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# 1 Overview of Data Analyzer

## 1-1. Function outline

This software displays a history graph of operating power consumption or time of air conditioners managed with Air Conditioning Control System. Comparison with previous data of the same conditioner, operating data of another air conditioner, floor, tenant, or other group units allows you to visually check the operating efficiency of the air conditioner.

In addition, when the use of the air conditioner is improved, e.g. when the energy saving priority operation (saving / demand control) is performed on the Air Conditioning Control System or when the set temperature is changed depending on the status, the software displays the energy saving efficiency in graph, which allows you to visually compare and check.

**Table 1-1 Function outline**

Function	Description	Note
Trend graph display	Displays a graph of operating power consumption or time of air conditioners managed with Air Conditioning Control System.	A graph can be displayed in day (in units of one hour), week (in units of one day), month (in units of one day), and year (in units of one month). In addition, a no-comparison graph can include outdoor temperature, indoor temperature, and set temperature.
Performance status display of saving operation / demand control	Displays a graph of the performance status of saving / demand for each unit.	Displayed for each indoor unit. (The demand control display targets an outdoor unit connected to an indoor unit displayed in graph.) The saving operation / demand control can only be displayed when a no-comparison trend graph for indoor unit single selection is set in units of one day.
Comparison with previous operating performance data in graph	Displays a graph of operating data of air conditioners managed with Air Conditioning Control System in units of air-conditioner or group. In addition, the reduction rate of power consumption for each hour can be displayed in % and in graph.	Comparison can be performed in units of unit or group such as floor and tenant. A graph can be displayed in day (in units of one hour), week (in units of one day), month (in units of one day), and year (in units of one month).
Ranking table of air-conditioners	Displays operating data of air conditioners managed with Air Conditioning Control System in a ranking list. Can be compared in units of air-conditioner or group.	The power consumption and operating time can be compared.
Alarm history display	Displays the alarm history in the specified period.	
Graph / Data export	Exports the displayed graph.	<ul style="list-style-type: none"> <li>• Screen printing using the PC-connected printer</li> <li>• JPEG export</li> <li>• Graph screen copy to the clipboard</li> <li>• Data export for spreadsheet software Can be performed.</li> </ul>

## 1-2. Operating Environment

The following table shows the ideal operating environment for this software:

**Table 1-2 Operating Environment**

Personal computer	Personal computer where Windows 7 can run
Operating system	Windows 7, Windows 8, Windows 8.1, Windows 10
Printer	Printer driver must be installed
Others	Communication device is required for network connection

## 1-3. Connectable Air Conditioning Control System

Data Analyzer can connect Air Conditioning Control System.  
(hereinafter controller)

Smart BMS manager with data analyzer	BMS-SM1280ETLE
Touch Screen Controller	BMS-CT5121E

## 1-4. Connection to Air Conditioning Control System

The data file for Air Conditioning Control System graph display is stored in memory of Air Conditioning Control System. Therefore, the data file for graph display, other setting file, etc. must be copied to a personal computer (hereinafter referred to as PC) where graph software is installed.

The copy is performed via network at log-on of graph software. When using the graph software, the PC containing the software and the Air Conditioning Control System to be displayed in graph must be connected to the same network.



- \* Up to 8 main units can be simultaneously connected to Data Analyzer.
- \* When using this software, the "Do not use a proxy server" option must be selected in Internet Options. For the setup procedure, see the Network Configuration Guide "Setting Browser <Internet Explorer>".

## 1-5. Installation Procedure

For details of this software installation, see "BMS tools - Installation Instructions" in the installation CD/DVD.

## 1-6. Note on Using the Software

Some functions may not be available when this software is used in an environment where Windows Firewall is active. To use all the functions, change the Windows Firewall setting to allow communications of this software.

## 2 Initial Setup Procedure with the Main Unit

After installing this software, to use it, the initial setup must be performed. This chapter describes the procedure.

### 2-1. Login at Setup

---

#### 1 Start the Data Analyzer.

Double-click the desktop icon.

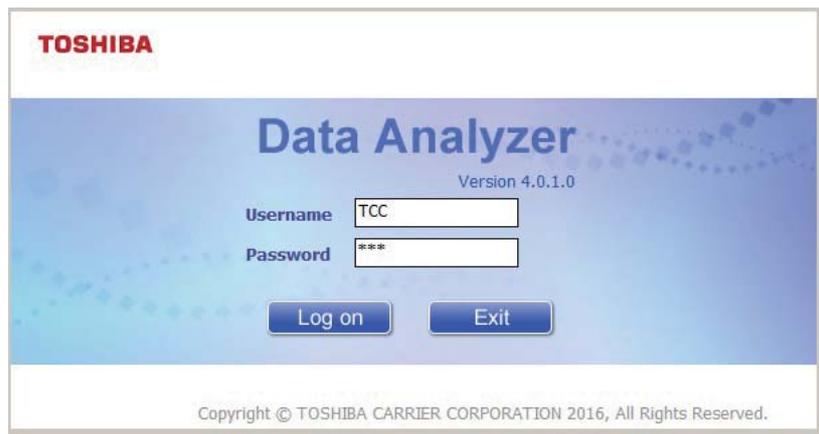


Alternatively, select "Start" > "All programs" > "Toshiba" > "Data Analyzer" > "Data Analyzer".

#### 2 The title screen appears.

Enter "TCC" both in Username and in Password, and then press "Log on".

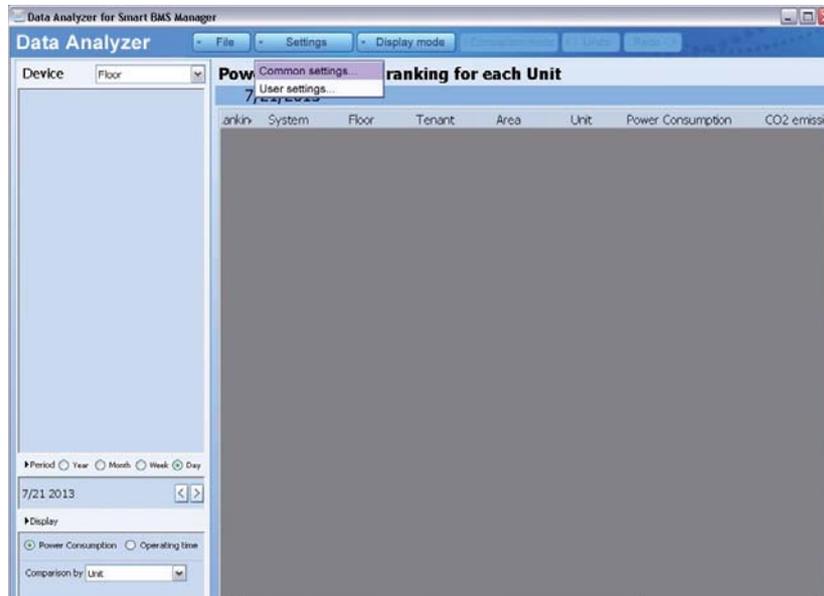
If "Exit" is pressed, the software exits.



### 3 The graph screen appears.

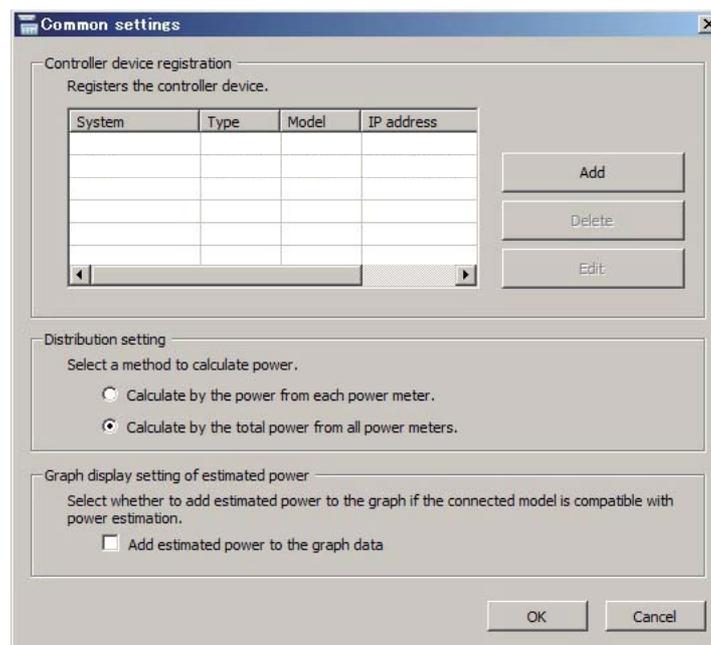
When the software starts for the first time, no data appears as no setting has been configured. Select "Settings" > "Common settings..." from the menu.

\* The "Common settings..." can only be used by the administrator, and cannot be selected if the logon user is not "TCC." To configure the common settings, log on as "TCC."



### 4 The Common settings screen appears.

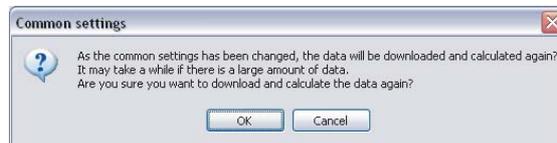
Set the connection, Air Conditioning Control System name to be displayed, and IP address. You can set any name to be used in this graph software. Set the IP address of the main unit to be connected. If there are multiple main units to be connected, the settings can be configured simultaneously. (For the setting details, see "11 File Menu".)



## 5 Communications after setup

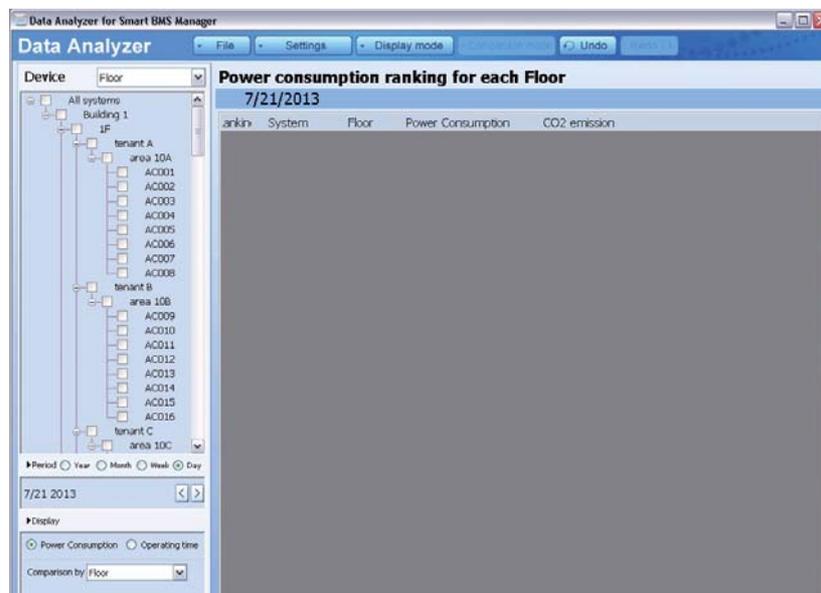
If the common settings are changed, data is retrieved by communicating with the Air Conditioning Control System, and the data analysis is performed for graph display. Before communications, a confirmation dialog box appears. To start communications, press "OK." To cancel, press "Cancel."

For the details of this download, see "3-2. Data Download".



## 6 Graph display after communications / analysis

After the communication with the set main unit is complete, the analysis procedure starts for graph display. During communication and analysis, a dialog box appears showing the progress. When the analysis is complete successfully, the dialog box closes, and the tree in the left pane is updated. Various graphs can be checked depending on the selection in the tree.



This setting is referred to from the next start, and if the main unit is connected, the latest data difference is automatically retrieved when the software starts.

Thus, the latest data is always displayed in graph if the main unit is connected. (For the operation details, see "3 Operations from Start to Graph Display".)

# 3 Operations from Start to Graph Display

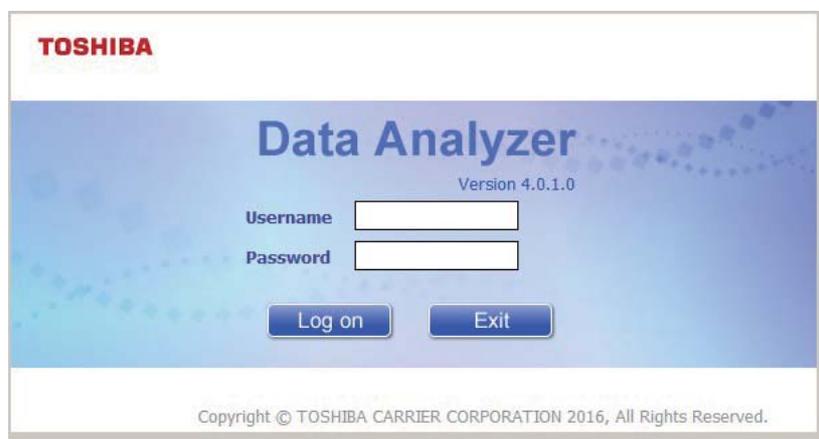
## 3-1. Software Start

- 1 Start the Data Analyzer.**  
Double-click the desktop icon.



Alternatively, select "Start" > "All programs" > "Toshiba" > "Data Analyzer" > "Data Analyzer".

- 2 The title screen appears.**



Enter the Username and Password, and then press "Log on". If "Exit" is pressed, the software exits.

- 3 You can select whether to download the latest data from the main unit or download up to the previous one stored in the PC. A dialog box appears. Select the operation.**



When "Yes" is selected, the communication with the main unit is performed. When "No" is selected, a graph is displayed using data in the PC. When "Cancel" is selected, the title screen reappears.

- 4** If "Yes" is selected and the logon to the connected main unit is complete successfully, the data communication starts. The software downloads the latest data for graph display from the main unit.



- 5** If a wrong user name or password has been entered or the communication with the main unit has failed, a message appears. Follow the message to check the entered content, connection, etc.



- \* Use the following user name and password:
- Communication with the main unit: User name and password currently set in the main unit
  - PC data: User name and password that had been set in the main unit at the previous connection

To apply the user name and password changed on the main unit to the PC, data must be downloaded from the main unit. The user name and password cannot be created or changed with this software only.

## 3-2. Data Download

If the logon is complete successfully, this software downloads data for graph from the connected Air Conditioning Control System. The difference between the previous download and the latest one is updated.

During data download, a dialog box appears showing the progress. To disconnect the connection, press "Interrupt."



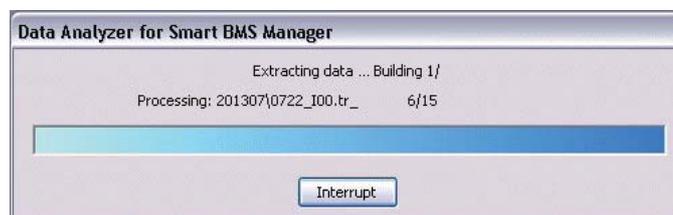
- (1) **Message**  
"Downloading data ... \*\*\*" appears.  
"\*\*\*" is replaced with the name of Air Conditioning Control System from which data is downloaded.
- (2) **Interrupt button**  
To interrupt the download, press the Interrupt button.
- (3) **Current process**  
The name of a file being processed appears.
- (4) **Progress bar**  
The download progress appears.

If the download from Air Conditioning Control System failed, a warning message appears showing the names of all the failed Air Conditioning Control System.

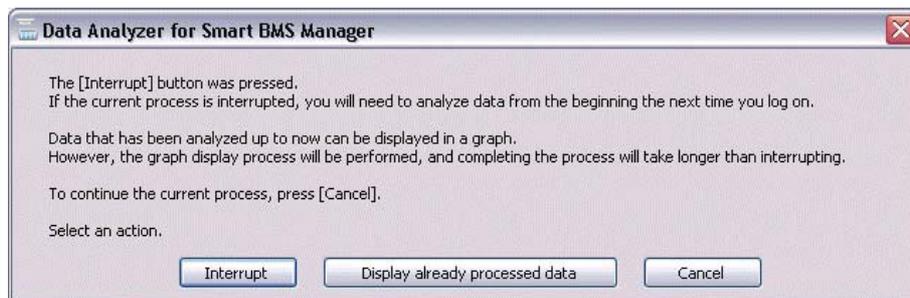


### 3-3. Graph Display of Downloaded Data

After data has been downloaded from all the connected main units, the Data Analyzer analyzes the data for graph display. A dialog box appears showing the progress of the analysis.



- (1) **Message**  
 "Extracting data ... \*\*\*\*" appears.  
 "\*\*\*\*" is replaced with the name of Air Conditioning Control System of which data is analyzed.
- (2) **Interrupt button**  
 The next dialog box appears. Select the operation.



- **Interrupt**  
 The current process is interrupted, and the title screen reappears. The data analysis is also interrupted. To display downloaded data in graph, the analysis must be performed again next time the software starts.
- **Display already processed data**  
 The current process is interrupted, but the already analyzed data is displayed in graph. It takes a little time to display a graph, but the data completed this time can be displayed without analyzing next time.
- **Cancel**  
 The data analysis continues.

- (3) **Current process**  
The name of a file being processed appears.
- (4) **Analysis status**  
The analysis status is displayed in [Number of already processed files including the currently processed file] / [Number of all the files to be processed].
- (5) **Progress bar**  
The data analysis progress appears.

After the analysis is complete, the dialog box closes, and the graph display screen appears.

