

# KEW Windows for KEW6315 Quick Start Guide

## Starting KEW Windows for KEW6315

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# Starting *KEW Windows for KEW6315*

## Environmental requirements

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### System requirements:

- CPU : Pentium 4 1.6GHz or more
- Memory : 1Gbyte or more
- OS : Please refer to version label on CD case about Windows os.
- HDD : 1Gbyte or more  
(including size of .NET Framework redistributable package)  
(Hard-disk space required)
- CD or DVD drive : For installing applications
- Display : 1024 x 768 dots, 65536 colors or more

### Recommended system:

Pentium processor of 2GHz or more

# Starting *KEW Windows for KEW6315*

Without connecting PC and KEW6315:

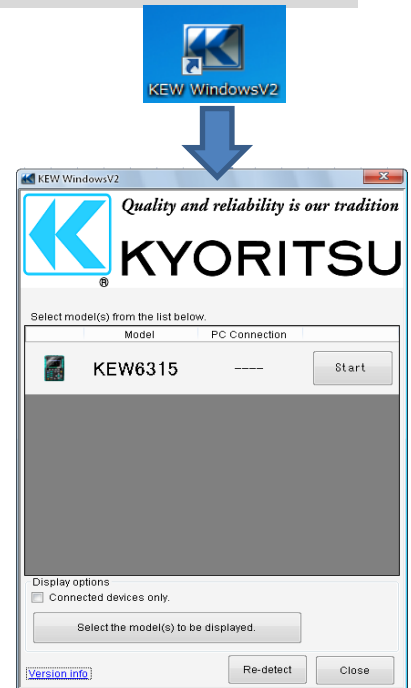
[Data Analysis (P.6)]

is available.

## STEP 1

Start "*KEW Windows*".

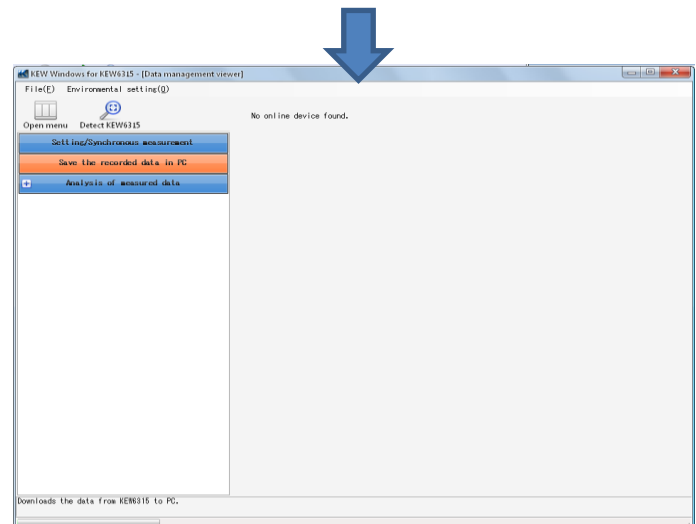
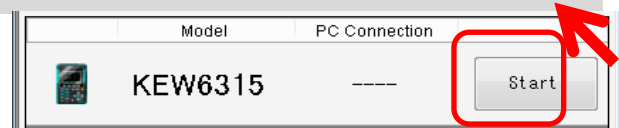
- 1 Double-click the short-cut icon on the desktop, or click "Start" -> "All programs" -> "KEW" -> "KEW WindowsV2".



## STEP 2

Start "*KEW Windows for KEW6315*".

- 1 Click the [Start] button for KEW6315.



# Starting *KEW Windows* for KEW6315

With PC and KEW6315 connected:

[Data Analysis (P.6)]

[Saving data to PC (P.38)]

[KEW6315 Setting (P.46)]

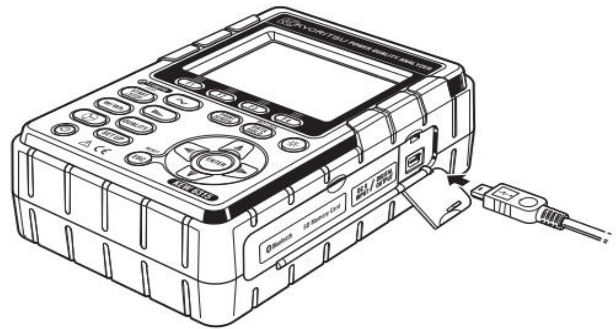
[Real-time Measurement (P.52)]

are available.

## STEP 1

### Connect KEW6315 and PC.

- 1 Connect KEW6315 and PC with the USB cable.



- 2 Turn on KEW6315.

## STEP 2

### Start "*KEW Windows*".

- 1 Double-click the short-cut icon on the desktop, or click "Start" -> "All programs" -> "KEW" -> "KEW WindowsV2".

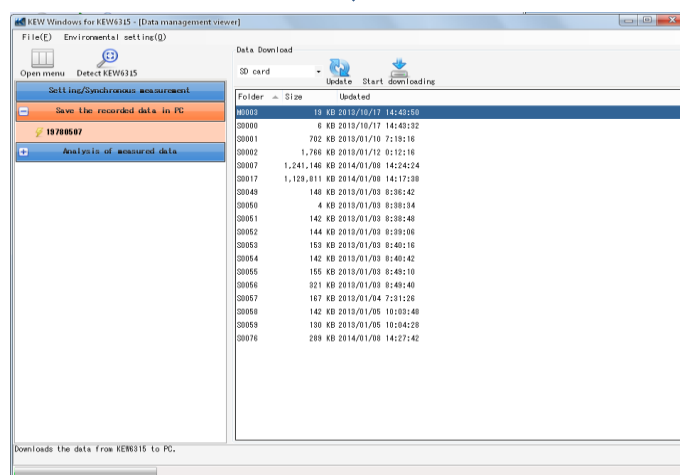
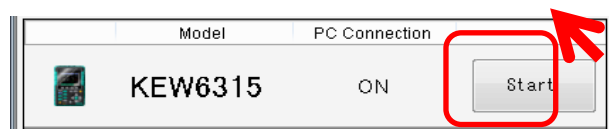


# Starting *KEW Windows for KEW6315*

## STEP 3

### Start "*KEW Windows for KEW6315*".

- 1 Click the [Start] button for KEW6315.



If "ON" is not displayed for the connected status although KEW6315 is being connected to PC, click [Re-detect].

If "ON" is still not displayed, see the "Trouble-shooting".

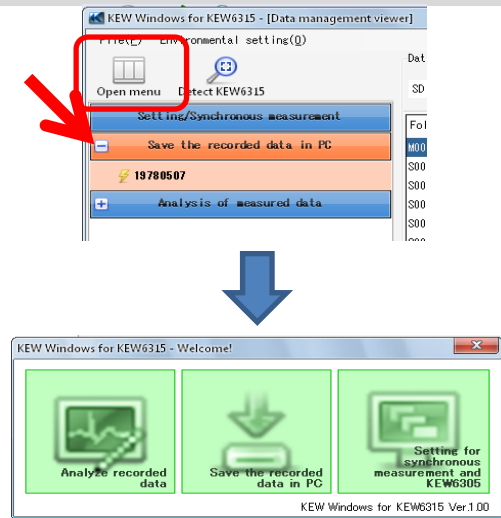
# Data Analysis

## Analysis of data stored in KEW6315

### STEP 1

#### Open the Menu

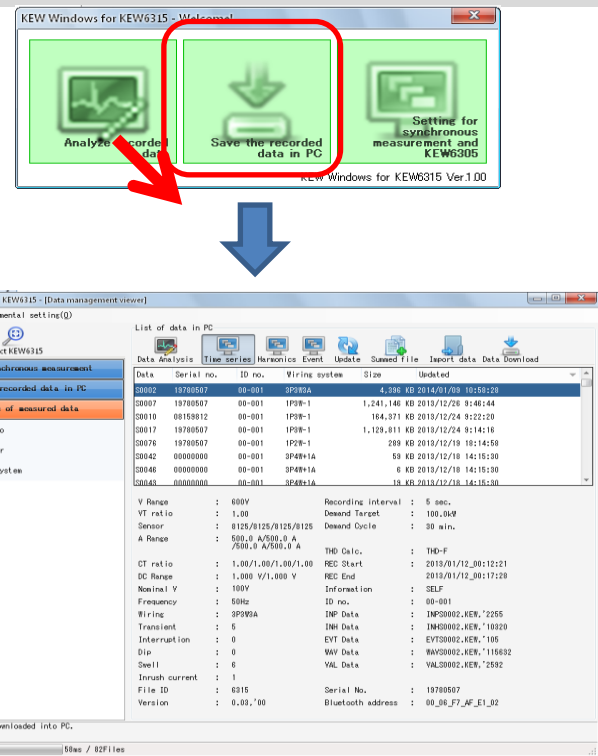
1 Click the [Open menu] icon on the "Data management viewer".



### STEP 2

#### Show the list of data stored in PC

1 Click the [Analyze recorded data] icon.

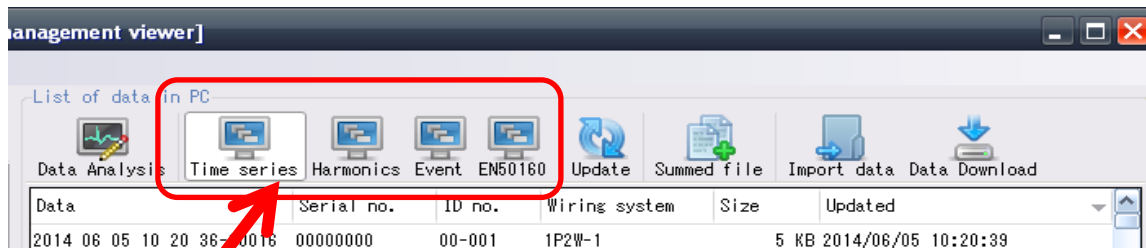


# Data Analysis

## STEP 3

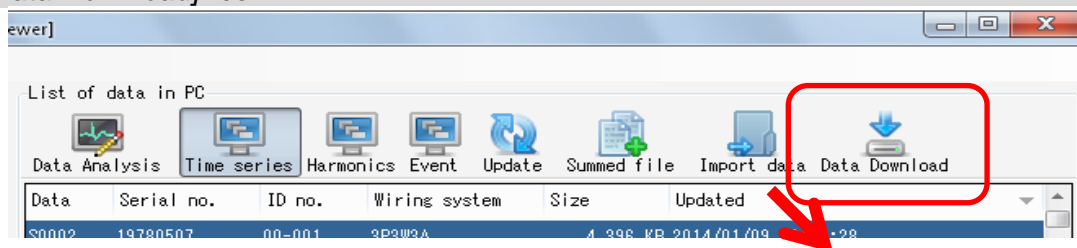
### View the data stored in KEW6315

1 Select the items to be analyzed.

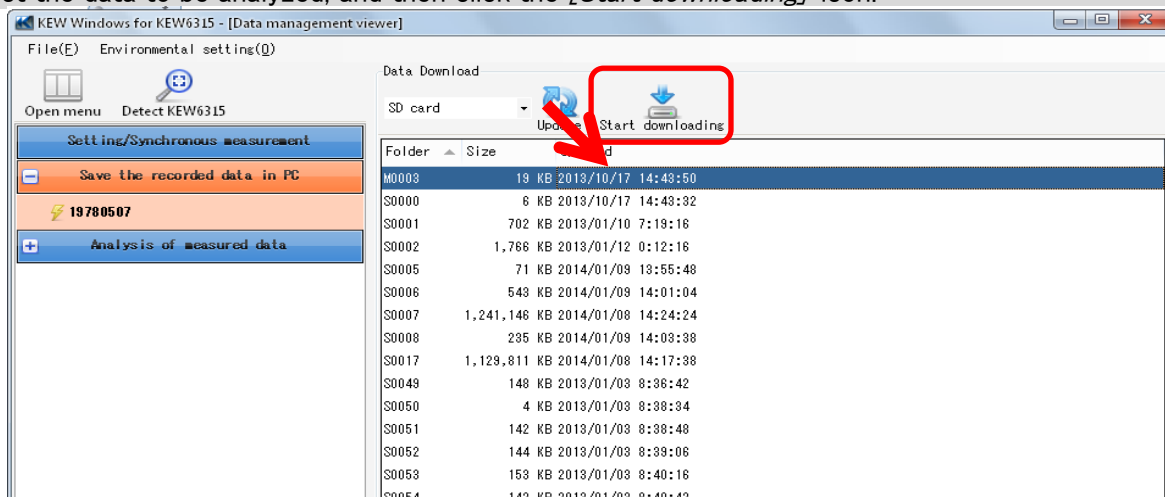


- [Time series] ...For Power data Analysis
- [Harmonics] ...For Harmonics data Analysis
- [Event] ...For Power Quality Event data Analysis
- [EN50160] ...For data analysis according to EN50160

