang City PRC
TEL: 86-24-23845309 **FAX:** 86-24-23898417
URL: http://www.kanomax.com.cn/
E-mail: sales@kanomax.com.cn

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