### **3-4. Effective Range of Graph Display**

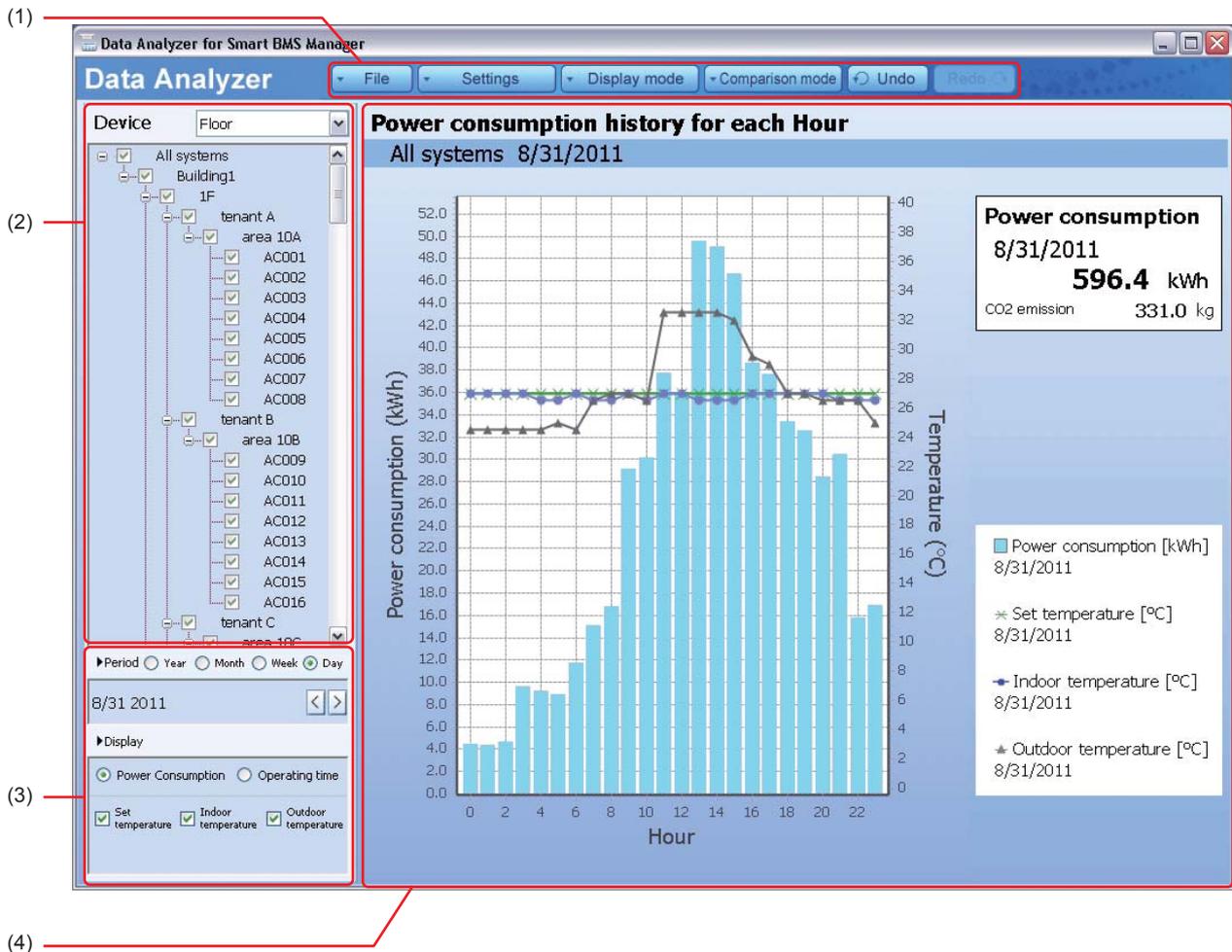
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The effective range of graph display is determined by the logon user rights.

The graph display range is determined by the logon user name and password depending on the access right set in Air Conditioning Control System. For the access right, see the manual of the main unit.

# 4 Screen Overview

This chapter describes the overview of Data Analyzer.



## (1) Menu bar



: Opens the File menu.



: Opens the Settings menu.



: Opens the menu to select a display mode.



: Opens the menu to select a graph comparison mode.



: Returns the status to the previous one if the graph screen has been changed.



: Redoes the graph screen change.

## (2) Device selection tree

Displays the tree of air conditioners connected to Air Conditioning Control System. The checkboxes can be selected for the graph target air conditioners.

- (3) **Period / Display**  
Set the graph display period and items.
  
- (4) **Graph drawing area**  
Displays a graph based on the Display mode, Comparison mode, Device, Period, and Display. The graph area is automatically adjusted depending on the window size.

# 5 Device Selection Tree

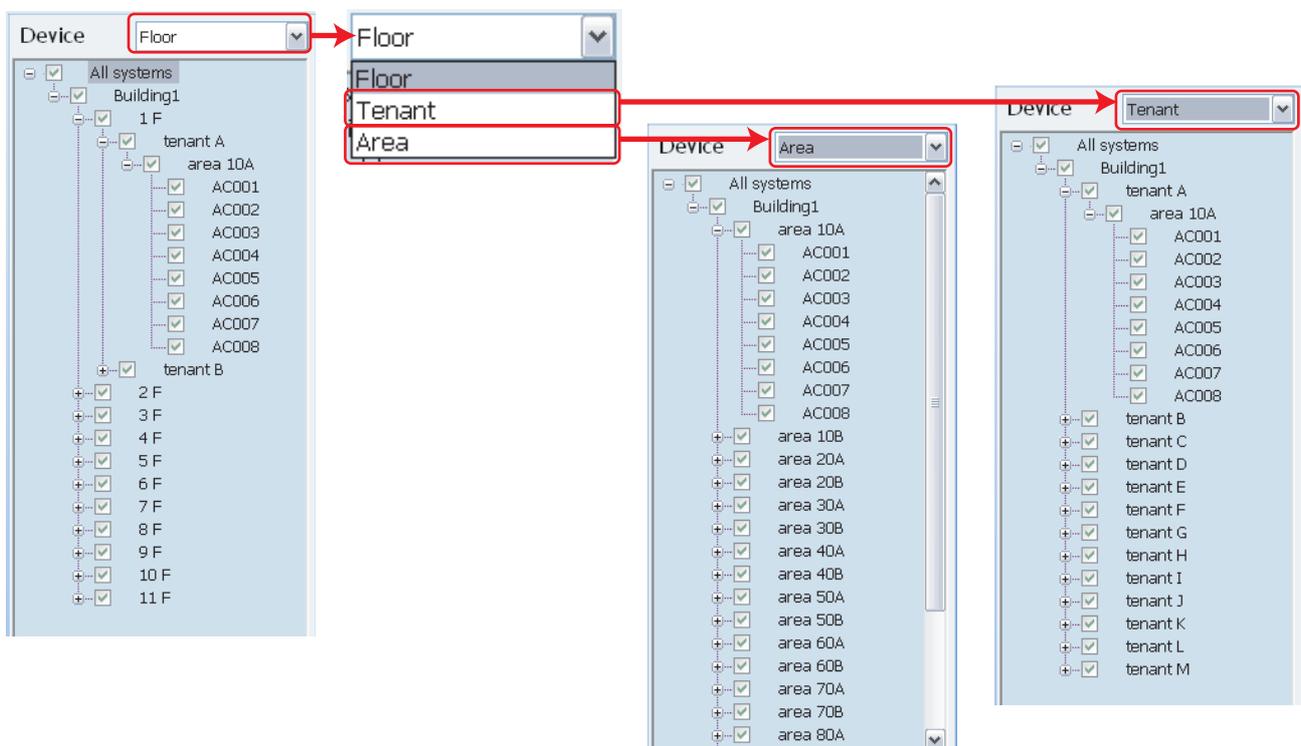
## 5-1. Device Selection Tree

The device selection tree displays the structure of air conditioners for graph display in a tree.

The structure is automatically retrieved from the connected Air Conditioning Control System.

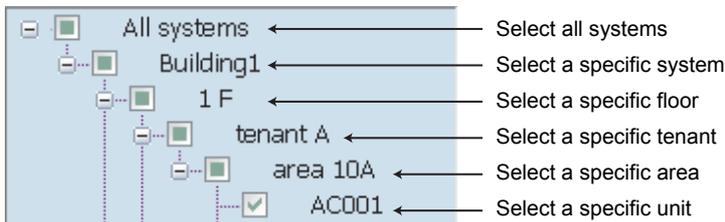
The device selection tree consists of the combo box for selecting the display structure of Floor / Tenant / Area, the tree for displaying / selecting the structure, and the combo box for selecting the setting file as necessary.

Select Floor, Tenant, or Area for the top layer of the tree. The tree structure can be changed for your convenience.



## 5-2. Selecting an Air Conditioner in the Device Selection Tree

Select checkboxes to select a specific unit or the entire group.



The selection marks mean as follows:

- Some units (group) are selected
- All units (group) are selected
- Unselected device (group)

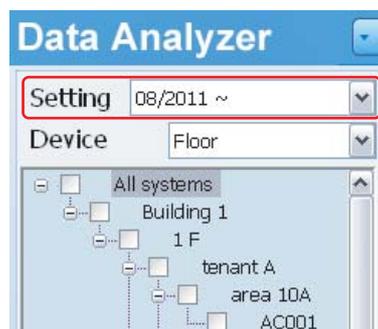
Clicking an unselected checkbox selects the unit and its group. If it is a group, all units under the layer are selected. Clicking a selected unit or a group containing selected units deselects all the units and group.

## 5-3. Selecting the Display When the Air Conditioner Tree Structure is Changed

If the setting file content is changed due to adding / deleting a controller or changing the structure of connected devices, the tree structure may also change. You can select a setting period of the tree structure from the combo box to change the tree structure and display data.

If there is a setting with a different structure in the graph selection period, the combo box appears on the upper part of the tree.

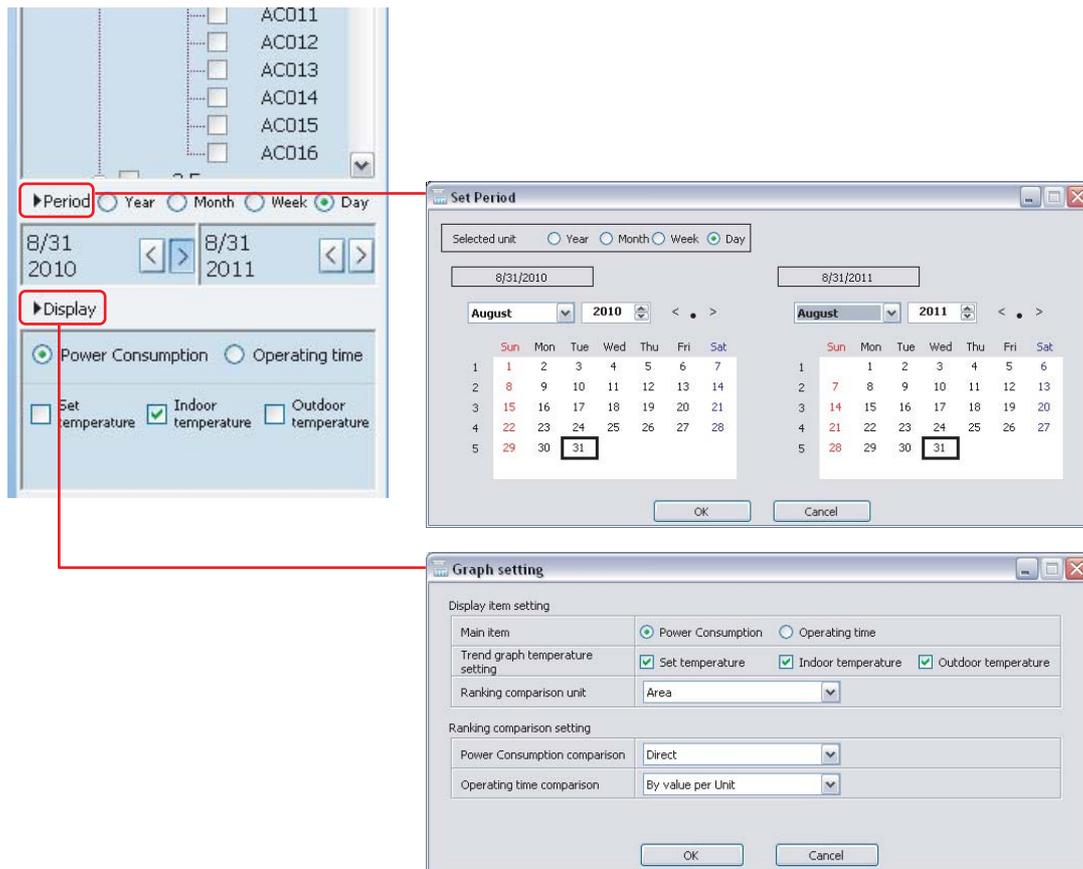
\* If there is no setting with a different structure, the combo box does not appear.



# 6 Selecting the Graph Period / Display Items

You can select the graph display period and display items in the Period / Display area in the lower part of the tree. There are two ways to change them: Simple selection on the graph screen and Selection using the dialog box. In simple selection, you can change the period and display items of the current graph display using the radio buttons, checkboxes, and buttons.

Clicking ▲ of Period or Display displays the dialog box. You can enter a date directly or use the calendar in the Period dialog box. In the Display dialog box, you can change items of graphs other than the currently displayed one.



## 6-1. Selecting a Graph Period

There are two types of the graph period selection screen depending on the graph type.

Set Period	Description	Graph
Selected range only	Only the graph selection range specified	<ul style="list-style-type: none"> <li>• Ranking</li> <li>• Alarm history</li> <li>• Trend graph No comparison / Compare devices selected</li> </ul>
Selected range / Comparison source	Graph selection range or Comparison source	<ul style="list-style-type: none"> <li>• Trend graph Compare periods selected</li> </ul>

### 6-1-1. Set Period: Selected range only

The selection type of the calendar displayed in the Set Period dialog box varies depending on the selected unit. The unit can be changed at any time.

#### <Simple selection example: Year selected>

Clicking [▲Period] displays the dialog box. The dialog box varies depending on the selected unit.

The unit can be changed using the radio buttons.

Displays the current selected period. The selected unit applies.

Clicking < moves the period to the previous or > to the next in the selected unit.

#### <Set Period dialog box: Year selected>

Displays the selected period.

The unit can be changed using the radio buttons.

Up : Moves to the next year.  
Down: Moves to the previous year.  
Alternatively, enter directly.

<< : Moves to the previous year.  
• : Moves to the current year registered in the PC.  
>> : Moves to the next year.

Displays the calendar of the selected year.  
\* The calendar dates cannot be selected by clicking.

<Set Period dialog box: Month selected>

Selected unit  Year  Month  Week  Day

4/2012

April 2012 < • >

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	1	2	3	4	5	6	7
2	8	9	10	11	12	13	14
3	15	16	17	18	19	20	21
4	22	23	24	25	26	27	28
5	29	30					

OK Cancel

Displays the selected period.

Year can be selected by clicking the up / down buttons or entering directly. Month can be selected from the combo box.

<< : Moves to the previous month.  
 • : Moves to the current month registered in the PC.  
 >> : Moves to the next month.

Displays the calendar of the selected year.  
 \* The calendar dates cannot be selected by clicking.

<Set Period dialog box: Week selected>

Selected unit  Year  Month  Week  Day

4/2012 Week 2

April 2012 < • >

	Mon	Tue	Wed	Thu	Fri	Sat	Sun
1							1
2	2	3	4	5	6	7	8
3	9	10	11	12	13	14	15
4	16	17	18	19	20	21	22
5	23	24	25	26	27	28	29
6	30						

OK Cancel

Displays the selected period.

Select the year and month to display the calendar of the month. Click and select a week in the calendar.

<< : Moves to the previous month.  
 • : Moves to the current week registered in the PC.  
 >> : Moves to the next month.

\* The first week in this software refers to a week whose starting day of [User settings] under the Settings is the first one in the month.

<Set Period dialog box: Day selected>

Displays the selected period.

Select the year and month to display the calendar of the month. Click and select a day in the calendar.

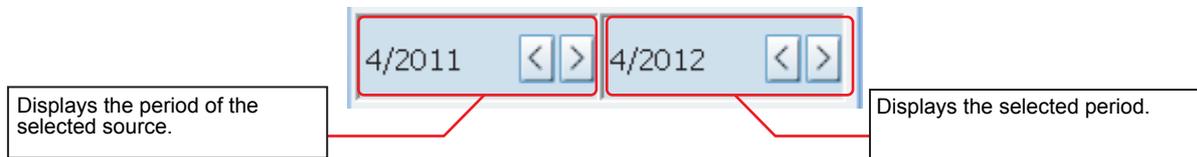
<< : Moves to the previous month.  
 • : Moves to the current day registered in the PC.  
 >> : Moves to the next month.