2 Click the [Data Download] icon.

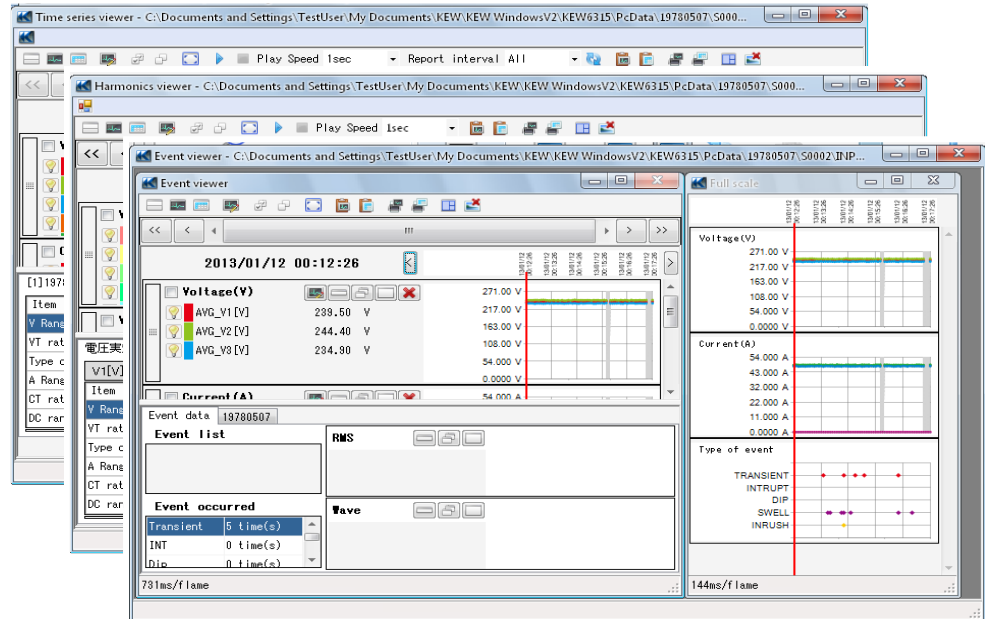
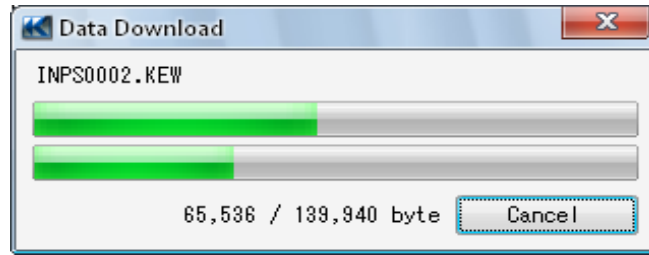


3 Select the data to be analyzed, and then click the [Start downloading] icon.



# Data Analysis

4 Data Analysis Window will appear when data download to PC completes.





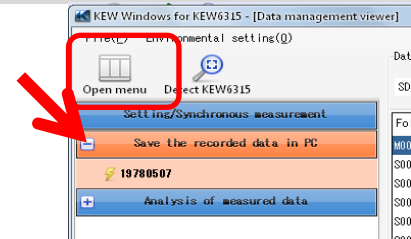
# Data Analysis

## Analysis of downloaded data

### STEP 1

#### Open the Menu

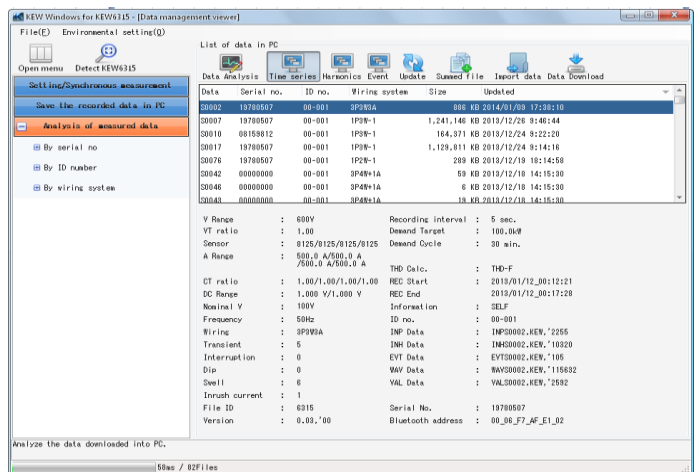
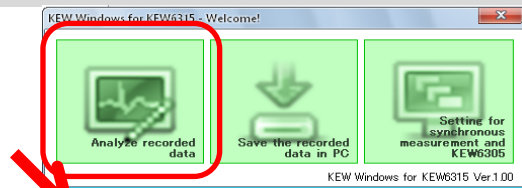
1 Click the [Open menu] icon on the "Data management viewer".



### STEP 2

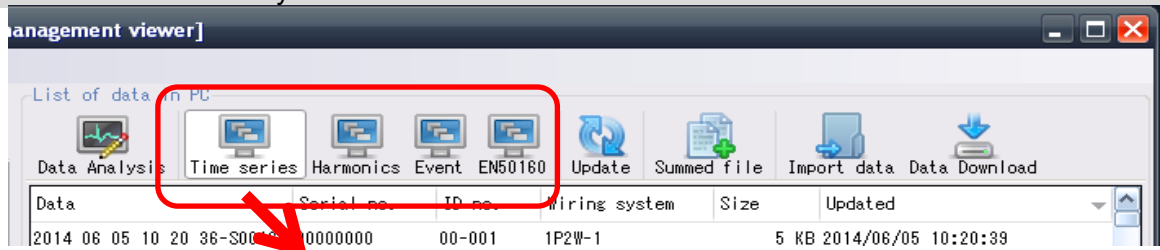
#### Show the list of data stored in PC

1 Click the [Analyze recorded data] icon.



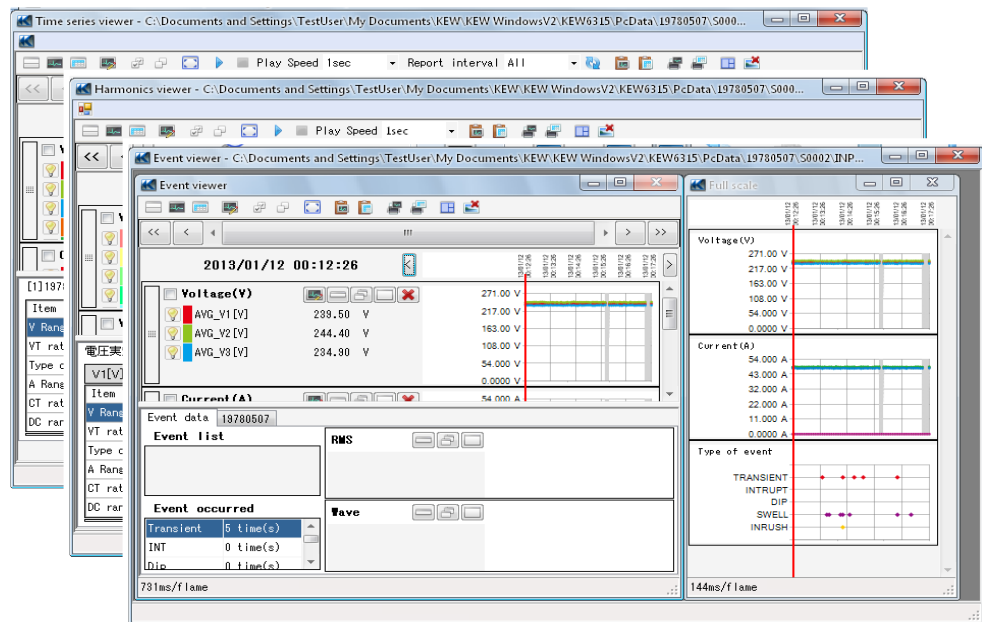
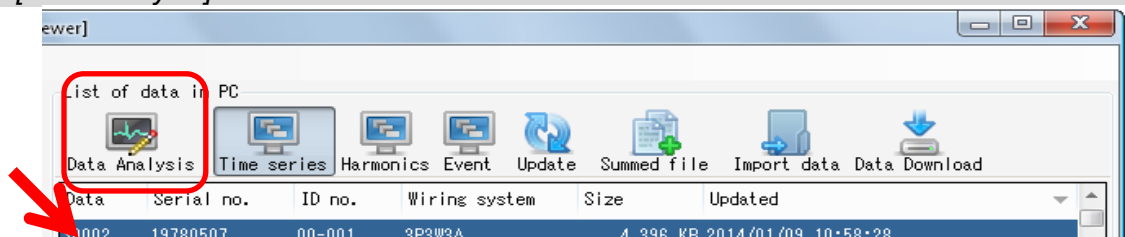
# Data Analysis

2 Select the items to be analyzed.



- [Time series] ...For Power data Analysis
- [Harmonics] ...For Harmonics data Analysis
- [Event] ...For Power Quality Event data Analysis
- [EN50160] ...For data analysis according to EN50160

3 Click the [Data Analysis] icon.

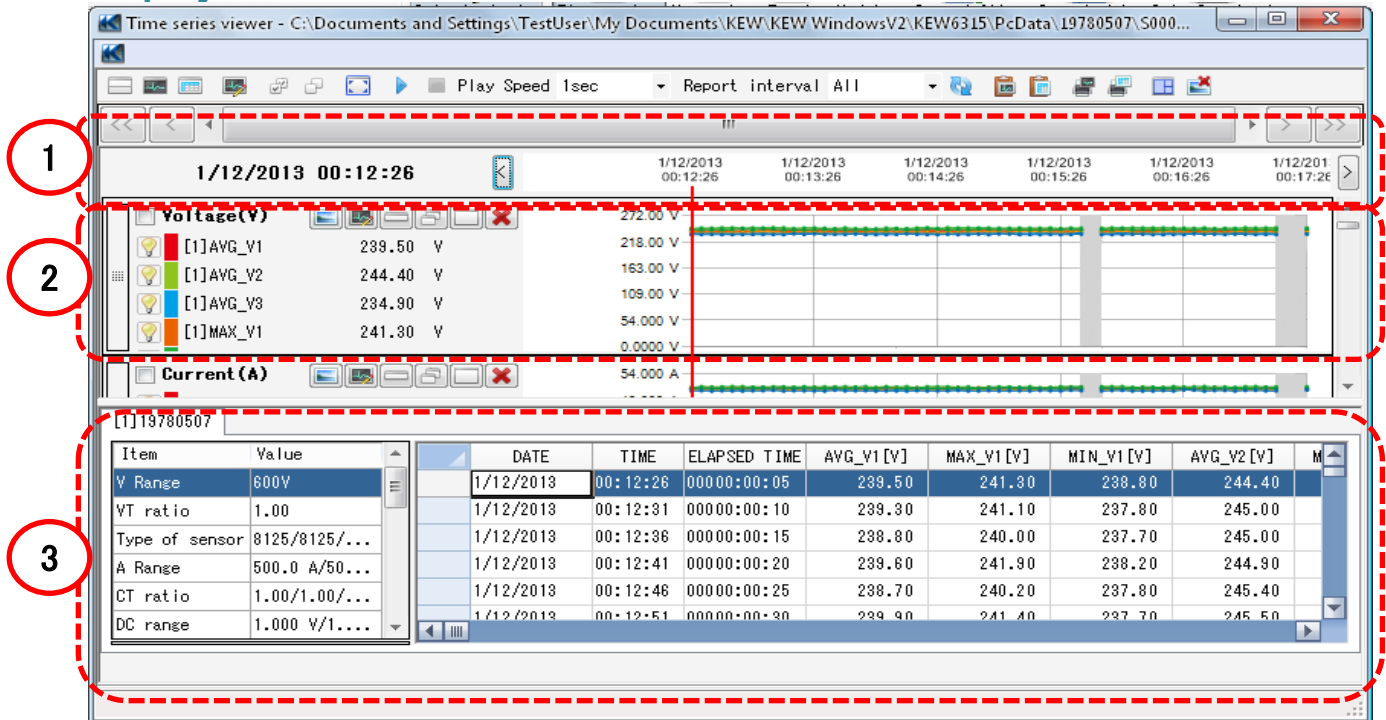


# Data Analysis

## Power data Analysis

### STEP 1

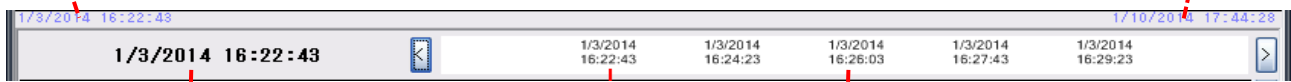
#### Displayed items



#### 1 Data recorded time

Time when the oldest data recorded

Time when the latest data recorded



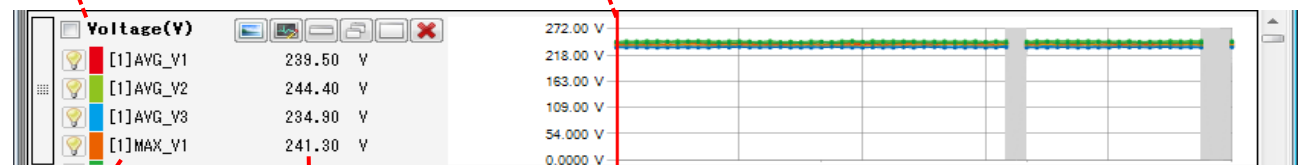
Time for the cursor location.

Time axis on the graph

#### 2 Time Series Graph

Graph Name

Cursor



Parameter

Measured value axis  
Values where cursor is located.

# Data Analysis

## 3 Time Series List

Serial no of KEW6315

Item	Value	DATE	TIME	ELAPSED TIME	AVG_V1 [V]	MAX_V1 [V]	MIN_V1 [V]	AVG_V2 [V]	M
V Range	600V	1/12/2013	00:12:26	00000:00:05	239.50	241.30	238.80	244.40	
VT ratio	1.00	1/12/2013	00:12:31	00000:00:10	239.30	241.10	237.80	245.00	
Type of sensor	8125/8125/...	1/12/2013	00:12:36	00000:00:15	238.80	240.00	237.70	245.00	
A Range	500.0 A/50...	1/12/2013	00:12:41	00000:00:20	239.60	241.90	238.20	244.90	
CT ratio	1.00/1.00/...	1/12/2013	00:12:46	00000:00:25	238.70	240.20	237.80	245.40	
DC range	1.000 V/1....	1/12/2013	00:12:51	00000:00:30	239.90	241.40	237.70	245.50	

Measurement info

Time Series List

## STEP 2

### Functions

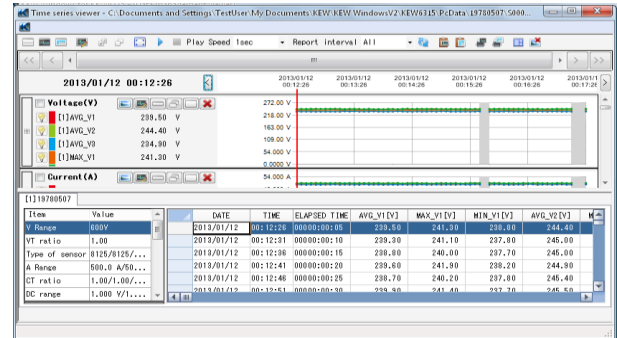
The screenshot shows the 'Time series viewer' application window. The interface includes a toolbar at the top with icons for file operations and playback controls. A central area displays a graph with two data series: Voltage (V) and Current (A). The Voltage series is plotted in green and the Current series in blue. The graph shows a steady state with a vertical step change. Below the graph is a data table with columns for DATE, TIME, ELAPSED TIME, and various voltage and current measurements. The interface is annotated with red circles and dashed lines, numbered 1 through 12, pointing to specific UI elements.

# Data Analysis

## 1 Changing the display layout.

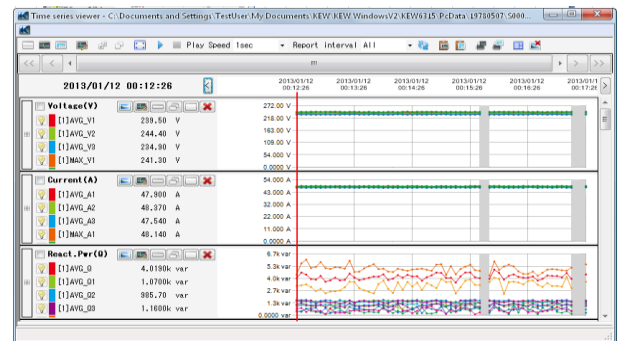
 To display graph and list on one screen at the same time:

Split the screen in two sections and display Time Series graph in the upper area and list data in the lower area.



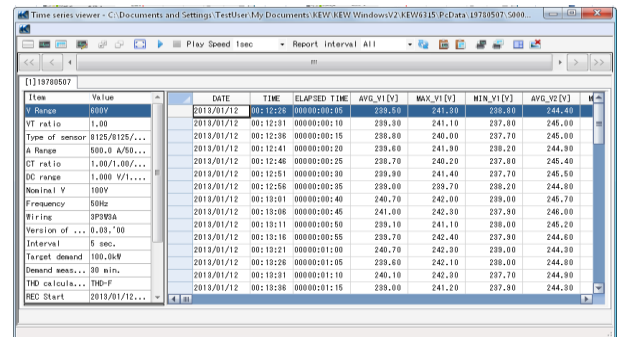
 To display graph only

Time Series graphs are arranged and displayed on one screen.




 To display list only

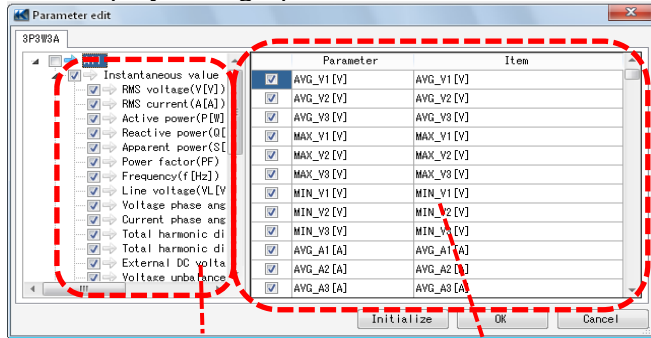
Show the list data on one screen.



# Data Analysis

## 2 Switching the displayed graphs

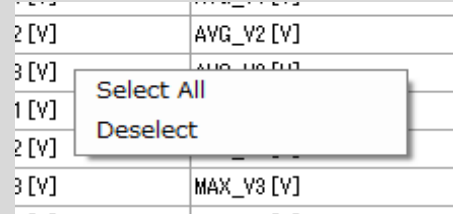
 **To display the other graphs**  
Select the measured data you want to display on a graph.




Check for the graphs to be displayed.

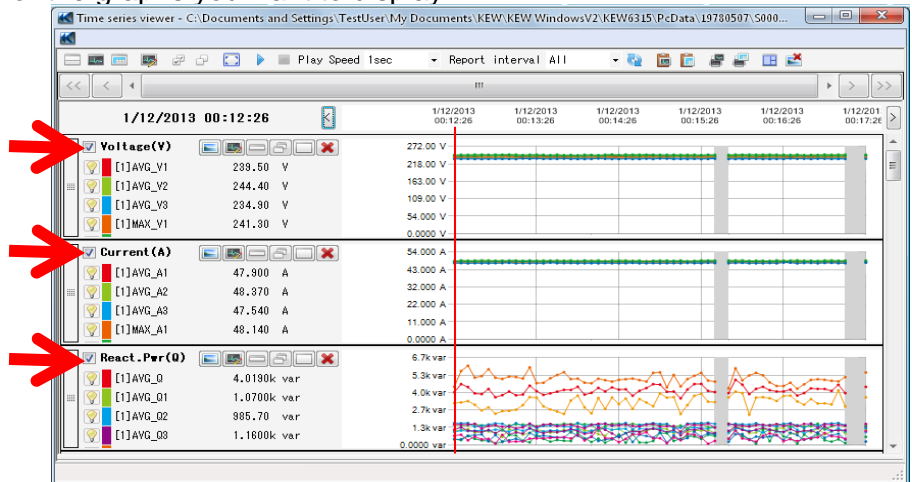
Check for the parameters to be displayed on a graph.


Right-click on the item list to select all items or deselect the selected items.

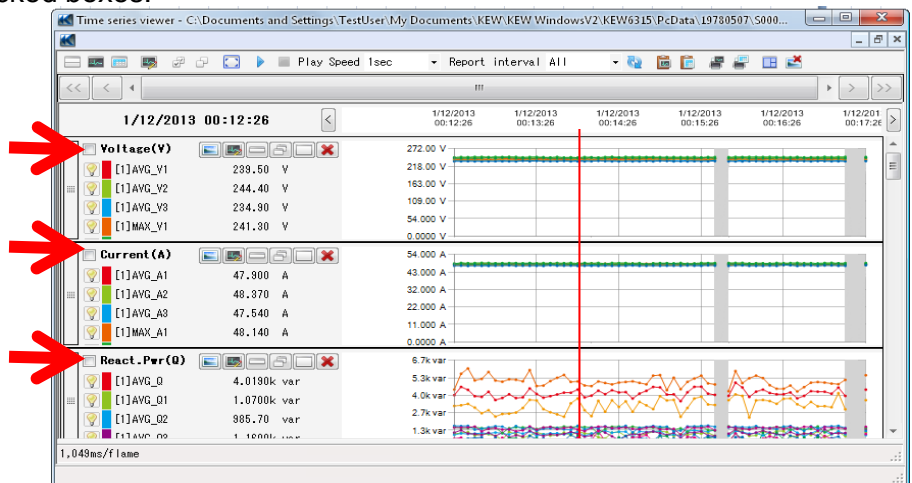


## 3 Select/ Un-select the graphs

 **To select all the graphs**  
Check all the boxes for the graphs you want to display.



 **To unselect all the graphs**  
Uncheck all the checked boxes.

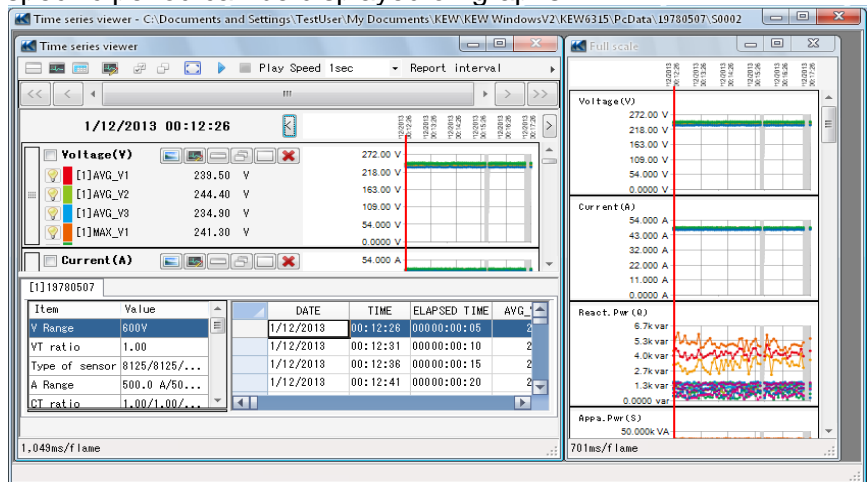


# Data Analysis

## 4 Displaying graph in full-scale

 To display the selected graphs in full-scale.