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	1	2	3	4	5	6	7
2	8	9	10	11	12	13	14
3	15	16	17	18	19	20	21
4	22	23	24	25	26	27	28
5	29	30					

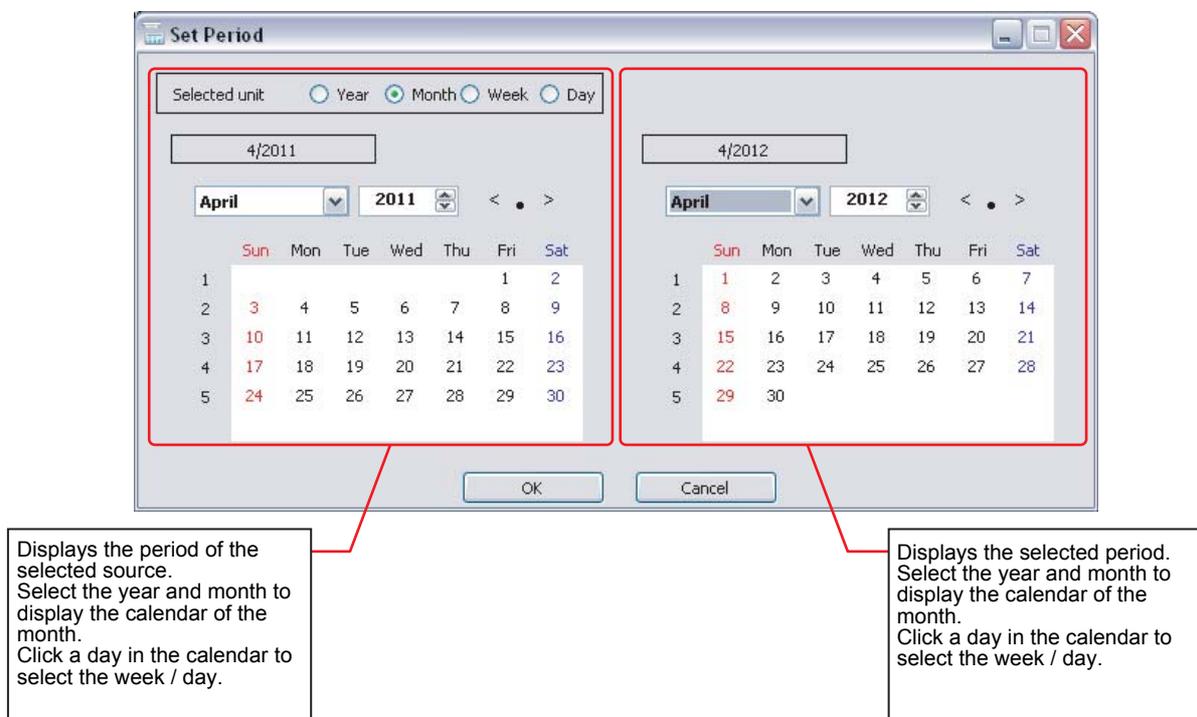
## 6-1-2. Set Period: Comparison source and selected period

If the comparison mode is Compare periods, select a comparison source and period.

<Simple selection example: Month selected>



<Set Period dialog box: Month selected>

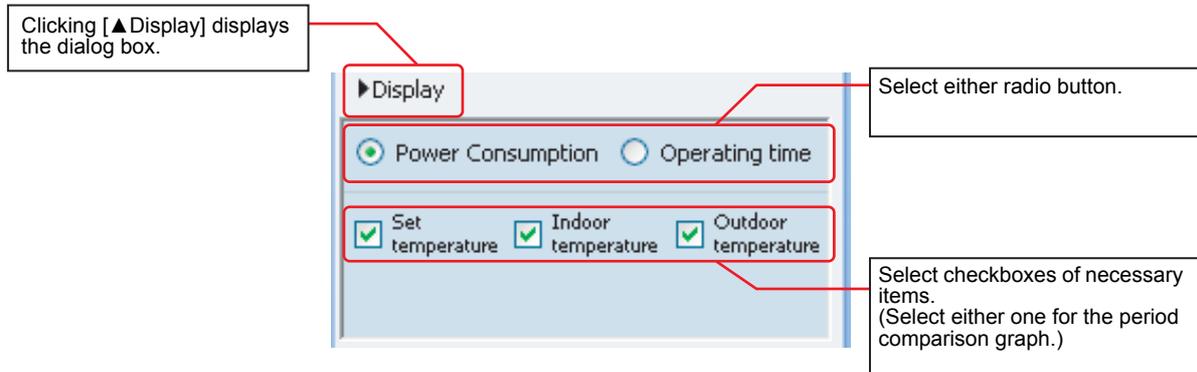


## 6-2. Setting the Display Items

Set the display items in a graph or list, or comparison method in Ranking.

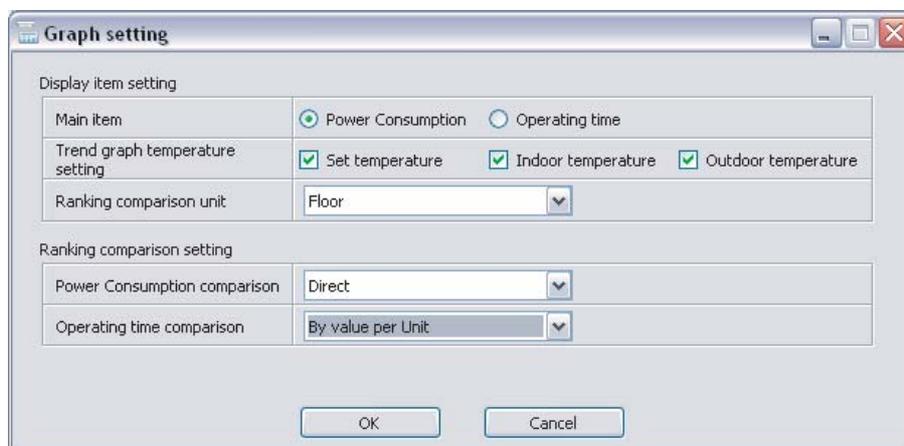
### <Simple selection example: Trend - No comparison>

Items that can be selected vary depending on the currently displayed graph. For details, see "7 Graph / List Display".



### <Graph setting dialog box>

In the Graph setting dialog box, you can change the settings on each screen regardless of the currently displayed graph.



- **Display item setting**

Set various display items.

- (1) **Main item**

Select "Power consumption" or "Operating time".

This item is available on all screens.

- (2) **Trend graph temperature setting**

Select "Set temperature", "Indoor temperature", and / or "Outdoor temperature".

This item is only available on the "Trend - No comparison" screen.

**(3) Ranking comparison unit**

Select a unit of the ranking for the Ranking screen.

Can be selected from the combo box.

There are 5 units: System, Floor, Tenant, Area, and Unit.

- **Ranking comparison setting**

The ranking settings can be configured for "Power consumption" and "Operating time" in detail, respectively.

**(1) Power consumption comparison**

Select "Direct" or "By unit amount value".

Comparison method	Value	Unit
Direct	Total power consumption for the selected devices (group)	kWh
By unit amount value	Power consumption per horse power for the selected devices (group)	kWh / HP

**(2) Operating time comparison**

Select "Direct", "By value per Unit", or "Maximum".

Comparison method	Value	Unit
Direct	Total operating time for the selected devices (group)	Hour
By value per Unit	Average operating time per unit for the selected devices (group)	Hour
Maximum	Maximum operating time per unit for the selected devices (group)	Hour

# 7 Graph / List Display

This chapter describes the display method of the graph and list.

The display method is roughly categorized into 5 types.

This chapter explains the available display modes for actual purposes.

No.	Display mode	Comparison mode	Description
1	Ranking	—	Can be sorted by ranking Select "Power consumption" or "Operating time"
2	Trend graph	No comparison	<ul style="list-style-type: none"> <li>Horizontal axis: Time (Year, Month, Week, Day)</li> <li>Vertical axis bar graph Select "Power consumption" or "Operating time"</li> <li>Vertical axis line graph Select "Set temperature", "Indoor temperature", and / or "Outdoor temperature"</li> <li>When a single unit (device) and Period - Day are selected, the save status is automatically displayed</li> </ul>
3		Compare devices	<ul style="list-style-type: none"> <li>Horizontal axis: Time (Year, Month, Week, Day)</li> <li>Vertical axis Select "Power consumption" or "Operating time"</li> <li>Displays multiple devices in 3D graph</li> </ul>
4		Compare periods	<ul style="list-style-type: none"> <li>Horizontal axis: Time (Year, Month, Week, Day)</li> <li>Vertical axis bar graph Select "Power consumption" or "Operating time"</li> <li>Vertical axis line graph Select "Set temperature", "Indoor temperature", and / or "Outdoor temperature"</li> </ul>
5	Alarm history	—	Displays the floor, tenant, area, unit name, alarm occurrence time, alarm code, unit model name and product number.

## 7-1. Viewing the Ranking of Power Consumption or Operating Time — Ranking Display

Displays the ranking of power consumption or operating time of air conditioners selected in the device selection tree. It is useful when you simply want to check the ranking in each period.

The screenshot shows the 'Data Analyzer for Smart BMS Manager' window. On the left, a 'Device' tree (1) shows a hierarchy from 'All systems' to 'Building1' and then to various tenants and areas. Below the tree is a 'Period' selection area (2) set to '8/31 2011' and a 'Display' section (3) with 'Power Consumption' selected and 'Comparison by Area' set to 'Area'. The main area (4) displays a table titled 'Power consumption ranking for each Area' for 'All systems 8/31/2011'. The table lists 16 items with columns for Ranking, System, Area, Power Consumption, and CO2 emission. A horizontal bar chart (5) is visible at the bottom of the table. A scroll bar (6) is at the bottom of the window.

Ranking	System	Area	Power Consumption	CO2 emission
1	Building1	area 20A	49.7 kWh	27.6 kg
2	Building1	area 20C	49.5 kWh	27.5 kg
3	Building1	area 20B	49.4 kWh	27.4 kg
3	Building1	area 20D	49.4 kWh	27.4 kg
5	Building1	area 40D	42.1 kWh	23.4 kg
6	Building1	area 40C	41.6 kWh	23.1 kg
7	Building1	area 40A	41.3 kWh	22.9 kg
8	Building1	area 40B	40.6 kWh	22.5 kg
9	Building1	area 30D	36.2 kWh	20.1 kg
10	Building1	area 30A	35.8 kWh	19.9 kg
11	Building1	area 30C	35.6 kWh	19.8 kg
12	Building1	area 30B	35.1 kWh	19.5 kg
13	Building1	area 10A	22.6 kWh	12.5 kg
14	Building1	area 10B	22.5 kWh	12.5 kg
14	Building1	area 10D	22.5 kWh	12.5 kg
16	Building1	area 10C	22.4 kWh	12.4 kg

(1) **Device selection tree**

Select a system to add to the ranking. Can be added / deleted in units of group / unit. For details, see "5-2. Selecting an Air Conditioner in the Device Selection Tree".

(2) **Period selection area**

Select the period of the ranking. Units: Year, Month, Week, and Day.

**(3) Display item selection area**

Select an item of the ranking.

In simple selection, select either "Power consumption" or "Operating time". In detail, select the following items:

Main item	Comparison method	Item	Value	Unit
Power consumption	Direct	Power consumption	Total power consumption for the selected devices (group)	kWh
	By unit amount value	Power consumption / Horse power	Power consumption per horse power for the selected devices (group)	kWh / HP
Operating time	Direct	Operating time	Total operating time for the selected devices (group)	Hour
	By value per Unit	Average operating time	Average operating time per unit for the selected devices (group)	Hour
	Maximum	Maximum operating time	Maximum operating time per unit for the selected devices (group)	Hour

Select a layer for the ranking as the comparison unit from the combo box.

There are 5 units: Unit, Area, Tenant, Floor, and System.

**(4) Title display area**

Displays a title for the content displayed in the ranking area.

**(5) Device / Period display area**

Displays the selected device and period.

**(6) Ranking display area**

Displays the ranking depending on the selected condition.

Displays the ranking in descending order of power consumption or operating time when the software starts.

The width of each cell can be changed with a mouse click. Clicking a cell changes the ranking from ascending to descending of the selected item.

If the area overflows a screen, use the vertical / horizontal scroll bars.

- \* Simple bar graph  
Displays the values in simple horizontal bar graph. You can graphically compare the estimates of power consumption and operating time.
- \* CO<sub>2</sub> emission  
If "Power consumption" is selected for the main item, the CO<sub>2</sub> emission can be displayed.  
The equivalent coefficient is set in the menu "Common Settings" > "User settings" > "CO<sub>2</sub> emission factor setting".
- \* Trend graph link  
Clicking a line area in the ranking displays a trend graph of the selected device.

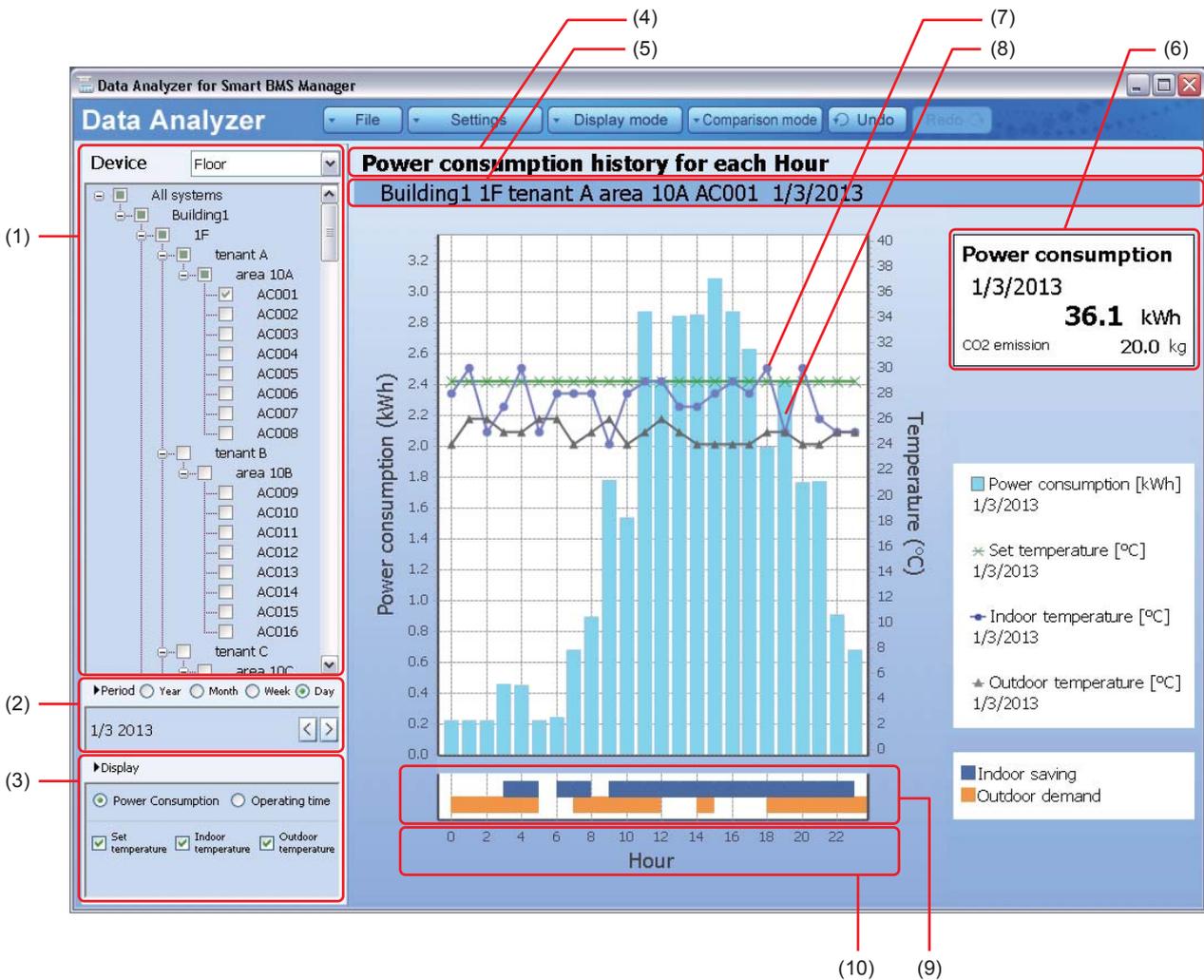
Display mode / Comparison mode	Trend - No comparison
Target device	Unit / Group selected in the list
Period	Current specified period
Graph settings such as temperature	Previous settings retained

## 7-2. Viewing the Usage Trend of Power Consumption or Operating Time — Trend Graph

Displays the trend graph of power consumption or operating time of air conditioners selected in the device selection tree. There are 3 modes in "Comparison mode": No comparison, Compare devices, and Compare periods.

### 7-2-1. Viewing the Trend by Hour or Period — Comparison mode: No comparison

Select "No comparison" when you want to check the hour with great power consumption or the efficiency by ambient temperature.



- (1) **Device selection tree**  
Select a system to add to the trend graph. Can be added / deleted in units of group / unit. For details, see "5-2. Selecting an Air Conditioner in the Device Selection Tree".
- (2) **Period selection area**  
Select the period for the trend graph. Units: Year, Month, Week, and Day.

(3) **Display item selection area**

Select items for the trend graph. Select either "Power consumption" or "Operating time" with the radio button. Select checkboxes of items to be displayed in temperature line graph. For details, see "(7) Temperature line graph".

(4) **Title display area**

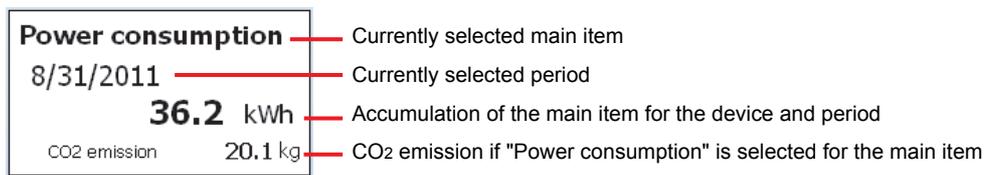
Displays a title.

(5) **Device / Period display area**

Displays the selected device and period.

(6) **Information display**

Displays the content of the trend graph.



In Power consumption, the first decimal place is displayed if both the main display item and CO<sub>2</sub> emission are less than 1,000.

In Operating time, up to the second decimal place is displayed if the value is less than 1,000. If 1,000 or more, the decimal places are not displayed.

(7) **Temperature line graph**

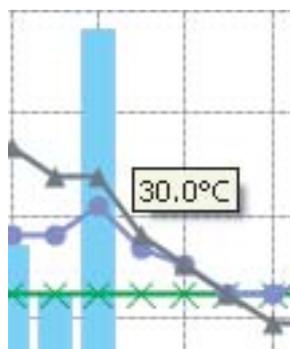
If the temperature setting is selected in the display item, the selected temperature is displayed in line graph.

\* If multiple air conditioners such as group or tenant are to be displayed, the graphs shows the average of the selected air conditioners.

Unit	Year	Month	Week	Day
Display data	Average of each month	Average of each day	Average of each day	Average of each hour

The graph axis is displayed on the right. The scale interval is set automatically.