All data recorded in the specific period can be displayed on graphs.



\*Depending on the size of the recorded data, it may take a long time to create full-scale data.

## 5 Enabling auto-scrolling.

 Start auto-scrolling.

 Stop auto-scrolling.

Play Speed 1sec

To change the auto-scrolling speed.

Cursor moves in the specified speed automatically.

## 6 Changing the report cycle.

Report interval 1per min

To change the report cycle

Change the data display interval

**Ex.**

There is a data file recorded every second. When changing the report cycle of this file to "1 min", the data can be checked in the following time ticks.

### Actual data

Elapsed time  
0000:00:01  
0000:00:02  
0000:00:03

0000:60:00

**Total 3600 data**

### After changing the display interval



Elapsed time  
0000:01:00  
0000:02:00  
0000:03:00

0000:60:00



**Total 60 data**

# Data Analysis

## 7 Copying to clipboard

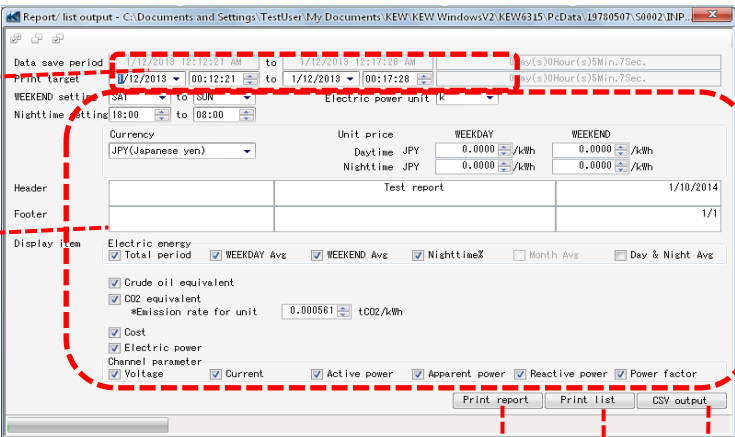
-  **To copy graph:**  
Copy all the displayed Time Series graphs to the clipboard as an image.
-  **To copy list:**  
Copy the selected list data to the clipboard with headers for each item as tab-delimited text data.

## 8 Printing

-  **To print graph:**  
Print all the displayed Time Series graphs.
-  **To print list:**  
Print reports and lists, or save CSV data of the specified time period.

Time period to print/ save

Parameters for Electricity usage report (To print Electricity usage report P.64)




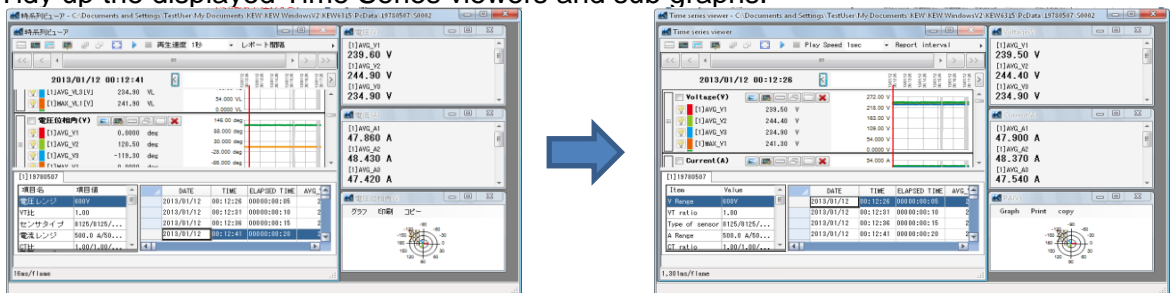
Print the Electricity usage report.

Print the list.

Save data in CSV format.

## 9 Arranging sub-graphs

-  **To arrange the displayed sub-graphs:**  
Tidy up the displayed Time Series viewers and sub graphs.



-  **To close all the open sub graphs:**  
Close all the displayed sub graphs.



# Data Analysis

## 10 Scrolling the graph

Slide the cursor to the right and left.



Scroll half of the screen.

Scroll a quarter of the screen.

## 11 Changing the graph display format

Display sub graph.

Select the items to be displayed on a graph.

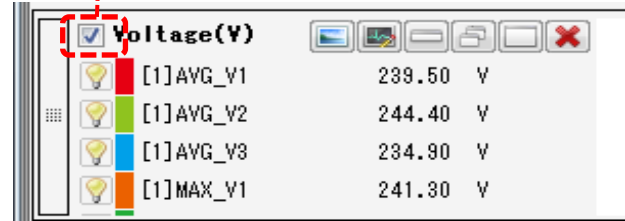
Minimize the graph.

Restore the changed graph size.

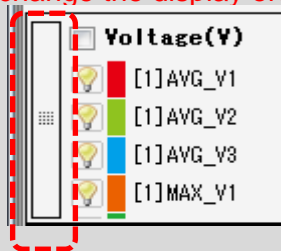
Maximize the graph.

Close graph.

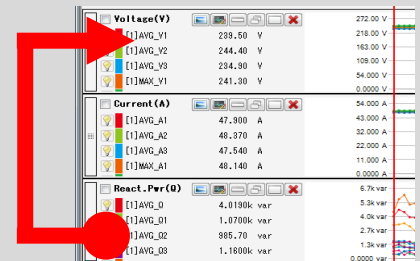
Applied to the selected graph.



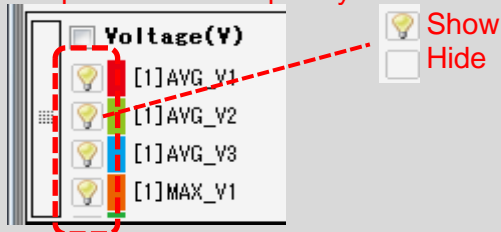
To change the display order:



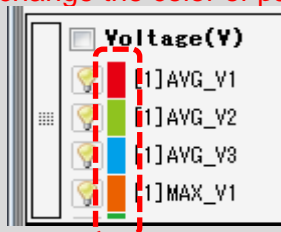
Drag the left side of the graph and drop it at the desired position to change the order.



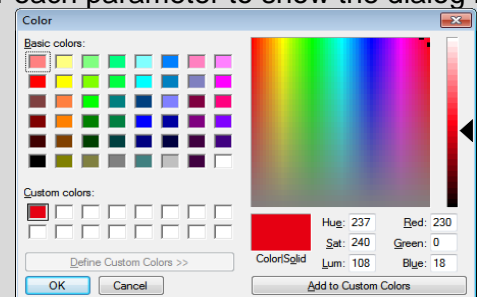
To hide parameters temporary.



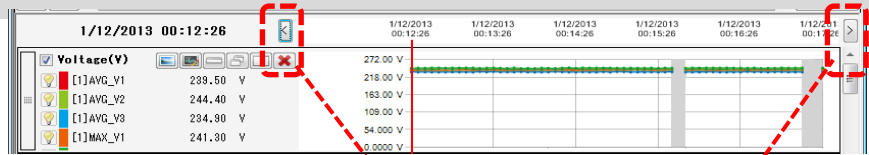
To change the color of parameter temporarily:



Click the colored boxes for each parameter to show the dialog box for color setting.

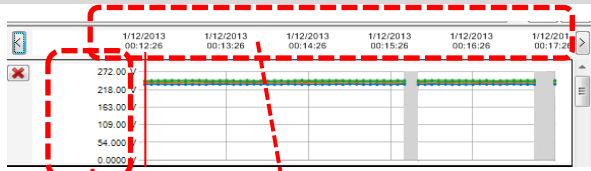


## 12 Moving the cursor

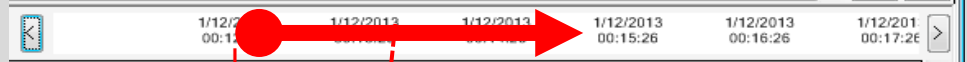


Move the cursor by one interval back and forth.

## 13 Changing the graph display area

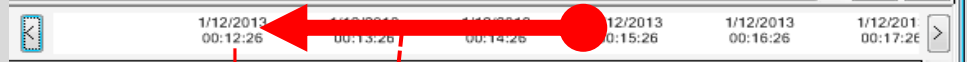


**Enlarge the time axis**  
(Shorten the period to be displayed.)



Click and drag the tick to right.

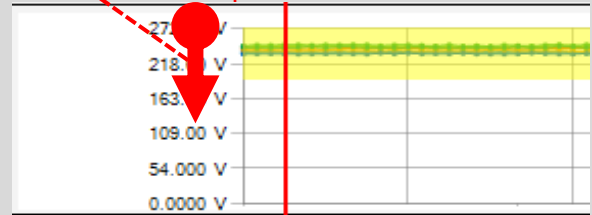
**Shorten the time axis**  
(Expand the period to be displayed.)



Click and drag the tick to left.

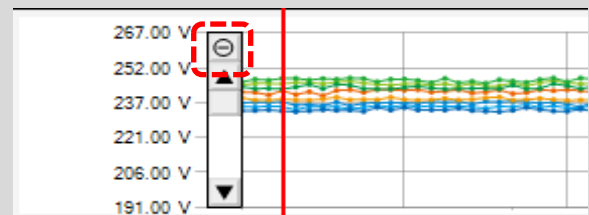
**Enlarge the measured value axis**

Click and drag the tick to down or up.



\* The yellow area will be enlarged.

**Restore the enlarged axis to the original scale.**

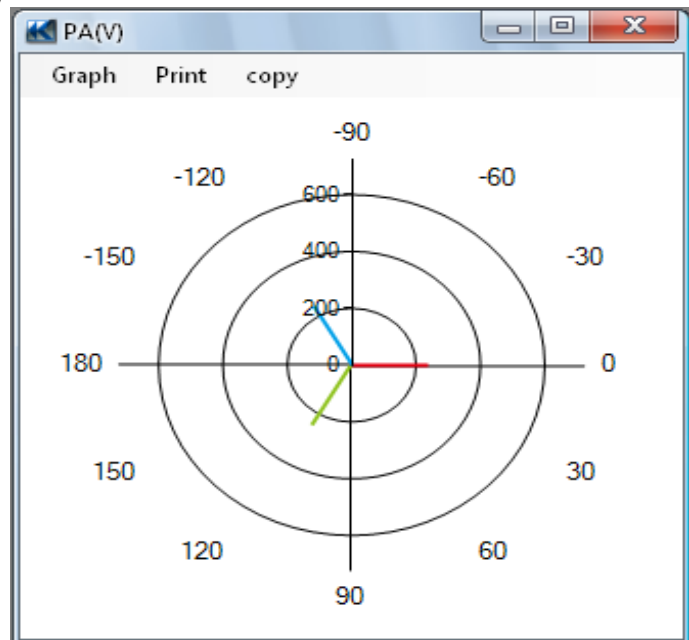


## STEP 3

### Sub graph display

#### 1 Vector Display

Display the rms values and phase angles by vector for the cursor location.  
(only the voltage or current phase angles)



#### 2 Cursor value

Display the measured values for the cursor location in the large window.  
(except for voltage and current phase angles)