\* Point the marker area of the line graph with a mouse to display the temperature in tool tip. (The first decimal place is displayed)



**(8) Main item bar graph**

The selected main item is displayed in bar graph.

The following table shows the display data and its content.

The accumulation in the selected period is displayed for the selected device in the tree.

Unit	Year	Month	Week	Day
Display data	Accumulation in each month	Accumulation in each day	Accumulation in each day	Accumulation in each hour

The graph axis is displayed on the left. The scale interval is set automatically.

If the maximum value of the scale is less than 1,000, the first decimal place is displayed for power consumption and up to the second decimal place for operating time. If 1,000 or more, the decimal places are not displayed.



\* Point the graph area with a mouse to display the main item value in tool tip.  
If overlapped with the tool tip area of the temperature line, the temperature display is given priority.

\* Detailed trend graph link

The bar graph area links to a graph in the selected period. Clicking it displays the graph changed in the period.

Display mode / Comparison mode		Trend - No comparison
Target device		Current selection
Period	Current selection: Year	After changed: Clicked month
	Current selection: Month	After changed: Clicked day
	Current selection: Week	After changed: Clicked day
	Current selection: Day	No link function
Graph settings such as temperature		Previous settings retained

**(9) Indoor saving / Outdoor demand display**

If only one unit is selected in the device selection tree and Day is selected in period selection, the indoor saving / outdoor demand status of the unit is displayed in graph.

- If the unit is in "Indoor saving" status, the hour is displayed in blue.
- If the unit is SMMS series and the connected outdoor unit is in "Outdoor demand" status, the hour is displayed in orange.

(10) Horizontal axis display

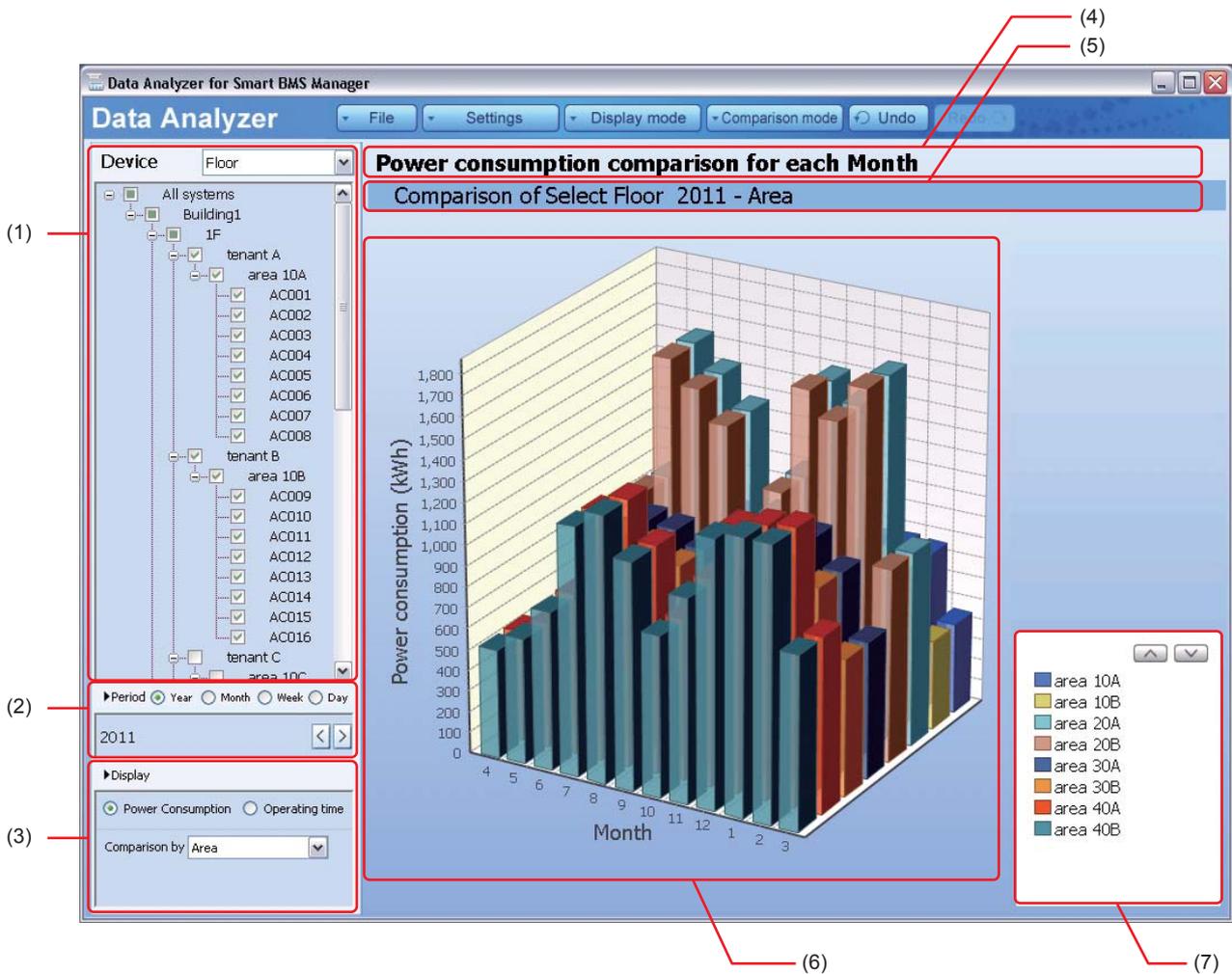
The unit of the horizontal axis is automatically set as follows: depending on the period selection:

Unit	Year	Month	Week	Day
Horizontal axis unit	Month	Day	Day	Hour
Horizontal axis range	January - December *1	1 - 31 (Day of the week) *1	x - x (Day of the week) *1	0 - 23

\*1 The starting month, starting day, and starting day of the week can be set in "Start of year", "Start of month", and "Start of week" under the menu "Settings" > "User settings" > "Calendar setting".

### 7-2-2. Comparing the usage status between devices — Comparison mode: Compare devices

Displays the comparison in units of unit or group in 3D graph.

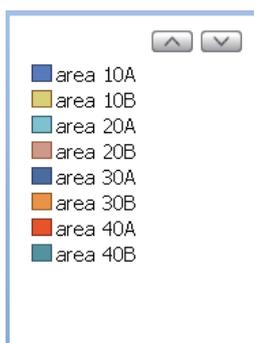


- (1) **Device selection tree**  
 Select a system to add to the trend graph. Can be added / deleted in units of group / unit. For details, see "5-2. Selecting an Air Conditioner in the Device Selection Tree".  
 \* Selection limit in device comparison
  - Up to 8 bars can be displayed simultaneously.
- (2) **Period selection area**  
 Select the period for the trend graph. Units: Year, Month, Week, and Day.
- (3) **Display item selection area**  
 Select the main item and layers to compare.  
 Select either "Power consumption" or "Operating time" for the main item.  
 Select a layer for the ranking from the combo box. There are 5 units: Unit, Area, Tenant, Floor, and System.
- (4) **Title display area**  
 Displays a title.
- (5) **Device / Period display area**  
 Displays the selected device and period.
- (6) **Main item graph display area**  
 Displays the results for the selected main item in 3D graph.

Unit	Year	Month	Week	Day
Display data	Accumulation in each month	Accumulation in each day	Accumulation in each day	Accumulation in each hour

The maximum and interval of the vertical axis scale is set automatically.

- (7) **Legend display**  
 Displays the colors and devices of the displayed graph. The display order in 3D graph can be changed.



The display order in 3D bar graph can be changed. Click and select a legend, and then Press [△] to move to the back of the graph area. (The legend position moves up.) Press [▽] to move to the front of the graph area. (The legend position moves down.)

Only the name of the selected layer appears in the legend area.

Point the legend area with a mouse click to display the system name and selected layer of the device (group) name in tool tip.



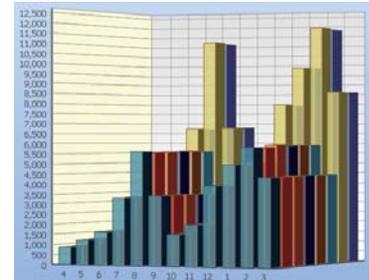
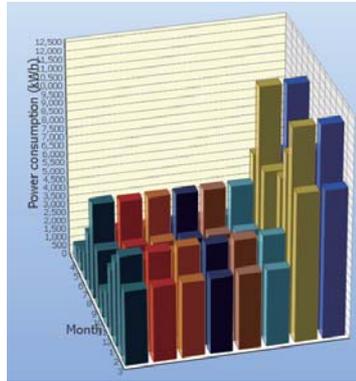
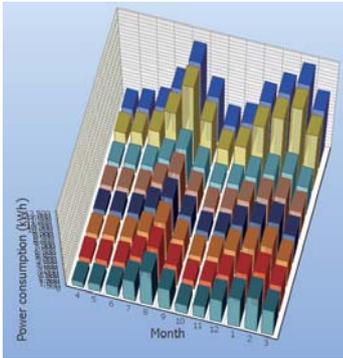
(8) **Horizontal axis display**

The unit of the horizontal axis is automatically set as follows: depending on the period selection:

Unit	Year	Month	Week	Day
Horizontal axis unit	Month	Day	Day	Hour
Horizontal axis range	January - December *1	1 - 31 (Day of the week) *1	x - x (Day of the week) *1	0 - 23

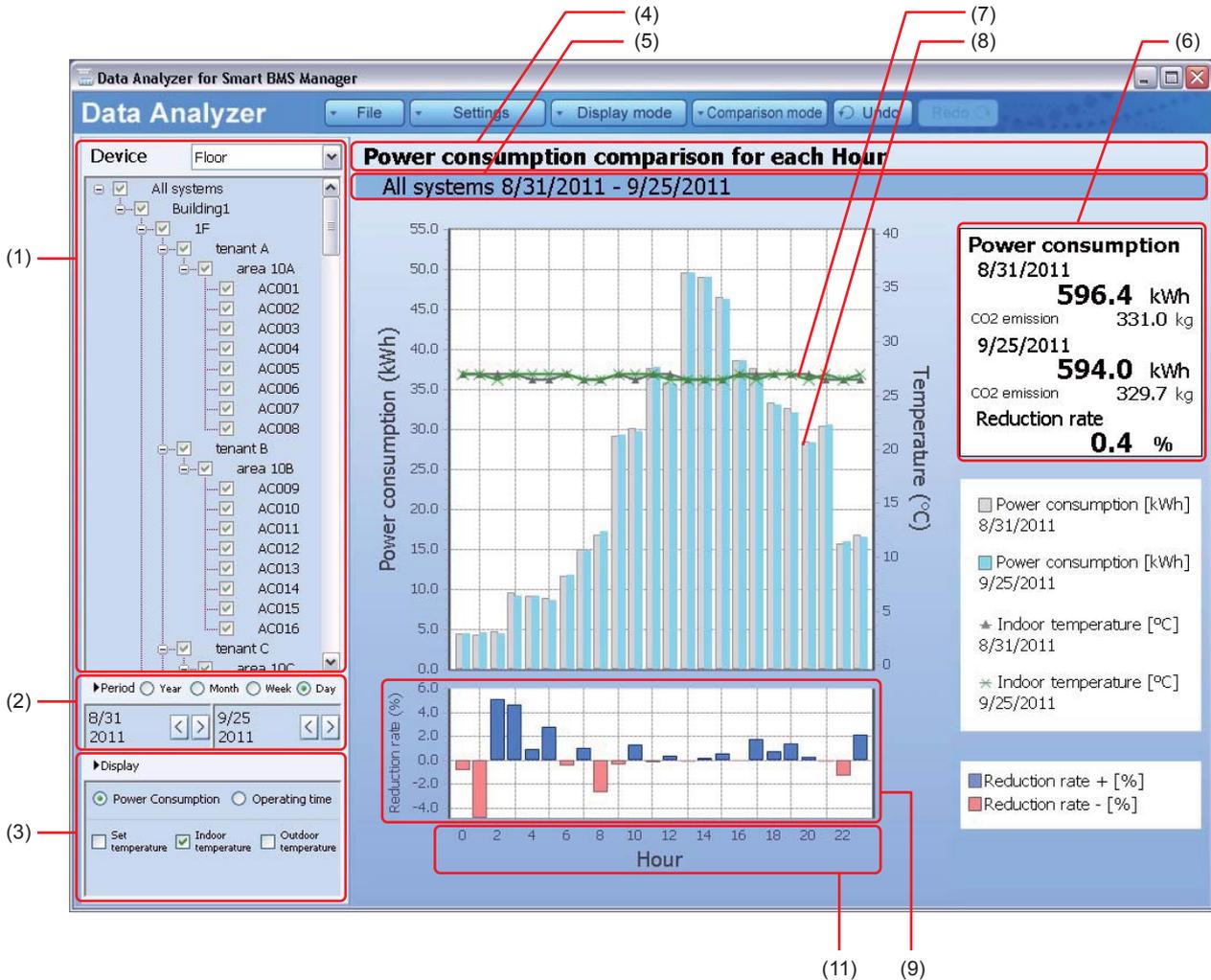
\*1 The starting month, starting day, and starting day of the week can be set in "Start of year", "Start of month", and "Start of week" under the menu "Settings" > "User settings" > "Calendar setting".

\* Display viewpoint change of 3D graph  
Hold and drag the upper part of the graph to change the viewpoint. (The bottom of the 3D graph can be viewed.)



### 7-2-3. Comparing the usage to the previous one — Comparison mode: Compare periods

Compares power consumption or operating time in a specific period. It is useful when you want to compare the power consumption with that of the previous year or the usage status with that of the previous day.



(1) **Device selection tree**

Select a system to add to the trend graph. Can be added / deleted in units of group / unit. For details, see "5-2. Selecting an Air Conditioner in the Device Selection Tree".

(2) **Period selection area**

Select the period for the trend graph. Units: Year, Month, Week, and Day. Select a comparison source on the left, and the period on the right.

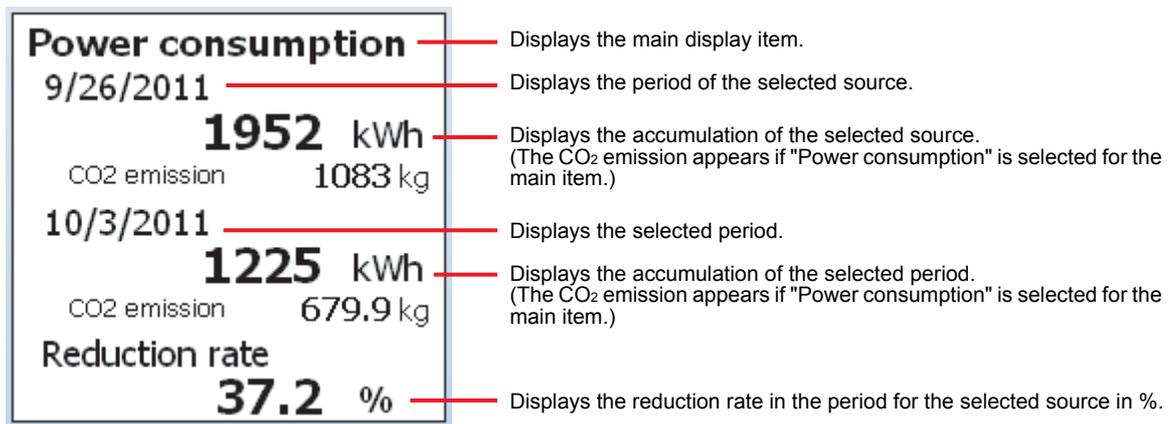
Clicking the "Period" part displays the Set Period dialog box. You can enter directly or select from the calendar for the period and comparison source, respectively.

(3) **Display item selection area**

Select items for the trend graph.

- Select "Power consumption" or "Operating time" with the radio button.
- Select the checkbox of the item to be displayed in line graph.
- \* Select "Set temperature", "Indoor temperature", or "Outdoor temperature".  
Only one of the above can be displayed.

- (4) **Title display area**  
Displays a title.
- (5) **Device / Period display area**  
Displays the selected device and period.
- (6) **Information display**  
Displays the details of the currently displayed graph.



- \* The reduction rate is calculated by the following equation:  

$$\frac{([\text{Comparison source accumulation}] - [\text{Period accumulation}])}{[\text{Comparison source accumulation}]} \times 100 [\%]$$
- \* If no accumulation data of comparison source exists or if the value is 0, the reduction rate is displayed as "-".
- \* If no accumulation data of selected period exists, the reduction rate is displayed as "-".  
 If the value is 0, the reduction rate is 100%.
- \* If the calculated reduction rate is lower than -999.9%, the reduction rate is displayed as "-".

**(7) Temperature line graph**

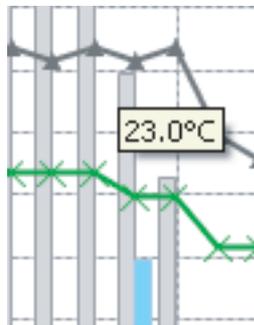
If the temperature setting is selected in the display item, the selected temperature is displayed in line graph.

- \* Only one type of temperature can be displayed in the trend graph, and it can be selected by selecting the checkbox in Display. If a temperature type is selected while another type is selected, the previously selected temperature is deleted.
- \* If multiple air conditioners such as group or tenant are to be displayed, the graphs shows the average of the selected air conditioners.

Unit	Year	Month	Week	Day
Display data	Average of each month	Average of each day	Average of each day	Average of each hour

The graph axis is displayed on the right. The scale interval is set automatically.

- \* Point the marker area of the line graph with a mouse to display the temperature in tool tip. (The first decimal place is displayed)



(8) **Main item bar graph**

The selected main item is displayed in bar graph.

The following table shows the display data and its content.