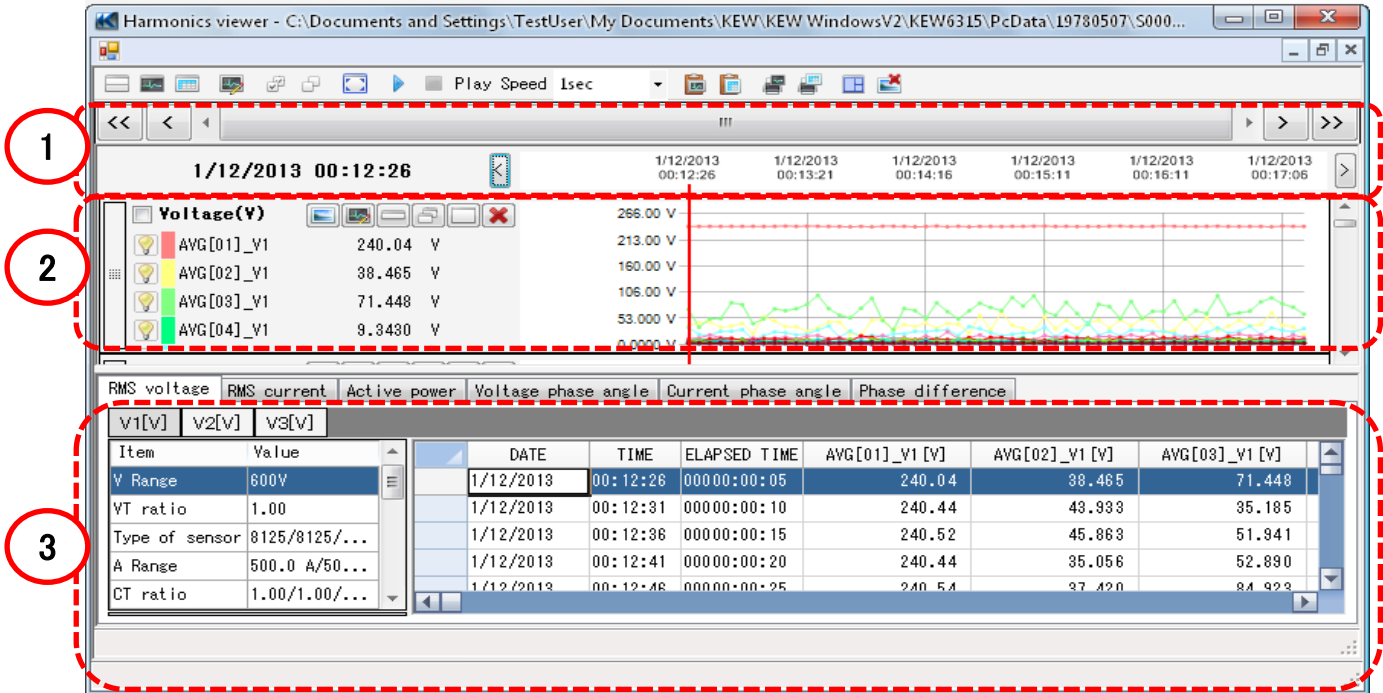
[1]AVG_V1	[1]AVG_V2	[1]AVG_V3
239.50 V	244.40 V	234.90 V
[1]MAX_V1	[1]MAX_V2	[1]MAX_V3
241.30 V	245.70 V	236.60 V
[1]MIN_V1	[1]MIN_V2	[1]MIN_V3
238.80 V	243.60 V	233.10 V

# Data Analysis

## Harmonics data Analysis

### STEP 1

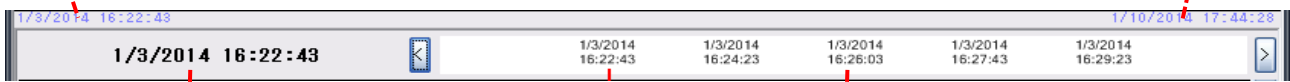
#### Displayed items



### 1 Data recorded time

Time when the oldest data recorded

Time when the latest data recorded



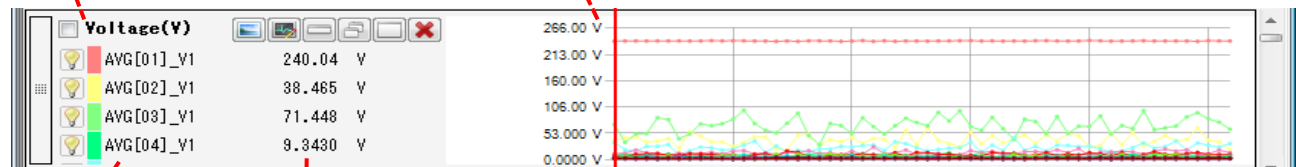
Time for the cursor location.

Time axis on the graph

### 2 Time Series Graph

Graph Name

Cursor



Parameter

Values where cursor is located.

# Data Analysis

## 3 Time Series List

List name

RMS voltage		RMS current		Active power		Voltage phase angle		Current phase angle		Phase difference	
V1[V]	V2[V]	V3[V]									
Item	Value										
V Range	600V										
VT ratio	1.00										
Type of sensor	8125/8125/...										
A Range	500.0 A/50...										
CT ratio	1.00/1.00/...										
	DATE	TIME	ELAPSED TIME	AVG[01]_V1 [V]	AVG[02]_V1 [V]	AVG[03]_V1 [V]					
	1/12/2013	00:12:26	00000:00:05	240.04	38.465	71.448					
	1/12/2013	00:12:31	00000:00:10	240.44	43.933	35.185					
	1/12/2013	00:12:36	00000:00:15	240.52	45.863	51.941					
	1/12/2013	00:12:41	00000:00:20	240.44	35.056	52.890					
	1/12/2013	00:12:46	00000:00:25	240.54	37.420	84.923					

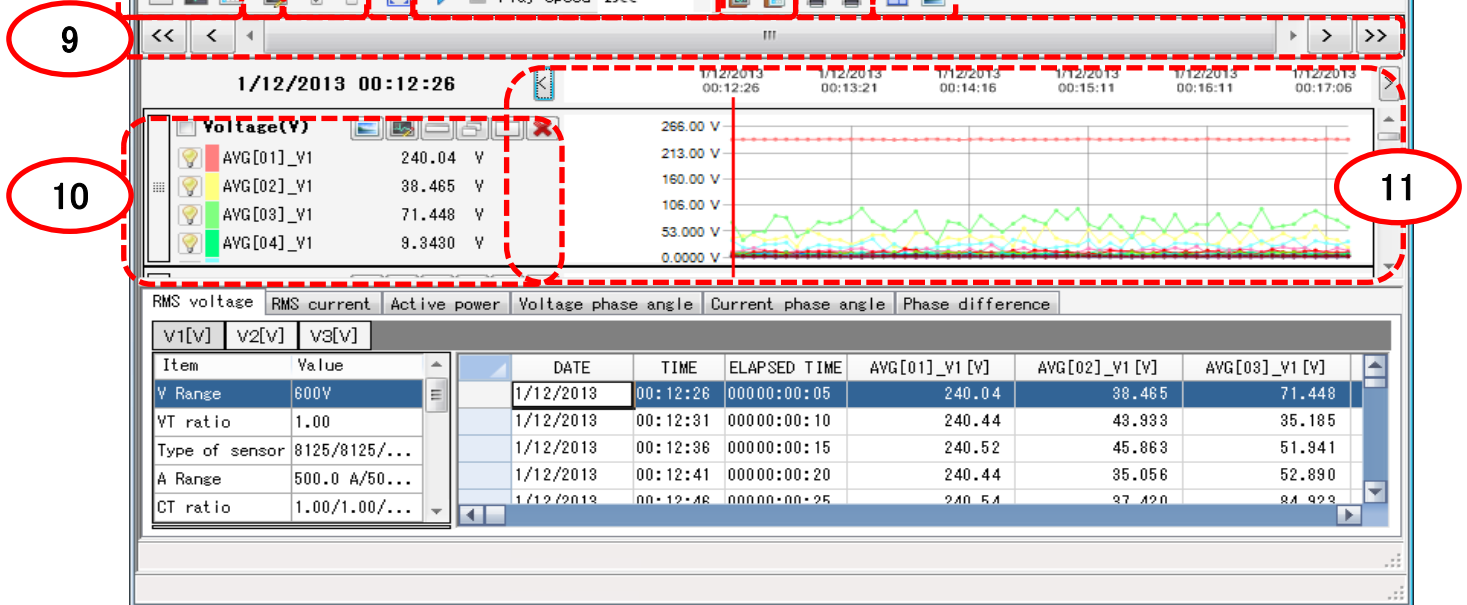
Measurement info

Time Series List

## STEP 2

### Functions

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8

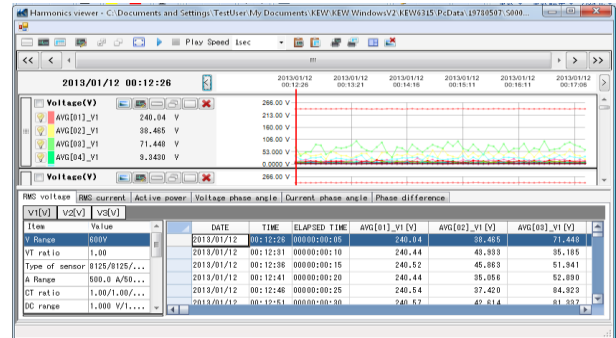


# Data Analysis

## 1 Changing the display layout.

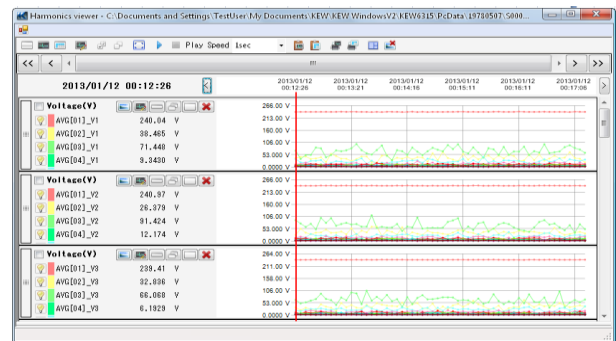
 To display graph and list on one screen at the same time:

Split the screen in two sections and display Time Series graph in the upper area and list data in the lower area.



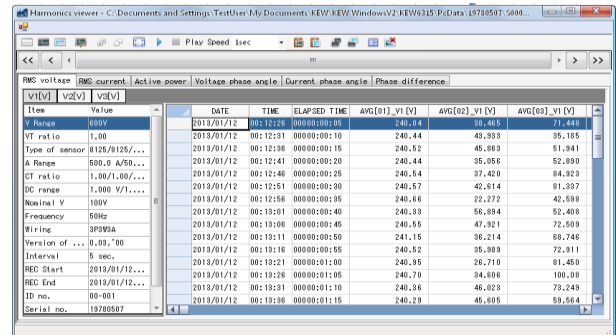
 To display graph only

Time Series graphs are arranged and displayed on one screen.



 To display list only


Show the list data on one screen.