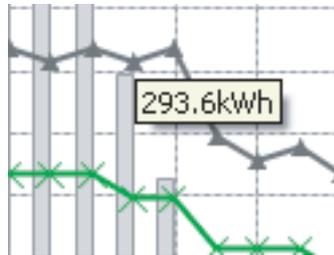
The accumulation in the selected period is displayed for the selected device in the tree.

Unit	Year	Month	Week	Day
Display data	Accumulation in each month	Accumulation in each day	Accumulation in each day	Accumulation in each hour

The comparison source appears in gray graph on the left, and the comparison target in pale blue on the right.

The graph axis is displayed on the left. The scale interval is set automatically.

If the maximum value of the scale is less than 1,000, the first decimal place is displayed for power consumption and up to the second decimal place for operating time. If 1,000 or more, the decimal places are not displayed.



\* Point the graph area with a mouse to display the main item value in tool tip. If the value is less than 1,000, the first decimal place is displayed for power consumption and up to the second decimal place for operating time. If 1,000 or more, the decimal places are not displayed. If overlapped with the tool tip area of the temperature line, the temperature display is given priority.

## \* Detailed trend graph link

The bar graph area links to a graph in the selected period. Clicking it displays the graph changed in the period.

Display mode / Comparison mode		Trend - No comparison
Target device		Current selection
Period	Current selection: Year	After changed: Clicked month
	Current selection: Month	After changed: Clicked day
	Current selection: Week	After changed: Clicked day
	Current selection: Day	No link function
Graph settings such as temperature		Previous settings retained

**(9) Reduction rate**

Displays the reduction rate in the period for the selected source in bar graph.

If the reduction rate is a plus quantity, the blue graph appears in the upper part. If minus, the red graph appears in the lower part.

The graph axis is displayed on the left, and the scale interval is set automatically.

\* The reduction rate is calculated by the following equation:

$$\frac{([\text{Comparison source accumulation}] - [\text{Period accumulation}])}{[\text{Comparison source accumulation}] \times 100} [\%]$$

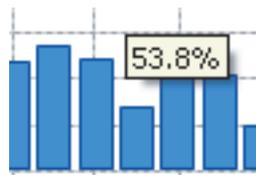
\* If no accumulation data of comparison source exists or if the value is 0, the reduction rate is displayed as "-".

\* If no accumulation data of selected period exists, the reduction rate is displayed as "-".  
If the value is 0, the reduction rate is 100%.

\* If the calculated reduction rate is lower than -999.9%, the reduction rate is displayed as "-".

**(10) Reduction rate tool tip**

- Point the reduction rate bar graph area with a mouse to display the reduction rate in tool tip. (The first decimal place is displayed)
- The click-link function is not available.



(11) **Horizontal axis display**

The unit of the horizontal axis is automatically set as follows: depending on the period selection:

Unit	Year	Month		Week		Day
Horizontal axis unit	Month	Day		Day		Hour
Horizontal axis range	January - December *1	1 - 31 (Day of the week) *1	(Day of the week) *2	x - x (Day of the week) *1	(Day of the week) *2	0 - 23

- \*1 The starting month, starting day, and starting day of the week can be set in "Start of year", "Start of month", and "Start of week" under the menu "Settings" > "User settings" > "Calendar setting".
- \*2 The dates and days of the week of the selected period and the period for comparison are displayed respectively.  
The period for comparison is displayed above, and the selected period is displayed below.

8/2010	3 (Tue)	10 (Tue)	17 (Tue)	24 (Tue)	31 (Tue)
8/2011	3 (Wed)	10 (Wed)	17 (Wed)	24 (Wed)	31 (Wed)
			Day		

## 7-3.Alarm History

Lists the alarms that occurred for the selected air conditioner in the selected period. In addition to the alarms and occurrence time, you can check the model or product number of the outdoor unit connected to the indoor unit.

The screenshot shows the 'Data Analyzer for Smart BMS Manager' window. On the left is a 'Device' tree with a 'Floor' dropdown. The main area is titled 'Alarm history list' and shows 'All systems 10/2011'. Below this is a table with columns: System, Floor, Tenant, Area, Unit, Date and time, and a description of the alarm. Callout (1) points to the device tree, (2) to the period selection area (Month selected), (3) to the display area, (4) to the title 'Alarm history list', (5) to the 'All systems 10/2011' header, and (6) to the table content.

System	Floor	Tenant	Area	Unit	Date and time	Alarm Description
Building1	1F	tenant A	area 10A	AC001	10/23/2011 13:16	C05:Sending error in
Building1	1F	tenant A	area 10A	AC002	10/23/2011 13:16	C05:Sending error in
Building1	1F	tenant A	area 10A	AC003	10/23/2011 13:16	C05:Sending error in
Building1	1F	tenant A	area 10A	AC004	10/23/2011 13:16	C05:Sending error in
Building1	1F	tenant A	area 10A	AC005	10/23/2011 13:16	C05:Sending error in
Building1	1F	tenant A	area 10A	AC006	10/23/2011 13:16	C05:Sending error in
Building1	1F	tenant A	area 10A	AC007	10/23/2011 13:16	C05:Sending error in
Building1	1F	tenant A	area 10A	AC008	10/23/2011 13:16	C05:Sending error in
Building1	1F	tenant B	area 10B	AC009	10/23/2011 13:16	C05:Sending error in
Building1	1F	tenant B	area 10B	AC010	10/23/2011 13:16	C05:Sending error in
Building1	1F	tenant B	area 10B	AC011	10/23/2011 13:16	C05:Sending error in
Building1	1F	tenant B	area 10B	AC012	10/23/2011 13:16	C05:Sending error in
Building1	1F	tenant B	area 10B	AC013	10/23/2011 13:16	C05:Sending error in
Building1	1F	tenant B	area 10B	AC014	10/23/2011 13:16	C05:Sending error in
Building1	1F	tenant B	area 10B	AC015	10/23/2011 13:16	C05:Sending error in
Building1	1F	tenant B	area 10B	AC016	10/23/2011 13:16	C05:Sending error in
Building1	1F	tenant C	area 10C	AC017	10/23/2011 13:16	C05:Sending error in
Building1	1F	tenant C	area 10C	AC018	10/23/2011 13:16	C05:Sending error in
Building1	1F	tenant C	area 10C	AC020	10/23/2011 13:16	C05:Sending error in
Building1	1F	tenant C	area 10C	AC021	10/23/2011 13:16	C05:Sending error in
Building1	1F	tenant C	area 10C	AC022	10/23/2011 13:16	C05:Sending error in
Building1	1F	tenant C	area 10C	AC023	10/23/2011 13:16	C05:Sending error in
Building1	1F	tenant C	area 10C	AC024	10/23/2011 13:16	C05:Sending error in

(1) **Device selection tree**

Select an air conditioner to display the alarm history. Can be added / deleted in units of group / unit. For details, see "5-2. Selecting an Air Conditioner in the Device Selection Tree".

(2) **Period selection area**

Select the period to display the alarm history. Units: Year, Month, Week, and Day.

(3) **Display**

Cannot be selected.

(4) **Title display area**

Displays a title.

(5) **Device / Period display area**

Displays the selected device and period.

(6) **Alarm history**

The alarms that occurred are listed.

\* Up to 1,024 alarms can be stored (regardless of the period).

If the number of the alarms has exceeded 1,024, the oldest record will be overwritten.

# 8 Undo / Redo

You can undo or redo the operation on the graph screen. This chapter describes the operation. Use the [Undo] / [Redo] buttons on the menu.

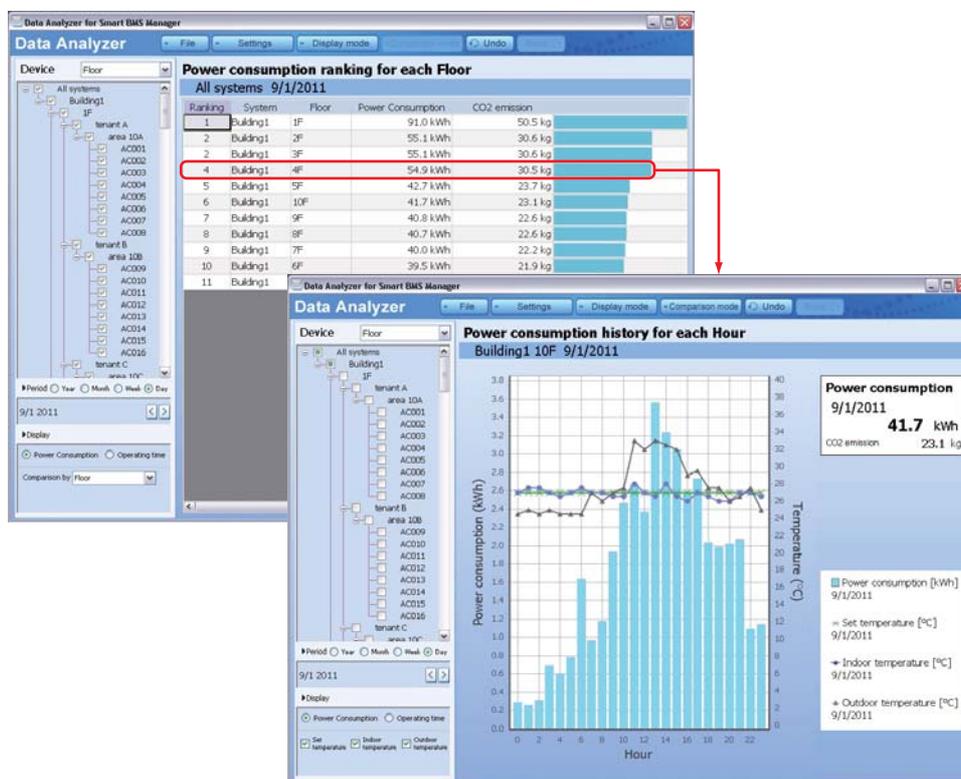


Use the [Undo] button to undo the changes of graph display items, devices, or other settings. It is useful when you want to undo the previous action or return to the previous screen after jumping to another trend graph by graph link. Use the [Redo] button to redo the undone action.

You can undo up to 8 actions.

## Example:

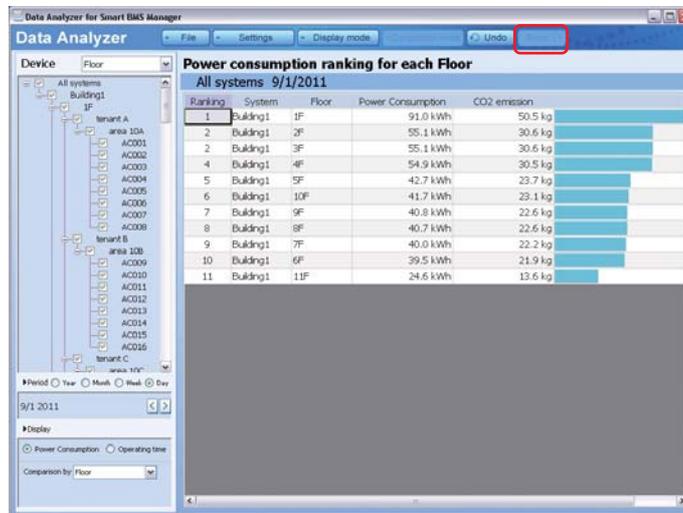
When a ranking was displayed, you pressed a list item unintentionally, and the trend graph appeared.



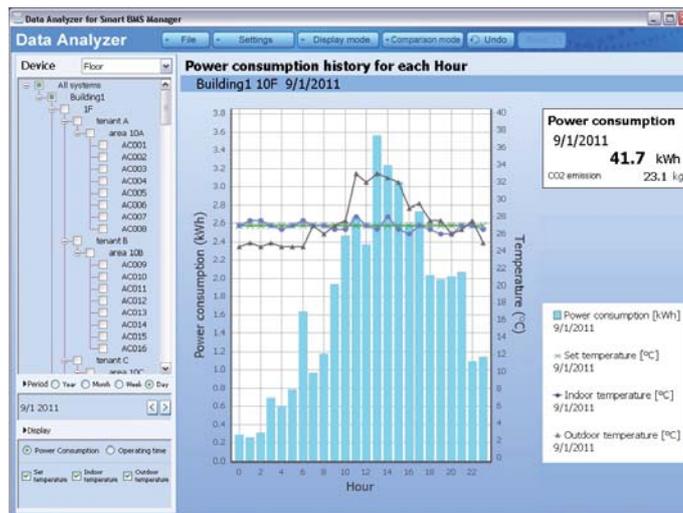
## 1 Press the [Undo] button.



**2** The ranking screen reappears. When you moved to the trend graph, the devices corresponding to the trend graph display had been selected, but the previous status reappears.



**3** The [Redo] button is enabled. Pressing the [Redo] button redisplay the previous trend graph.



The [Undo] button is disabled when the software starts. It is enabled when an action that can be undone has been performed. The [Redo] button is normally disabled, and will be enabled when the [Undo] button is pressed. Will be disabled again when no more action can be redone.

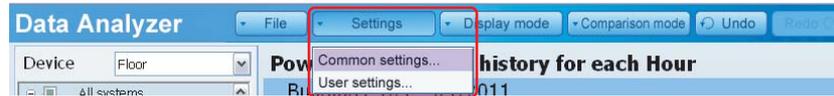
\* The [Undo] operation is available for the following:

Change	Example
Display mode / Comparison mode	<ul style="list-style-type: none"> <li>• From Ranking display to Trend graph</li> <li>• From Trend - No comparison to Compare devices</li> </ul>
Selected devices changed in the device selection tree	<ul style="list-style-type: none"> <li>• Select / Deselect devices by clicking</li> <li>* Except layer changes by combo box</li> </ul>
Period change in Period	<ul style="list-style-type: none"> <li>• Unit change by radio button</li> <li>• Selected period changed</li> </ul>
Graph display item change	<ul style="list-style-type: none"> <li>• Change of Power consumption / Operating time</li> <li>• Show / Hide the temperature graph</li> <li>• Other item change</li> </ul>

# 9 Common Settings

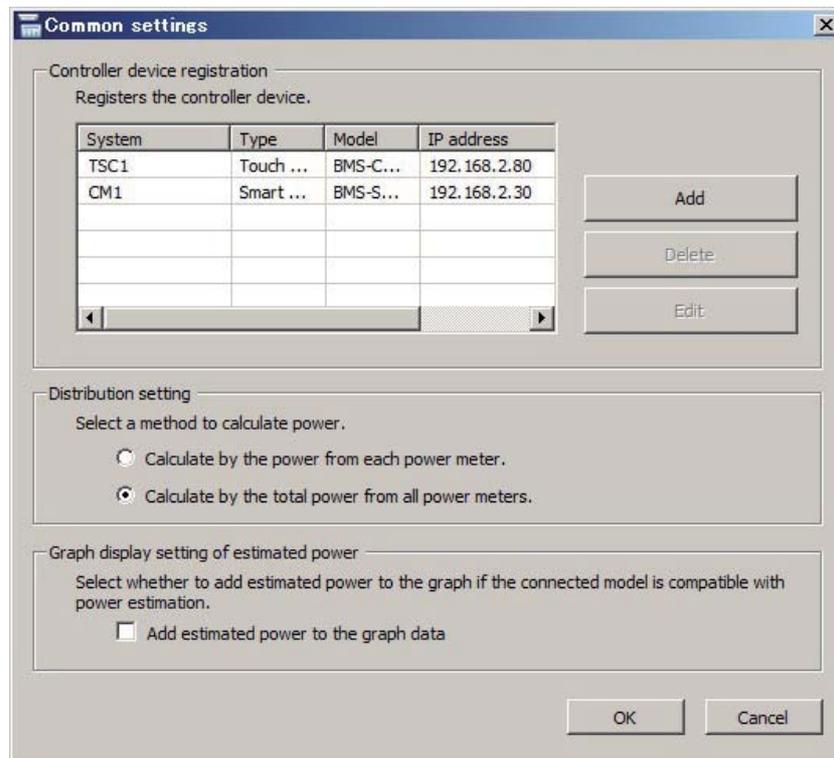
Register Air Conditioning Control System to connect, and configure the distribution / display settings of retrieved data.

Select the menu [Settings] > [Common settings].



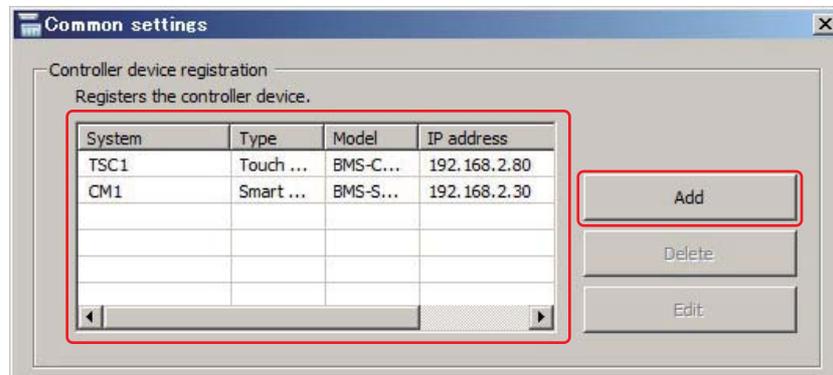
- \* The settings are only valid when the logon user is "Administrators". If the logon user is "Power Users" or "Guests", this menu is invalid and cannot be selected.
- \* If multiple units are set and at least one of them are logged on by "Administrators", the [Common settings] menu is valid.

When selected, the Common settings dialog box appears.



## 9-1. Registering Units to Connect

Set and register the names and IP addresses of Air Conditioning Control System to communicate with this software.



(1) **List window**

The currently registered Air Conditioning Control System appears in this list window. The names for graph display and the IP addresses for connection are displayed.