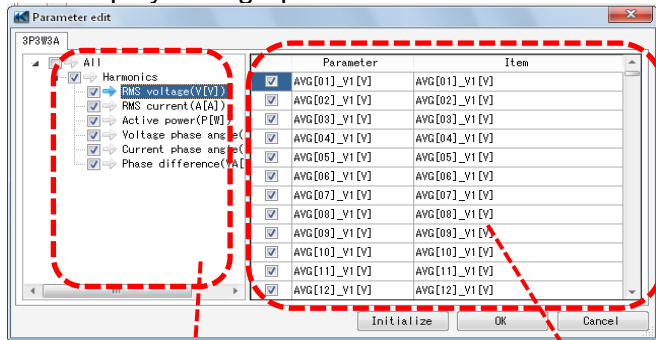


Item	Value	DATE	TIME	ELAPSED TIME	AVG[01]_V1 [V]	AVG[02]_V1 [V]	AVG[03]_V1 [V]
V Range	600V	2013/01/12	00:12:28	00:00:00:00:05	240.04	38.465	71.448
V1 ratio	1.00	2013/01/12	00:12:31	00:00:00:00:10	240.44	43.933	35.185
Type of sensor	B125/B125/...	2013/01/12	00:12:36	00:00:00:00:15	240.52	45.863	51.941
A Range	500.0 A/50...	2013/01/12	00:12:41	00:00:00:00:20	240.44	35.056	52.930
CT ratio	1.00/1.00/...	2013/01/12	00:12:46	00:00:00:00:25	240.54	37.420	84.923
DC range	1.000 V/1....	2013/01/12	00:12:51	00:00:00:00:30	240.57	42.614	81.297
Nominal V	100V	2013/01/12	00:12:56	00:00:00:00:35	240.68	22.272	42.598
Frequency	50Hz	2013/01/12	00:13:01	00:00:00:00:40	240.33	56.894	52.408
Wiring	3P3W3a	2013/01/12	00:13:06	00:00:00:00:45	240.55	47.921	72.508
Version of ...	0.03_700	2013/01/12	00:13:11	00:00:00:00:50	241.15	36.214	68.748
Interval	5 sec.	2013/01/12	00:13:16	00:00:00:00:55	240.52	35.989	72.911
REC Start	2013/01/12...	2013/01/12	00:13:21	00:00:00:01:00	240.95	26.710	81.450
REC End	2013/01/12...	2013/01/12	00:13:26	00:00:00:01:05	240.70	34.696	100.30
ID no.	00-001	2013/01/12	00:13:31	00:00:00:01:10	240.26	46.023	79.249
Serial no.	18788507	2013/01/12	00:13:36	00:00:00:01:15	240.29	45.605	59.564

# Data Analysis

## 2 Switching the displayed graphs

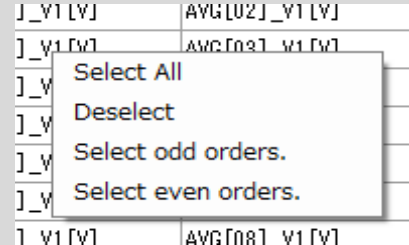
 **To display the other graphs**  
Select the measured data you want to display on a graph.




Check for the graphs to be displayed.

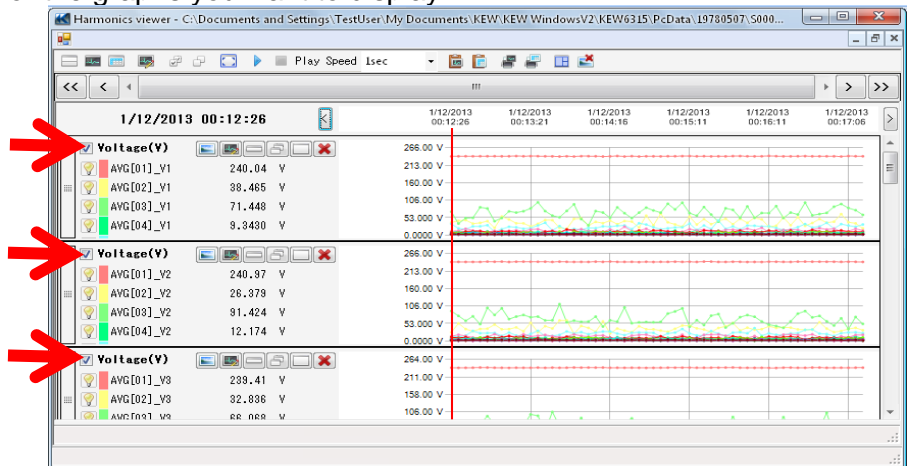
Check for the parameters to be displayed on a graph.


Right-click on the item list to select all items or deselect the selected items.

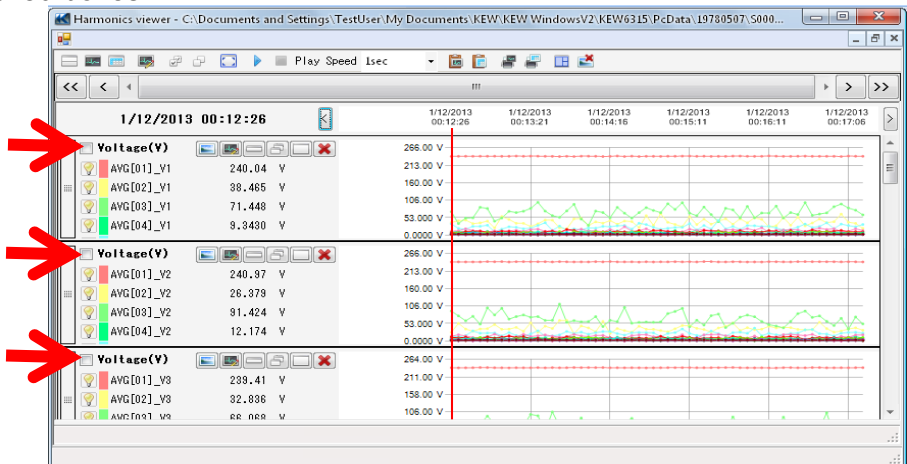


## 3 Select/ Un-select the graphs

 **To select all the graphs**  
Check all the boxes for the graphs you want to display.



 **To unselect all the graphs**  
Uncheck all the checked boxes.

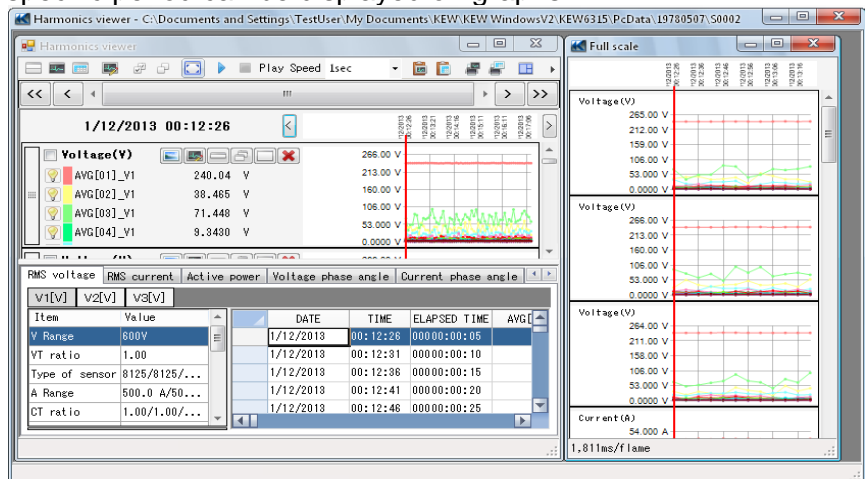


# Data Analysis

## 4 Displaying graph in full-scale

 To display the selected graphs in full-scale.

All data recorded in the specific period can be displayed on graphs.

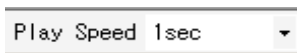


\*Depending on the size of the recorded data, it may take a long time to create full-scale data.

## 5 Enabling auto-scrolling.

 Start auto-scrolling.

 Stop auto-scrolling.



To change the auto-scrolling speed.

Cursor moves in the specified speed automatically.

## 7 Copying to clipboard

 To copy graph:

Copy all the displayed Time Series graphs to the clipboard as an image.

 To copy list:

Copy the selected list data to the clipboard with headers for each item as tab-delimited text data.

## 8 Printing

 To print graph:

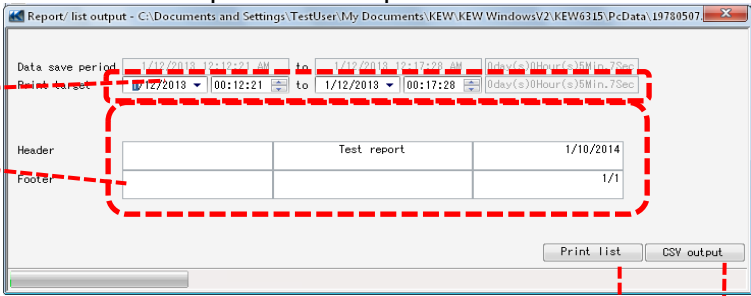
Print all the displayed Time Series graphs.



# Data Analysis

## To print list:

Print reports and lists, or save CSV data of the specified time period.




Time period to print/ save

Header/ Footer for List printing

Print the list.  
Save data in CSV format.

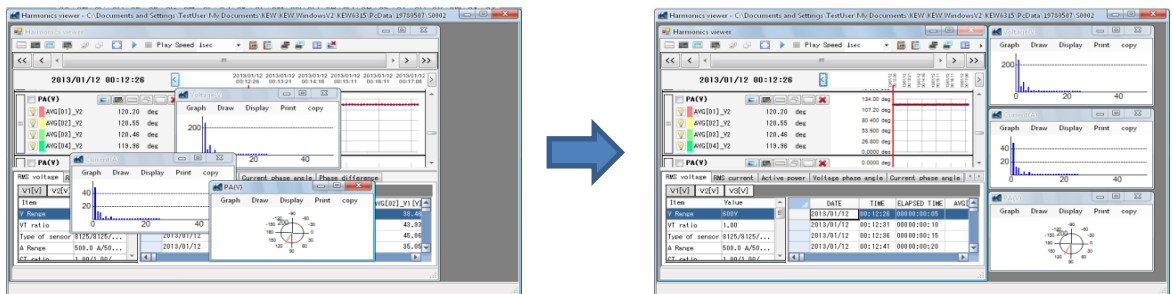
\* Only the orders which have been selected and displayed on graphs are subject to print and CSV output.

[  To display the other graphs(P.23) ]

## 9 Arranging sub-graphs

### To arrange the displayed sub-graphs:

Tidy up the displayed Time Series viewers and sub graphs.



### To close all the open sub graphs:

Close all the displayed sub graphs.

# Data Analysis

## 10 Scrolling the graph

Slide the cursor to the right and left.



Scroll half of the screen.

Scroll a quarter of the screen.

## 11 Changing the graph display format

Display sub graph.

Select the items to be displayed on a graph.

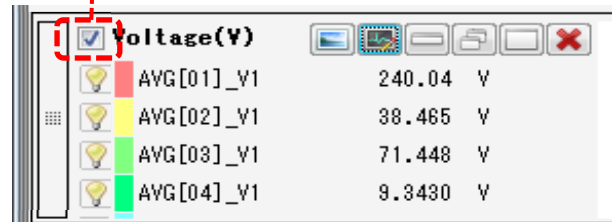
Minimize the graph.

Restore the changed graph size.

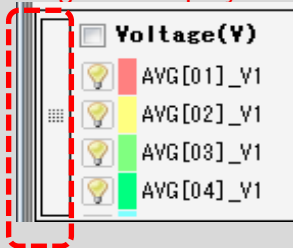
Maximize the graph.

Close graph.

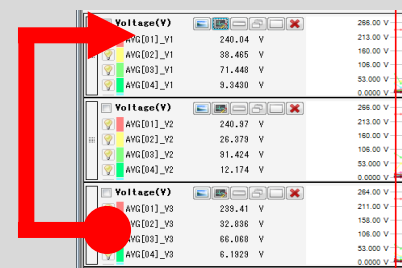
Applied to the selected graph.



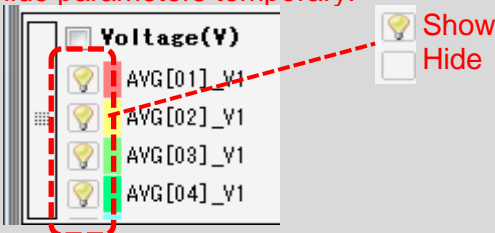
To change the display order:



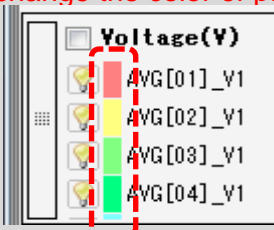
Drag the left side of the graph and drop it at the desired position to change the order.