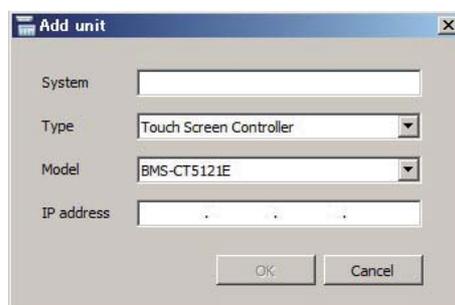
(2) **Add button**

Add a new Air Conditioning Control System.

Press the Add button to display the registration dialog box. Enter the name and IP address.

\* The name is to be used in this software, and does not need to relate to the building, etc. of the Air Conditioning Control System.

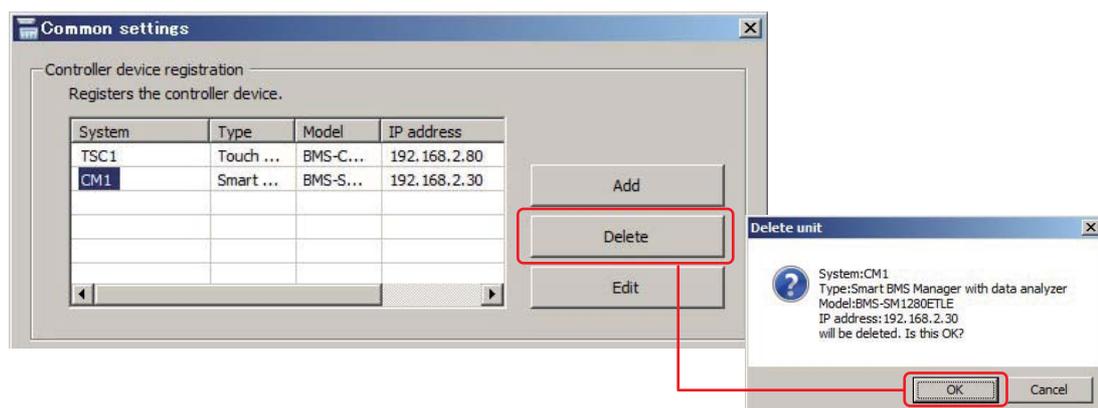
\* Up to 8 Air Conditioning Control System can be added.



(3) **Delete button**

Delete the currently registered Air Conditioning Control System. Select an Air Conditioning Control System in the list window, and then press the Delete button.

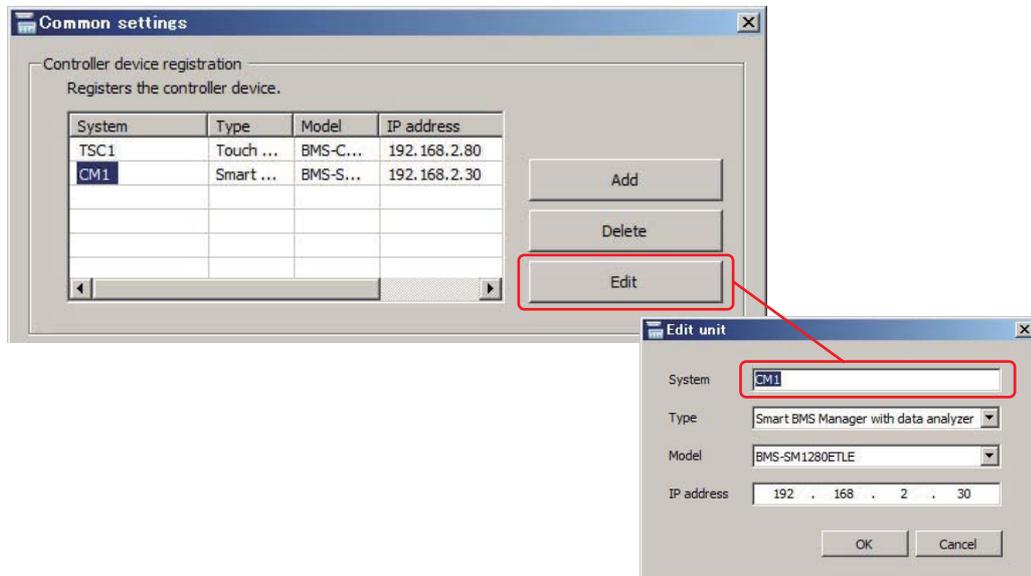
The name and IP address of the unit appear in the confirmation dialog box. Press OK to delete the unit from the list.



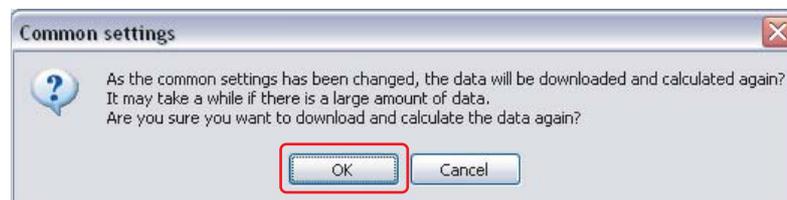
**(4) Edit button**

Edit information on the currently registered Air Conditioning Control System. Select an Air Conditioning Control System in the list window, and then press the Edit button.

Enter the name and IP address of the unit in the displayed dialog box. Press OK to update the information in the list to the edited content.



The setting change will be valid when the Common settings dialog box closes. When the common settings are changed and the OK button is pressed, the data download starts for the set unit. Before the download, a message appears confirming that the change will be made.



Press OK to start communications.

## 9-2. Distribution setting

Select a calculation method of the power data for creating a graph.

**Distribution setting**

Select a method to calculate power.

Calculate by the power from each power meter.

Calculate by the total power from all power meters.

Setting	Content
Calculate by the power from each power meter. (Default)	Calculates the distribution by the connection information on the power meter specified for the main unit.
Calculate by the total power from all power meters.	Totals the retrieved values of the power meters, and then calculates the distribution by the total power.

Select "Calculate by the total power from all power meters." e.g. when it is not clear which power meter should be used.

Normally, select "Calculate by the power from each power meter."

## 9-3. Graph display setting of estimated power

If the connected model can estimate its own power consumption, a graph can be drawn using the estimated power.

- Model that can estimate power: Super Module Multi i

When using this function, select the "Add estimated power to the graph data." checkbox.  
(Not selected by default)

**Graph display setting of estimated power**

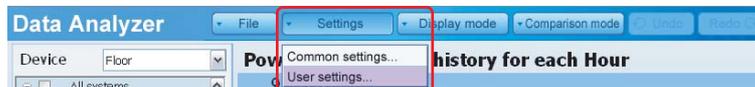
Select whether to add estimated power to the graph if the connected model is compatible with power estimation.

Add estimated power to the graph data

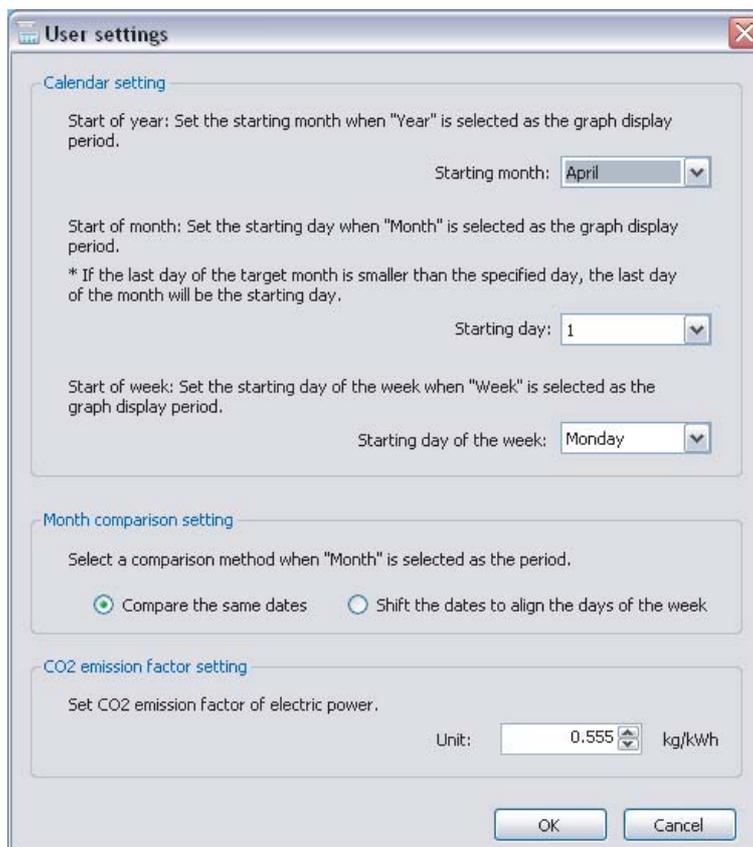
- \* This function is invalid when a power meter is connected.
- \* This function is invalid if the model does not support power estimate.

# 10 User Settings

Configure the settings mainly for graph users.  
Select the menu [Settings] > [User settings].



When selected, the User settings dialog box appears.



# 10-1. Calendar setting

Set mainly the period separation on a graph or the starting day.

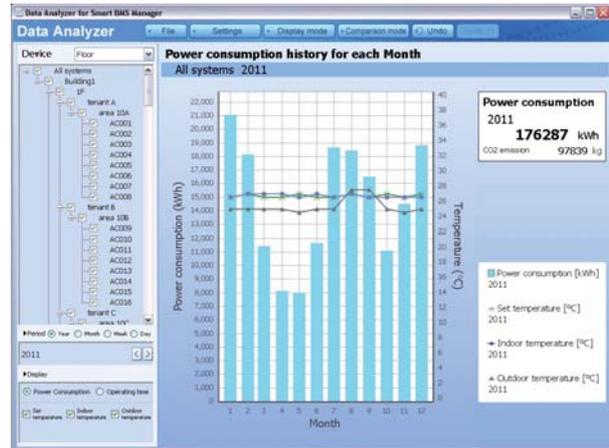
## 10-1-1. Start of year

When "Year" is selected as the graph display period, set the starting month.

The default setting is April. If the setting is changed, the starting month for "Year" is changed.



Start of year: "4"



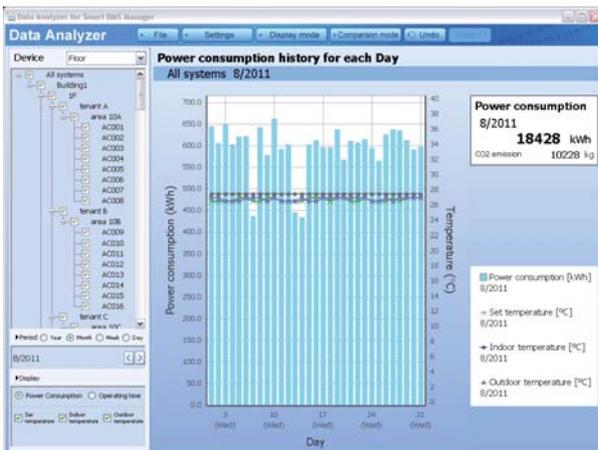
Start of year: "1"

## 10-1-2. Start of month

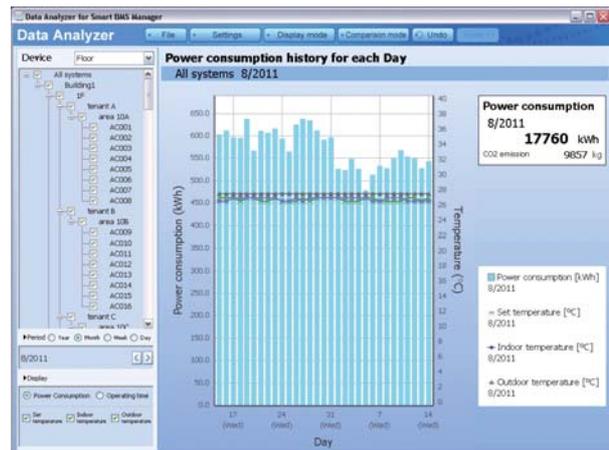
When "Month" is selected as the graph display period, set the starting day.

The default setting is 1. If the setting is changed, the starting day for "Month" is changed.

\* If the last day of the month is prior to the set starting day, the starting day will be the last day of the month.



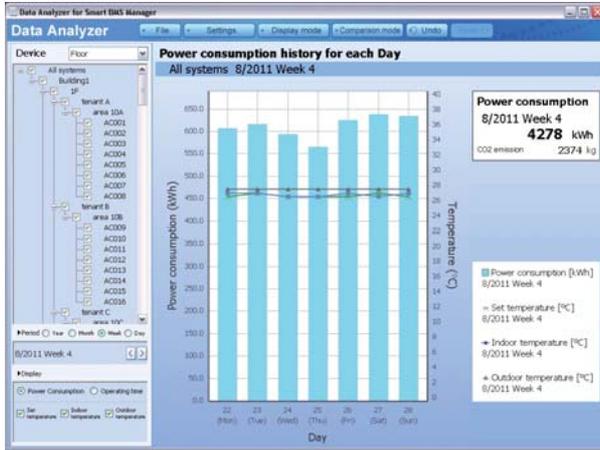
Start of month: "1"



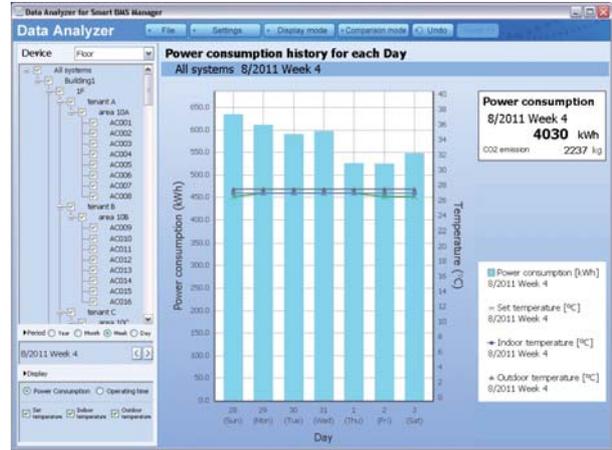
Start of month: "15"

### 10-1-3.Start of week

When "Week" is selected as the graph display period, set the starting day of the week. The default setting is Monday. If the setting is changed, the starting day of the week for "Week" is changed.



Start of week: "Monday"

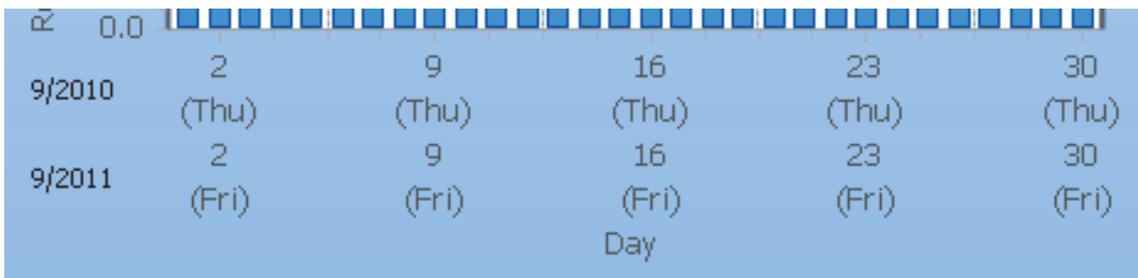


Start of week: "Sunday"

### 10-2.Month comparison setting

Select a comparison method when "Month" is selected as the period. In the comparison mode "Compare periods" for the display mode "Trend graph," select the alignment method for the comparison source and target when displaying a graph.

- Compare the same dates: Simply compare from the starting day.



- Shift the dates to align the days of the week: If the starting day is different between the comparison source and target, shift the dates of the source to compare the first weeks.



## 10-3.CO<sub>2</sub> emission factor setting

Set the coefficient for CO<sub>2</sub> emission displayed when the power consumption is selected.

The default setting is 0.555 kg / kWh. The coefficient can be set from 0 to 1.270 kg / kWh in 0.001 increments.

Power consumption ranking for each Floor				
All systems 9/2011				
Ranking	System	Floor	Power Consumption	CO2 emission
1	Building1	1 F	9879 kWh	5483 kg
2	Building1	2 F	4950 kWh	2747 kg
3	Building1	5 F	4946 kWh	2745 kg
4	Building1	4 F	4939 kWh	2741 kg
5	Building1	8 F	4935 kWh	2739 kg
6	Building1	7 F	4932 kWh	2737 kg
7	Building1	3 F	4931 kWh	2737 kg
8	Building1	6 F	4924 kWh	2733 kg
9	Building1	9 F	4920 kWh	2731 kg
10	Building1	10 F	4912 kWh	2726 kg
11	Building1	11 F	4891 kWh	2714 kg

CO<sub>2</sub> emission: 0.555 kg / kWh

Power consumption ranking for each Floor				
All systems 9/2011				
Ranking	System	Floor	Power Consumption	CO2 emission
1	Building1	1 F	9879 kWh	9879 kg
2	Building1	2 F	4950 kWh	4950 kg
3	Building1	5 F	4946 kWh	4946 kg
4	Building1	4 F	4939 kWh	4939 kg
5	Building1	8 F	4935 kWh	4935 kg
6	Building1	7 F	4932 kWh	4932 kg
7	Building1	3 F	4931 kWh	4931 kg
8	Building1	6 F	4924 kWh	4924 kg
9	Building1	9 F	4920 kWh	4920 kg
10	Building1	10 F	4912 kWh	4912 kg
11	Building1	11 F	4891 kWh	4891 kg

CO<sub>2</sub> emission: 1.000 kg / kWh

# 11 File Menu

Download / Output data, save the current screen settings, print, or copy to the clipboard.

## 11-1.Retrieve latest data

Download the latest data from the connected main unit.  
During data download, a dialog box appears showing the progress.



To cancel the download, press "Interrupt."  
If the download is interrupted, a file in the middle of download is also discarded.

The process may take a while depending on the number of connected units or the environment. If some data is over one year older than the latest data, the following message appears prompting you to select the download range.



If "Download all" is selected, all data will be downloaded. If "Download data for latest one year only" is selected, data within one year before the latest one will be downloaded.

\* If "Download data for latest one year only" is selected and multiple units are connected, data within one year before the latest one in all the units will be downloaded.

**Example:**

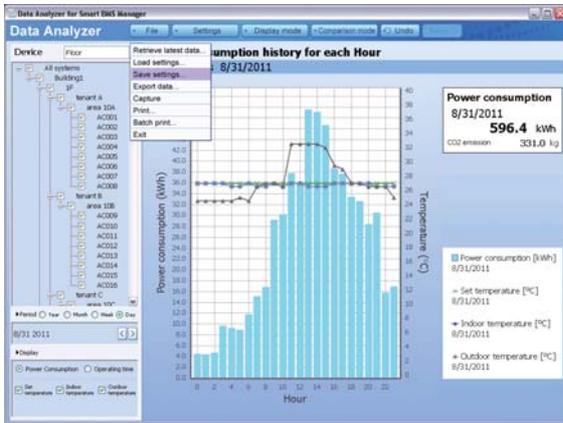
Unit 1: Latest data is stored in April 2010

Unit 2: Latest data is stored in September 2010

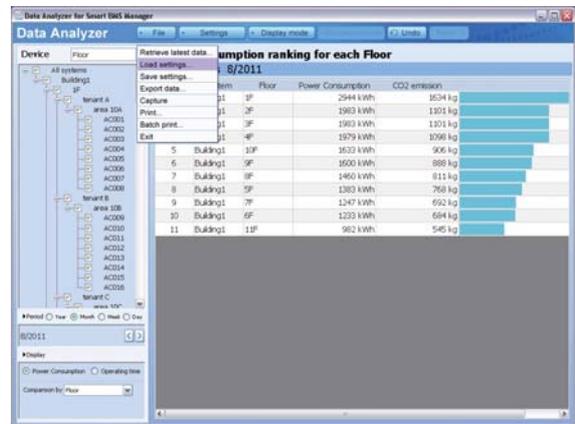
Data in and after September 2009 will be downloaded for both Unit 1 and 2.

## 11-2. Save settings / Load settings

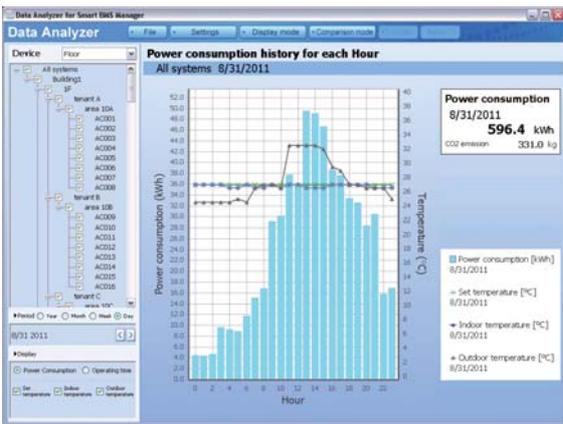
The set items such as Period or Display can be saved to a file and used later.



To save the current screen mode, period, and display items, select the menu [File] > [Save settings] to save the settings to a file.



If another screen is displayed, the screen with the saved settings will appear by selecting the menu [File] > [Load settings].

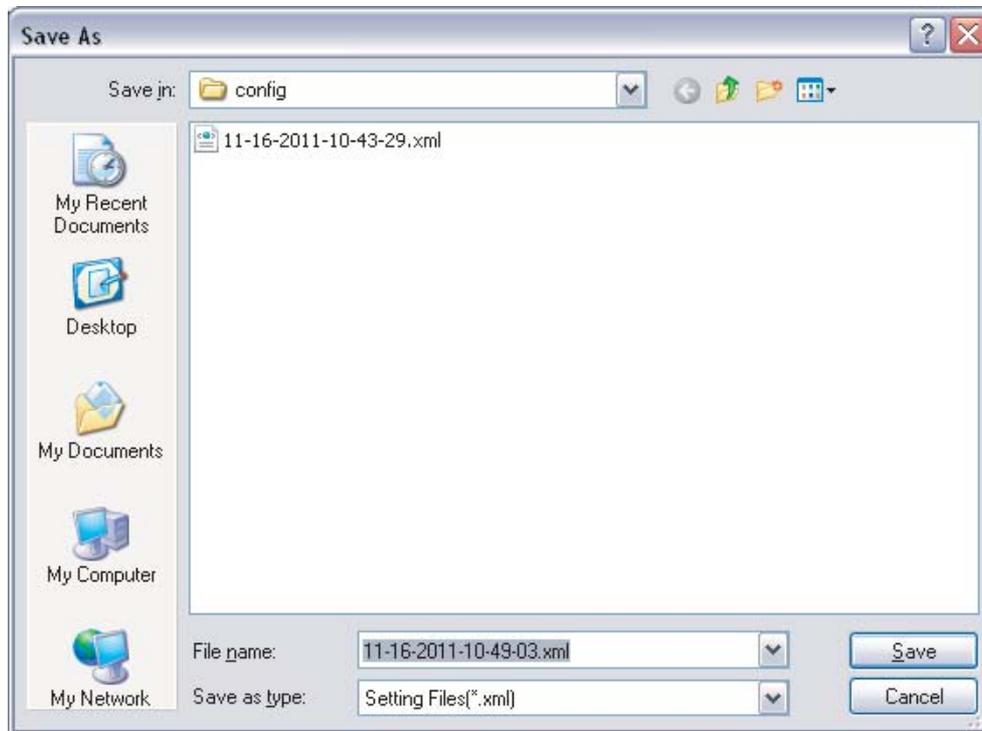


The following items can be saved:

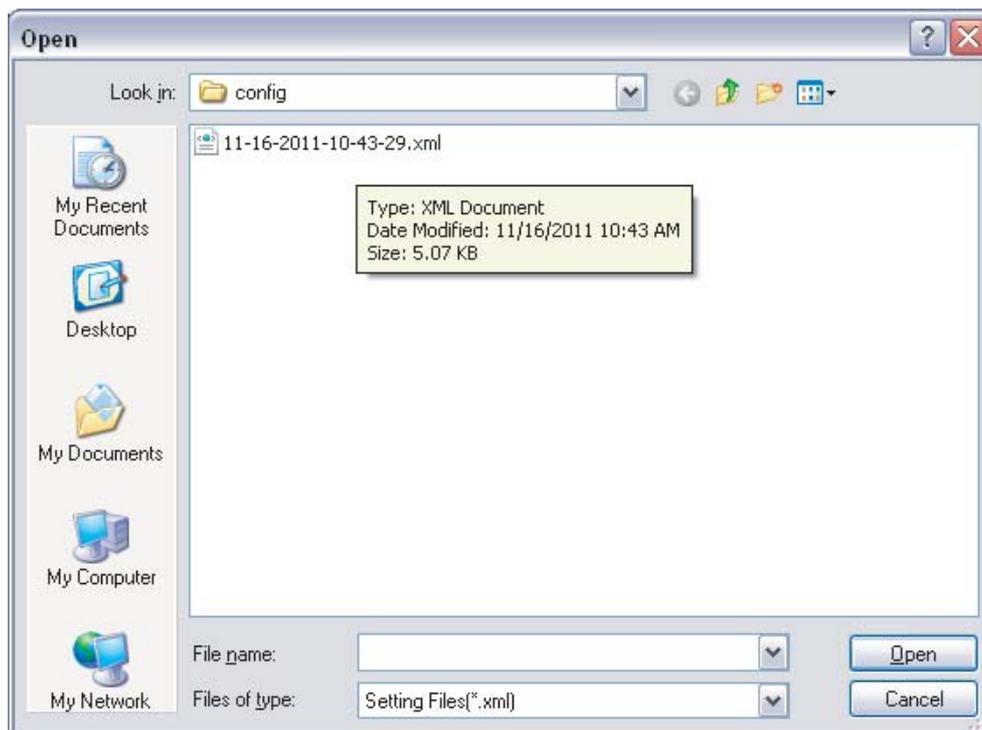
Items that can be saved to a file

Display mode	Display mode for the current graph
Comparison mode	Comparison mode for the current graph
Display items in the tree	Current selection status in the tree
Set Period	Currently selected period
Display	Current display item, ranking comparison setting
User settings	"User settings" in the menu "Settings"

To save the settings of the current graph screen, select the menu [File] > [Save settings]. The "Save As" dialog box appears. A file will be automatically created under the file name "(Current date and time).xml". Select or change the destination folder and enter a file name as necessary to save the file.



To load the saved settings of the graph display, select the menu [File] > [Load settings]. The "Open" dialog box appears. Select the setting file to load the settings.

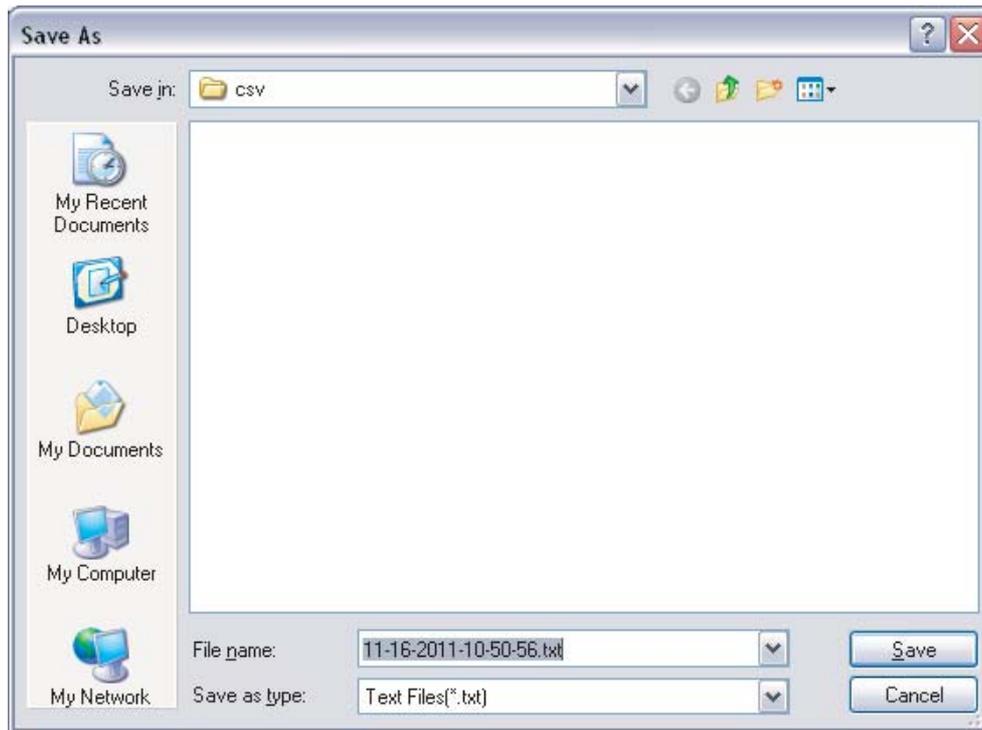


## 11-3.Exporting Graph Data

You can save the current graph display data to use with another application. Data based on the current graph screen data display can be saved.

To export data of the current graph screen, select the menu [File] > [Export data]. The "Save As" dialog box appears. Select or change the destination folder and enter a file name as necessary.

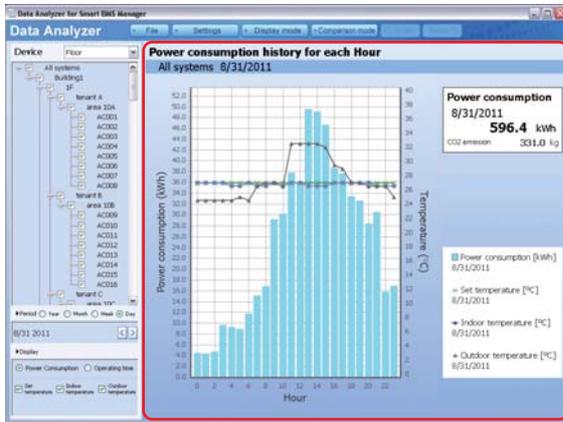
The default destination folder: Documents\Toshiba Carrier Corporation\Data Analyzer\user\<(User name)\csv. A file will be automatically created under the file name "(Current date and time).txt".



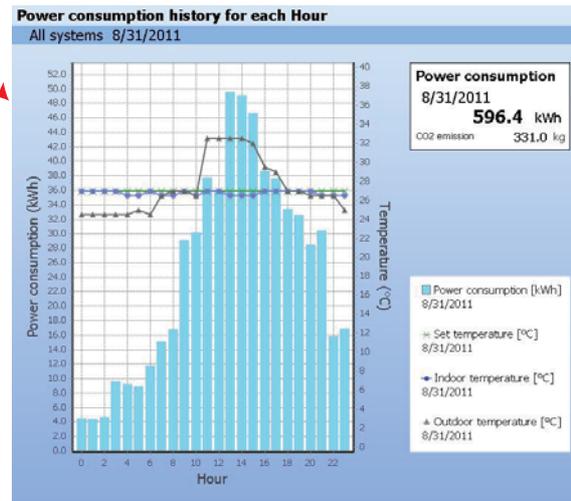
\* The currently displayed graph data can be saved. Not all data downloaded from the main unit can be saved. For details on the data format of a file this software exports, see "Appendix 1. Exported File Format".

## 11-4.Capturing a Screen

You can capture the graph area on a screen to save it to a JPEG file. It is useful e.g. when you want to paste the graph screen into another application. Only the graph area can be captured.

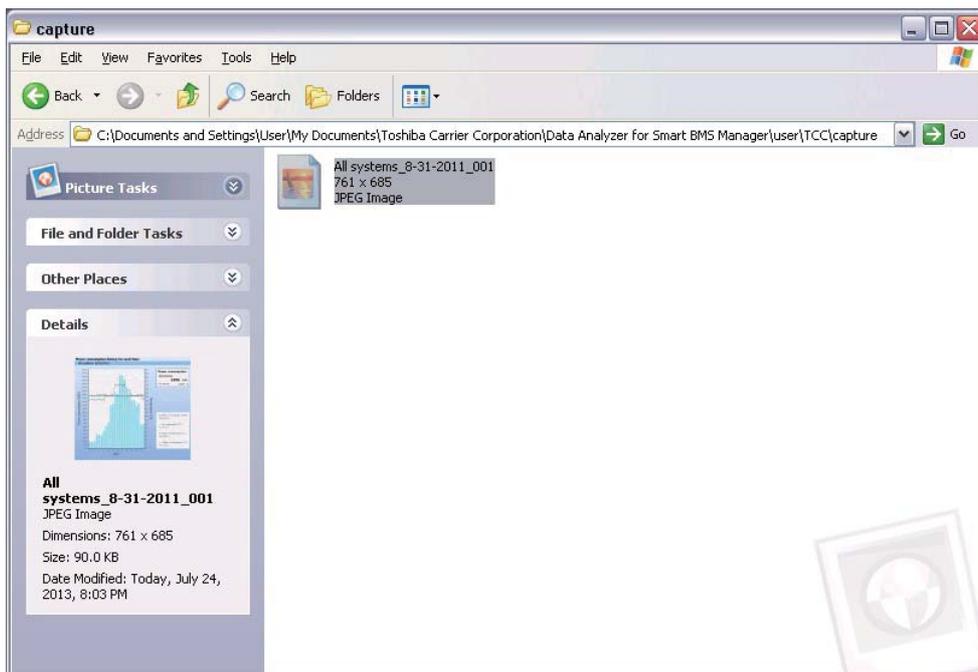


Only the graph area shown in the figure will be captured.



When you want to capture the graph status, select the menu [File] > [Capture].  
A JPEG file will be created. The file will be saved to the following folder:

Documents\Toshiba Carrier Corporation\Data Analyzer\user\\capture  
File name: (Selected group/unit)\_(Graph date)\_(Numbering).jpg



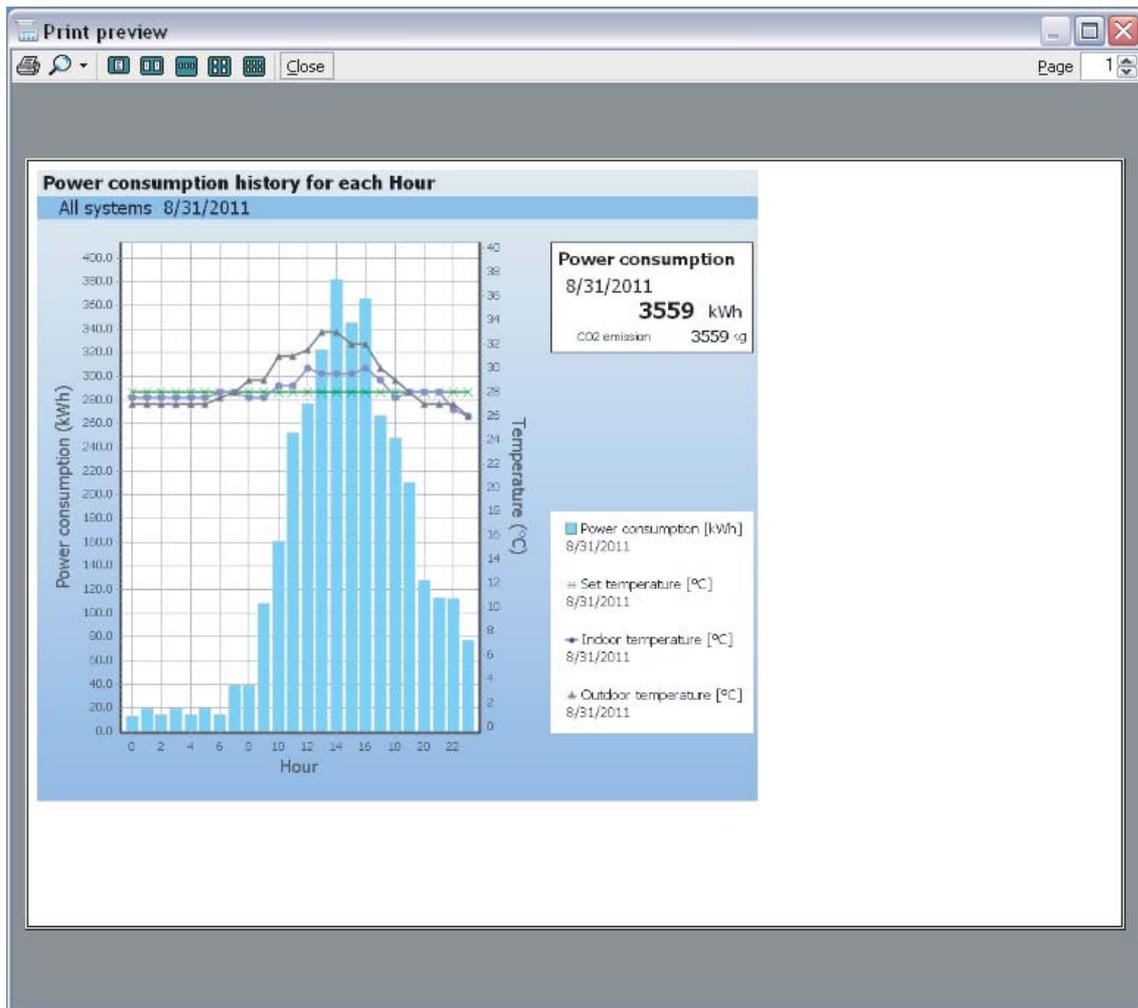
The screen has been copied to the clipboard. You can paste it as is into an application that can handle images.