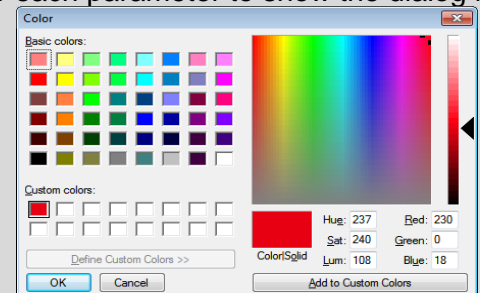
To hide parameters temporary.



To change the color of parameter temporarily:

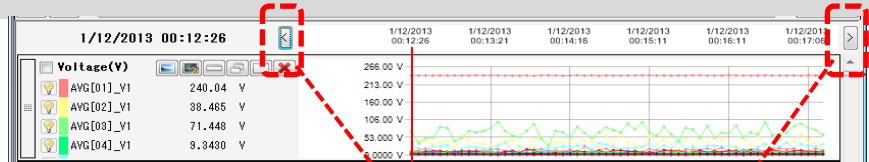


Click the colored boxes for each parameter to show the dialog box for color setting.



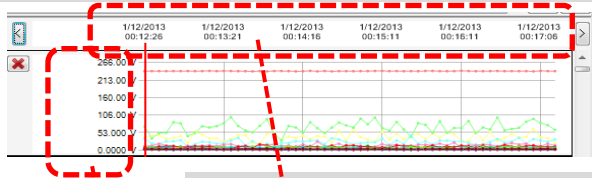
# Data Analysis

## 12 Moving the cursor

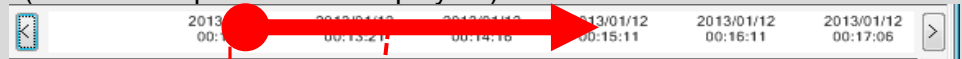


Move the cursor by one interval back and forth.

## 13 Changing the graph display area

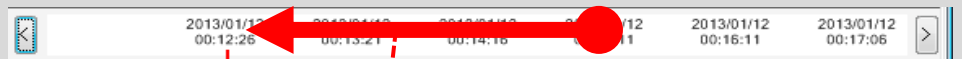


**Enlarge the time axis**  
(Shorten the period to be displayed.)



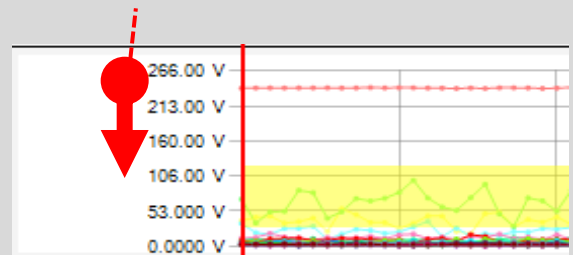
Click and drag the tick to right.

**Shorten the time axis**  
(Expand the period to be displayed.)



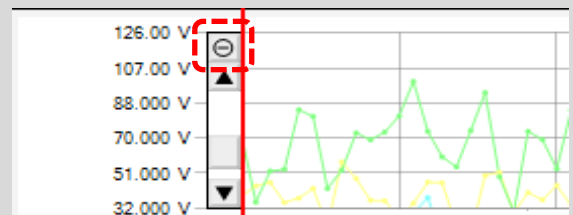
Click and drag the tick to left.

**Enlarge the measured value axis**  
Click and drag the tick to down or up.



\* The yellow area will be enlarged.

**Restore the enlarged axis to the original scale.**



# Data Analysis

## 14 Switching the measured values displayed on the list.

Tap on the tab at the top of the list.

		RMS voltage	RMS current	Active power	Voltage phase angle	Current phase angle
		V1[V]	V2[V]	V3[V]		
Item	Value	DATE	TIME	ELAPSED TIME		
V Range	600V	1/12/2013	00:12:26	00000:00:05		
VT ratio	1.00	1/12/2013	00:12:31	00000:00:10		
Type of sensor	8125/8125/...	1/12/2013	00:12:36	00000:00:15		
A Range	500.0 A/50...	1/12/2013	00:12:41	00000:00:20		
CT ratio	1.00/1.00/...	1/12/2013	00:12:46	00000:00:25		

## 15 Switching channels displayed on the list.

Tap on the tab at the top of the list.

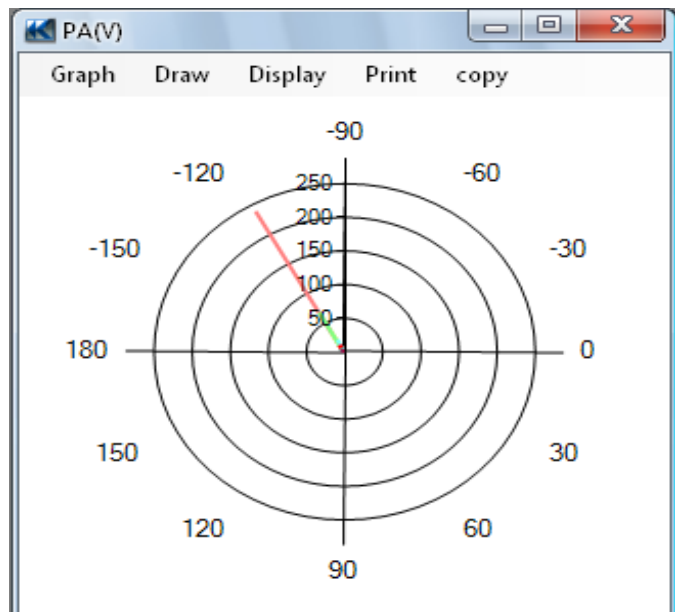
		RMS voltage	RMS current	Active power	Voltage phase angle	Current phase angle
		V1[V]	V2[V]	V3[V]		
Item	Value	DATE	TIME	ELAPSED TIME		
V Range	600V	1/12/2013	00:12:26	00000:00:05		
VT ratio	1.00	1/12/2013	00:12:31	00000:00:10		
Type of sensor	8125/8125/...	1/12/2013	00:12:36	00000:00:15		
A Range	500.0 A/50...	1/12/2013	00:12:41	00000:00:20		
CT ratio	1.00/1.00/...	1/12/2013	00:12:46	00000:00:25		

## STEP 3

### Sub graph display

#### 1 Vector Display

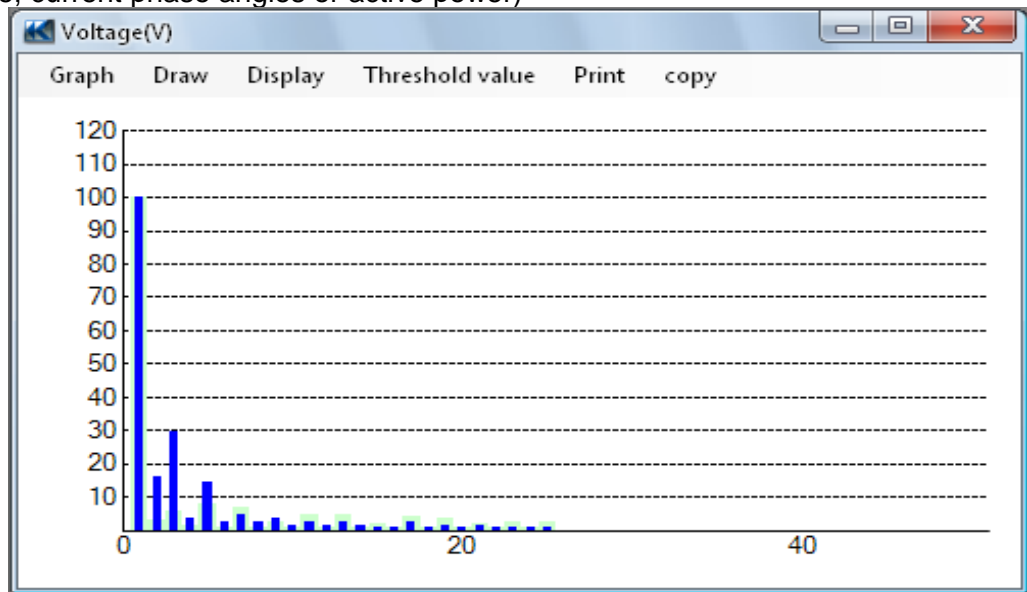
Display the rms values and phase angles by vector for the cursor location.  
(only the voltage or current phase angles)



# Data Analysis

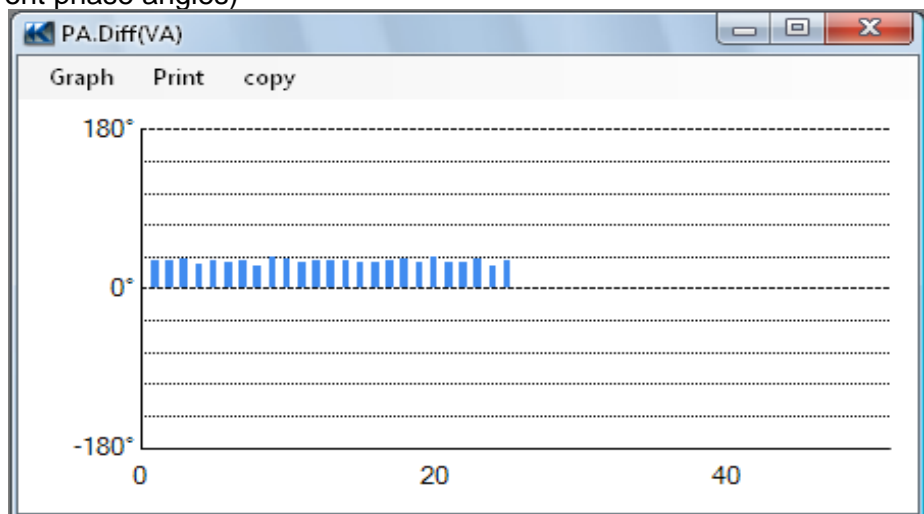
## 2 Harmonics graph

Display the rms values of each order for the cursor location on the bar graph.  
(only the voltage, current phase angles or active power)



## 3 Phase difference graph

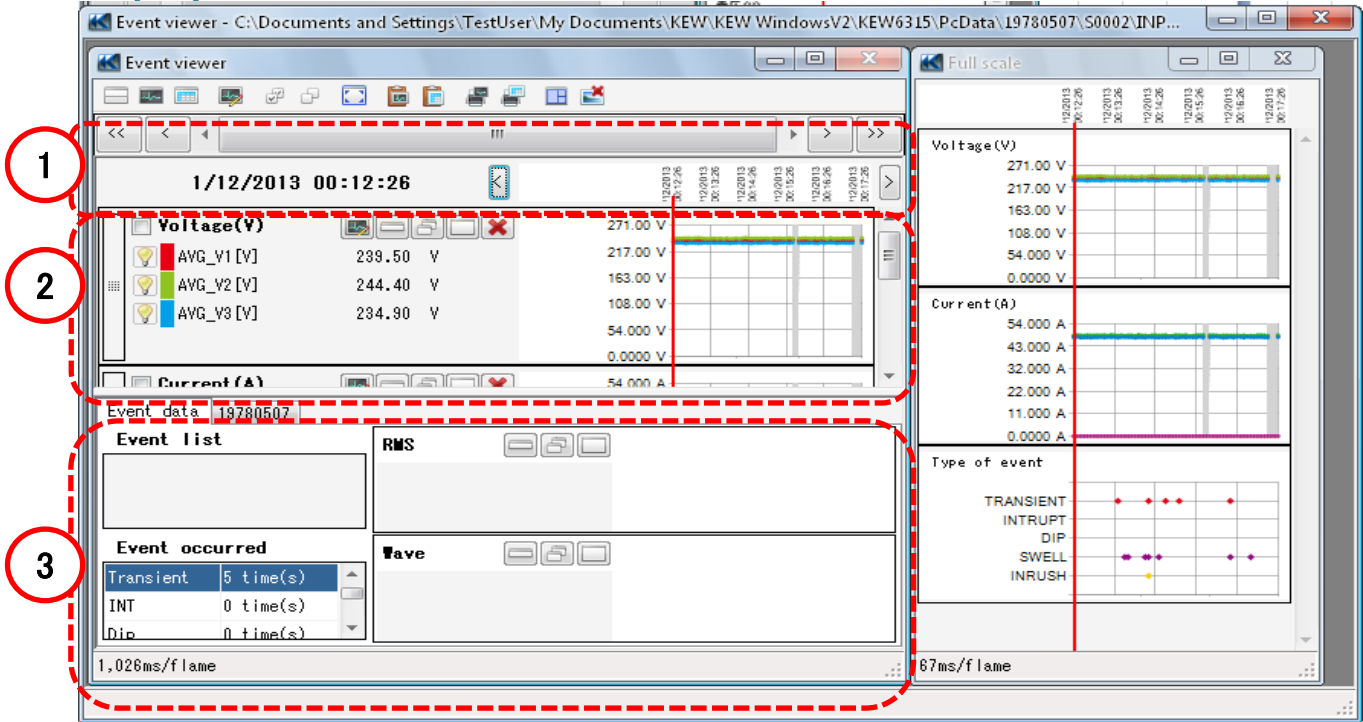
Display the phase differences of each order for the cursor location on the bar graph.  
(only the voltage or current phase angles)