## 11-5.Printing

The graph screen can be printed. There are two types: "Print", which prints the current screen, and "Batch Print", which simultaneously prints screens that can be displayed with the current settings.

### 11-5-1.Print

Select the menu [File] > [Print]. The Print preview dialog box appears.

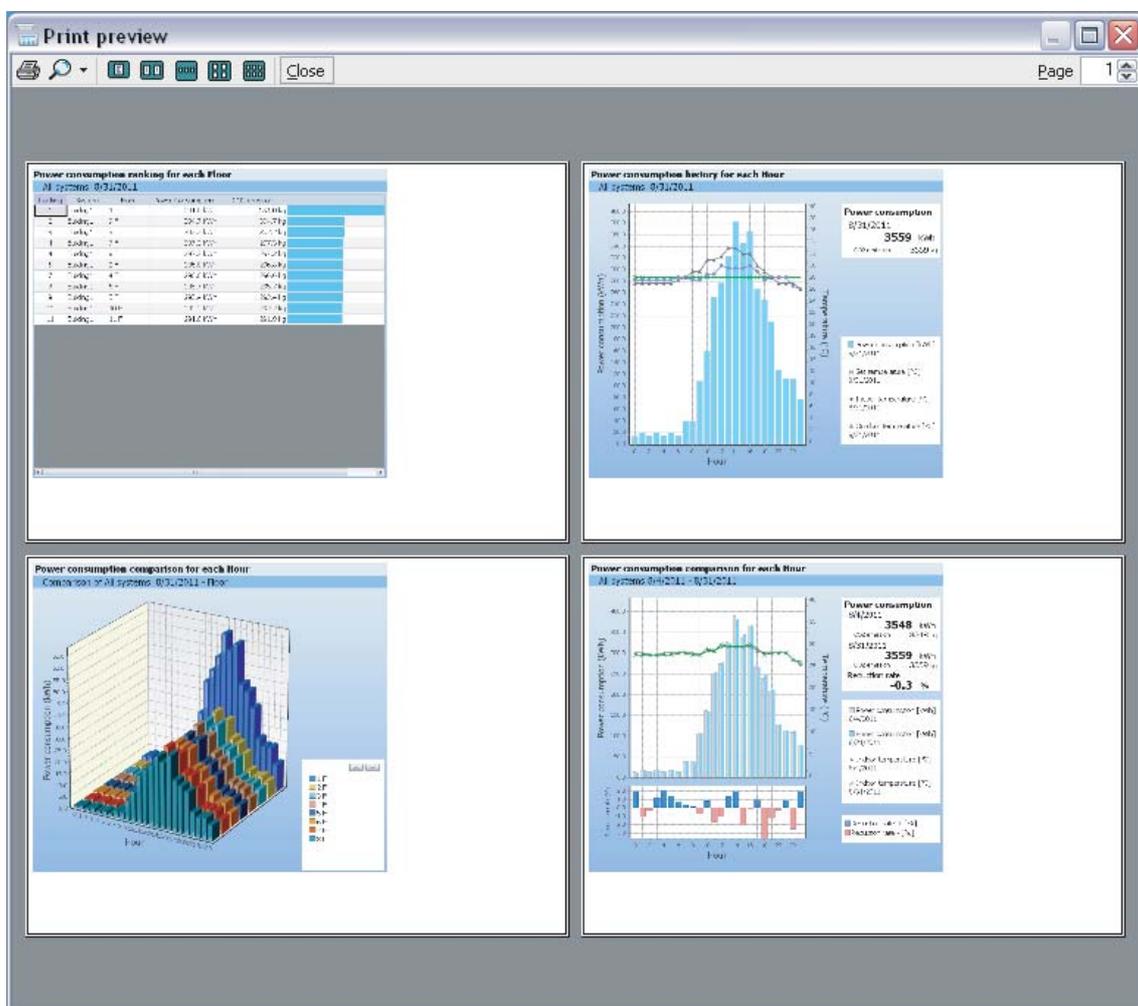


- To print the displayed screen, press the Print button. The Print dialog box appears. Select a printer to print.
  - To cancel printing, press the Close button.
  - Use other buttons to zoom in / out the preview screen, etc.
- \* The range that can be previewed can be printed. The items that are not displayed on the screen, such as Ranking or Alarm history, are not printed. To print all the items, export them to a file, and then open and print the file with another application.

## 11-5-2.Batch Print

Select the menu [File] > [Batch Print]. The Batch Print dialog box appears, and you can select screens to print. Select checkboxes in the dialog box and press the OK button. The Print preview window appears showing the print previews of the selected screens. Select pages in the right side of the window to change the selected screens.

The screens that are displayed with the current tree selection and period settings will be printed.



## 11-6.Exit

---

Select the menu [File] > [Exit] to exit this software.

# 12 Software License Agreement

Before using "Data Analyzer" (hereinafter referred to as "this software"), read this software's license agreement (hereinafter referred to as "this agreement") carefully.

By using or installing this software in part or as a whole, you agree to be bound by the terms of this agreement. If you (hereinafter referred to as "the user") do not agree to the terms of this agreement, return it to the place of purchase without using or installing this software.

1. Under this agreement, this software means a computer program that is accompanied by this agreement as a recording medium or file, plus any and all other data including electronic documentation provided. Data that is explicitly not contained in this software is excluded.
2. Toshiba Carrier Corporation retains the ownership and intellectual property rights to this software. The user may use this software by agreeing to the terms and conditions of this agreement for purposes designated by Toshiba Carrier Corporation or agreed upon by Toshiba Carrier Corporation and the user.
3. Toshiba Carrier Corporation owns the copyright to this software. This software is protected by copyright laws and international treaties.
4. The user may duplicate and install this software for purposes described in the documentation for this software. The user shall immediately delete a copy of this software when it becomes unnecessary. Excluding the above case, the user shall not duplicate this software.
5. The user shall make no attempt to reverse engineer, decompile, disassemble, or alter this software.
6. The user shall not let any other users use this software over a local network or the Internet.
7. The user shall not distribute, give, rent, lease, sell, or sublicense this software or the right to use this software to any third party.
8. The user shall respect the intellectual property rights of this software. In addition, the user shall recognize that this software is confidential and avoid disclosing this software to any third party.
9. The user agrees to comply with the Foreign Exchange and Foreign Trade Control Law, the Export Trade Control Order, the United States Export Administration Act and all applicable international and national laws and regulations that apply to this software directly or indirectly.
10. The user is allowed to use this software as is without any explicit or implicit guarantee. No implicit commercial guarantees or specific purpose applicability guarantees apply. Toshiba Carrier Corporation has no responsibility to guarantee the quality or performance of this software. Toshiba Carrier Corporation has no responsibility whatsoever for any damage, loss, cost or expense, incurred by the user, arising from the use of this software.
11. If the terms of this agreement are violated or this agreement is canceled, the user shall uninstall and remove this software, and return the recording media and files (including copies) to Toshiba Carrier Corporation.
12. Toshiba Carrier Corporation reserves the right to terminate the use of this software and modify or improve this software at any time.
13. This agreement will be governed by and construed in accordance with the laws of Japan. (However, the applicable law selection rules are excluded. Hereinafter the same shall apply)

# Appendix 1. Exported File Format

This chapter describes the details of a file to be exported with this software.

The content of the exported file depends on the format of the graph screen displayed then.

The following table shows the content of the data for the displayed graph.

The basic file export configuration common across all screens

Line 1: Screen: Text in the title display area

Line 2: Screen: Text in the target device and period area

Line 3: Title of the graph display item

Line 4 and subsequent: Values based on Line 3

## Descriptions in the table

- (A / B / C): A, B, or C, which is selected for graph drawing, will be exported
- Enclosed in [ ]: Not exported if not displayed in graph

Graph type	Export data
Ranking	Line 1: Text in the title display area Line 2: Screen: Text in the target device and period area Line 3: Ranking, [System], [Floor], [Tenant], [Area], [Unit], (Power consumption / Operating time), [CO <sub>2</sub> emission] Line 4 and subsequent: Values based on Line 3
Trend graph (No comparison)	Line 1: Screen: Text in the title display area Line 2: Screen: Text in the target device and period area Line 3: (Month / Day / Hour), [Set temperature], [Indoor temperature], [Outdoor temperature], (Power consumption / Operating time), [Save], [Demand] Line 4 and subsequent: Values based on Line 3 (Save / Demand ... ON:1 / OFF:0)
Trend graph (Compare devices)	Line 1: Screen: Text in the title display area Line 2: Screen: Text in the target device and period area Line 3: (Month / Day / Hour), Device (Group) names by the number of layer groups Line 4 and subsequent: Values based on Line 3
Trend graph (Compare periods)  * If the Period is Month or Week	Line 1: Screen: Text in the title display area Line 2: Screen: Text in the target device and period area Line 3: (Month / Hour), (Power consumption / Operating time) (Comparison source period), (Power consumption [kWh] / Operating time [Hour]) (Selected period), [(Set temperature / Indoor temperature / Outdoor temperature) (Comparison source period)], [(Set temperature / Indoor temperature / Outdoor temperature) (Selected period)], Reduction rate Line 4: Value based on Line 3
Trend graph (Compare periods)  * If the Period is Month or Week	Line 1: Screen: Text in the title display area Line 2: Screen: Text in the target device and period area Line 3: Day of comparison source period, Day of selected period, (Power consumption / Operating time) (Comparison source period), (Power consumption / Operating time) (Selected period), [(Set temperature / Indoor temperature / Outdoor temperature) (Comparison source period)], [(Set temperature / Indoor temperature / Outdoor temperature) (Selected period)], Reduction rate Line 4: Value based on Line 3

Graph type	Export data
Alarm history	Line 1: Screen: Text in the title display area Line 2: Screen: Text in the target device and period area Line 3: System - Unit, Date and time, Content, Indoor unit model, Indoor unit product number, Outdoor unit model, Outdoor unit product number Line 4: Value based on Line 3

## Appendix 2. Using Data Analyzer in Multiple Environments

Up to 8 Air Conditioning Control System units can be used with this software. However, the Data Analyzer can be used in multiple environments on a specific PC by creating multiple pieces of data and managing these by folder.

For example, it can be used in the following environments:

- In multiple buildings on a specific PC
- 9 or more Air Conditioning Control System units are used in a specific building

\* Not all screen data can be displayed in a specific screen.

### 1 The following shows the data folder of this software:

**Default setting:**

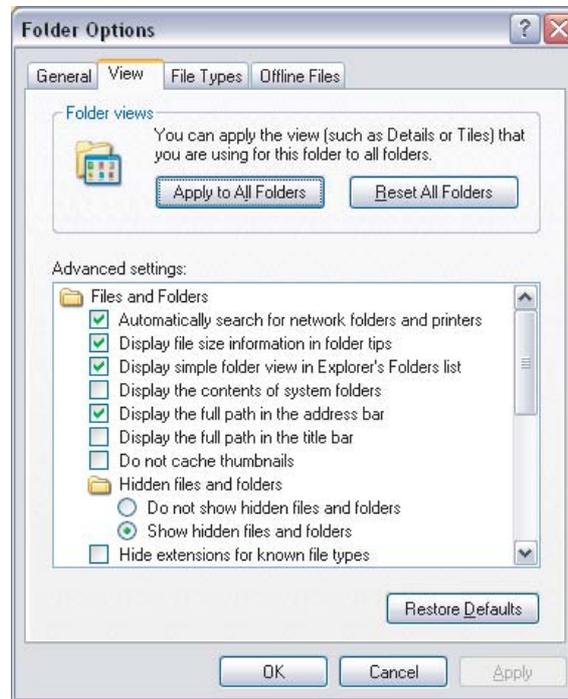
<Windows 7 / 8 / 8.1 / 10>

C:\ProgramData\Toshiba Carrier Corporation\Data Analyzer



\* Normally, use the above folders.

- \* The Application Data folder is normally set as a hidden file.  
To handle the folder, select the Tools menu and click Folder Options. On the View tab, under Hidden files and folders, click "Show hidden files and folders".

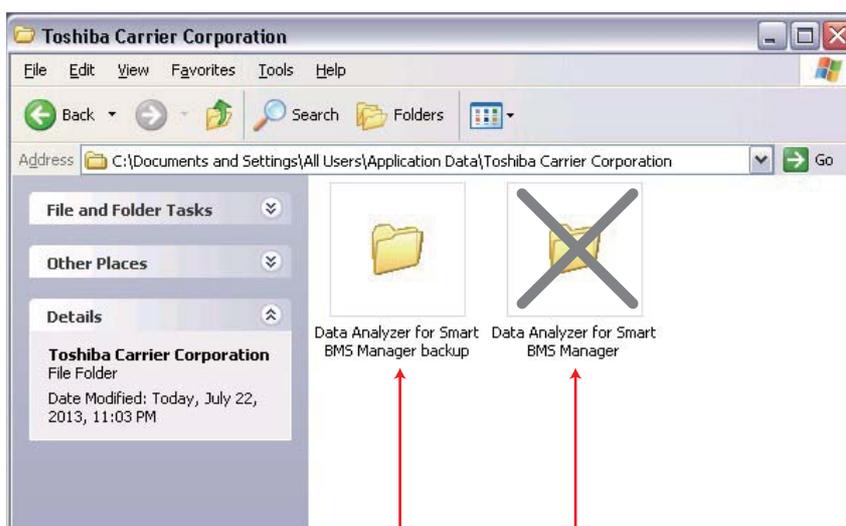


Copy the Data Analyzer folder and change the folder name.

This software checks and uses the graph display data by folder name.

If there is no target folder, a new folder will be created. If you back up old data with another folder name and connect to another environment, a new environment can be created without deleting the old environment.

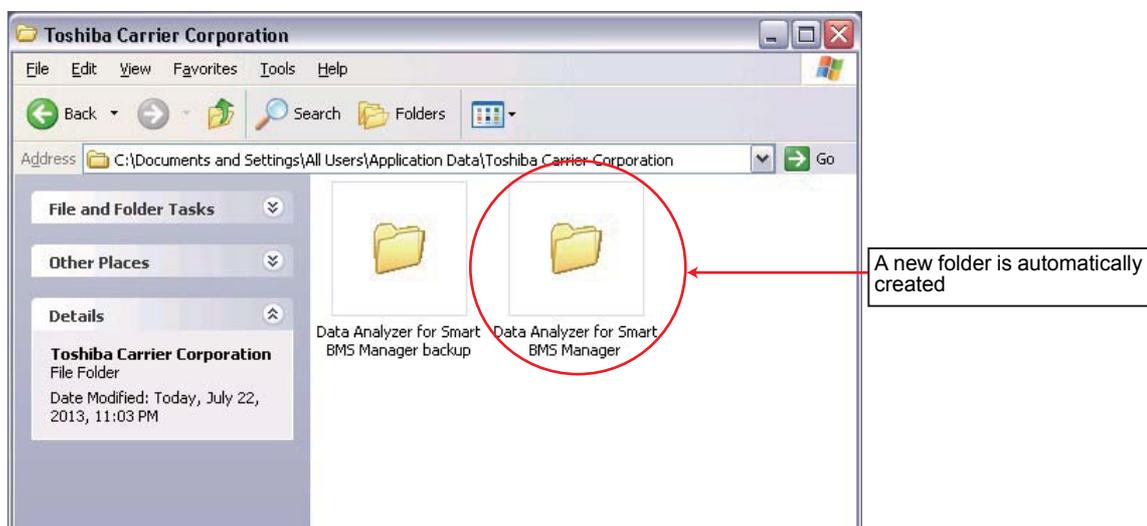
- The copy source data is deleted.
- Store copied data in a folder with another name under the same folder, or in another folder.



Copy the folder and change the name

The source folder is deleted

- 2** When the Data Analyzer starts, a new folder is automatically created.  
The subsequent settings or distribution results will be recorded into the new folder.



In Windows 7 / 8 / 8.1 / 10, use C:\ProgramData\Toshiba Carrier Corporation\Data Analyzer.  
By changing the name of the backup folder to "Data Analyzer", the backup data can be used.

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