## Power Quality Event data Analysis

### STEP 1

#### Displayed items



### 1 Data recorded time

Time when the oldest data recorded

Time when the latest data recorded



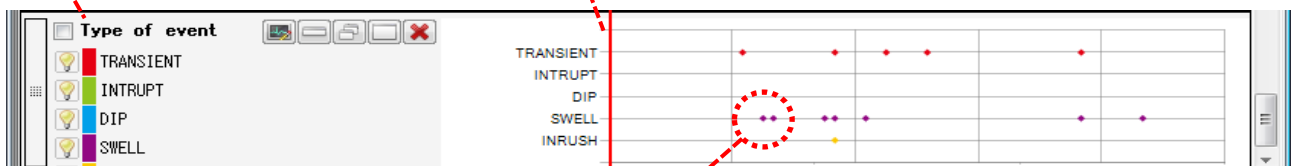
Time for the cursor location.

Time axis on the graph

### 2 Time Series Graph

Graph Name

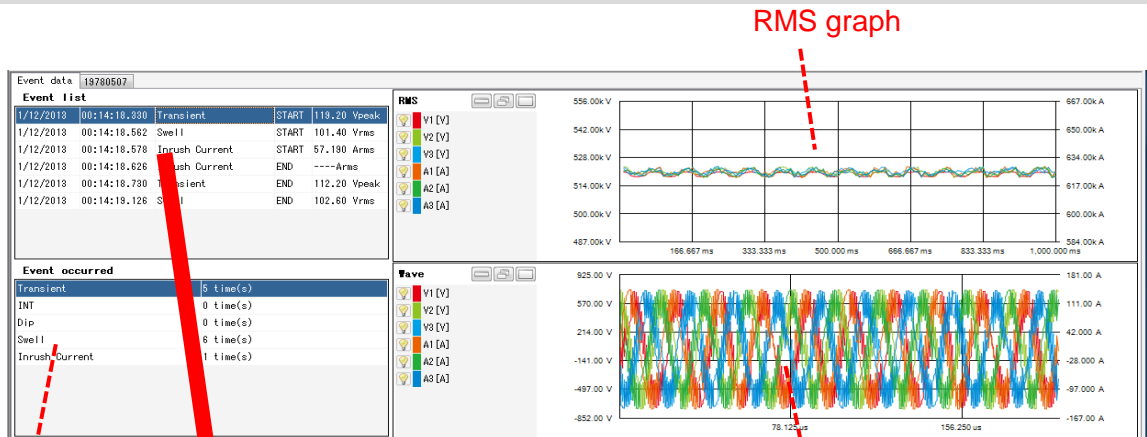
Cursor



Parameter

Event occurrence

## 3 Detailed Event data



Total number of occurrence of each event

Waveform graph

### List of Power quality event

Event data 19780507				
Event List				
1/12/2013	00:14:18.330	Transient	START	119.20 Vpeak
1/12/2013	00:14:18.562	Swell	START	101.40 Vrms
1/12/2013	00:14:18.578	Inrush Current	START	57.190 Arms
1/12/2013	00:14:18.626	Inrush Current	END	----Arms
1/12/2013	00:14:18.730	Transient	END	112.20 Vpeak
1/12/2013	00:14:19.126	Swell	END	102.60 Vrms

Occurred date

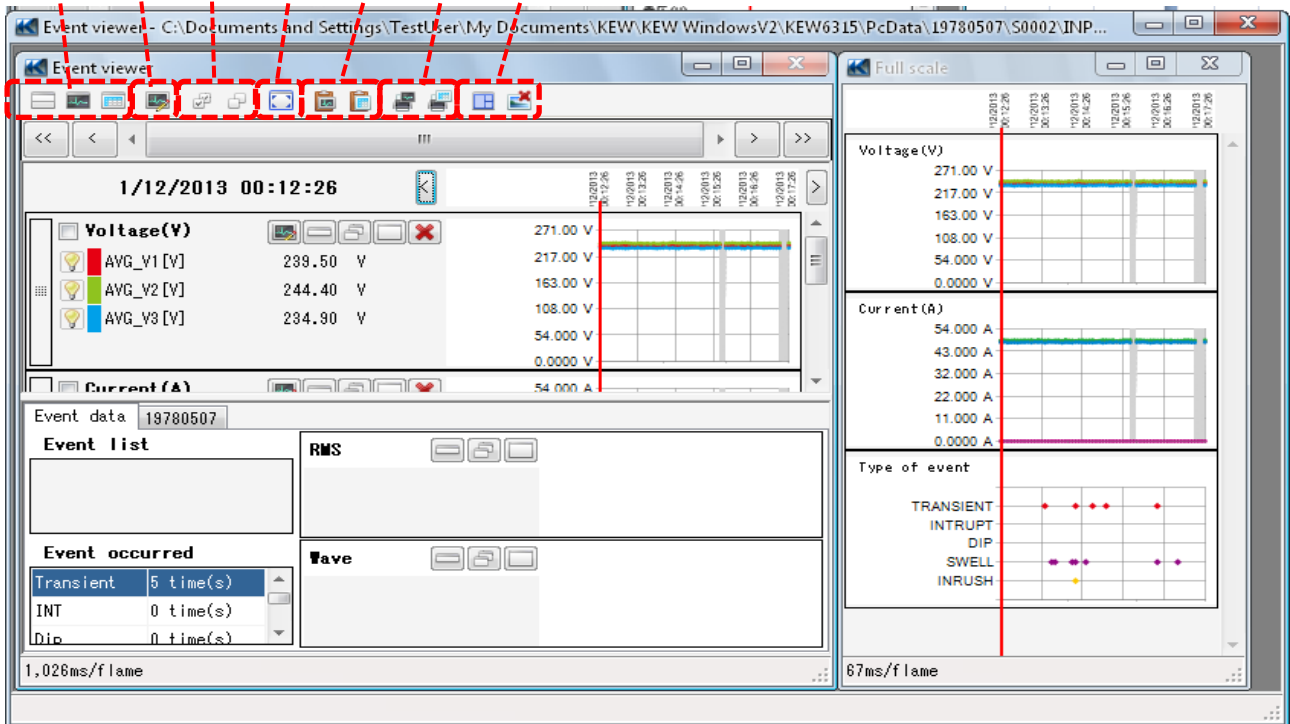
Occurred time

Occurred event

Value measured at the occurrence  
Start/ End

## STEP 2

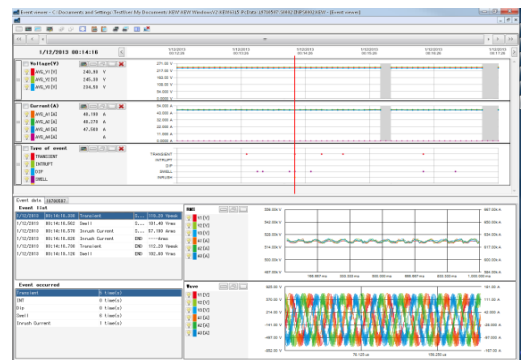
### Functions



#### 1 Changing the display layout.

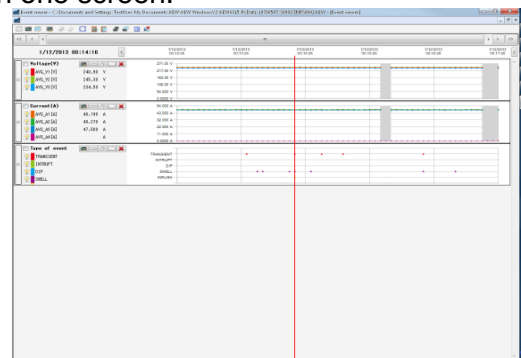
 To display graph and list on one screen at the same time:

Split the screen in two sections and display time series graph in the upper area and detailed event data in the lower area.




 To display graph only

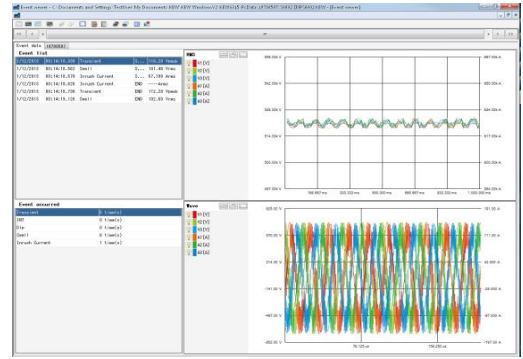
Time Series graphs are arranged and displayed on one screen.






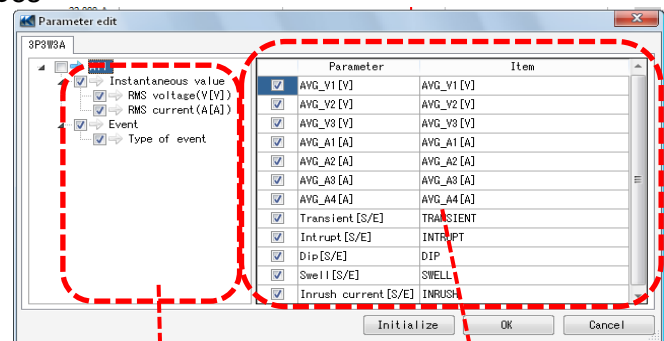
# Data Analysis

-  To display detailed event data only  
Show the event data on one screen.



## 2 Switching the displayed graphs


-  To display the other graphs  
Select the measured data and event types you want to display on a graph.

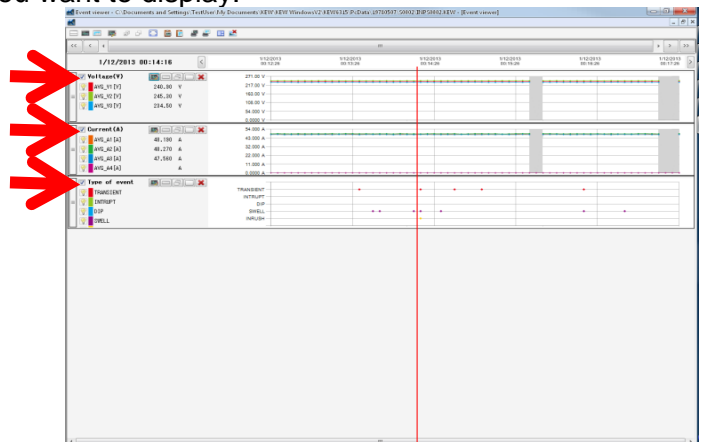


Check for the graphs to be displayed.


Check for the parameters to be displayed on a graph.

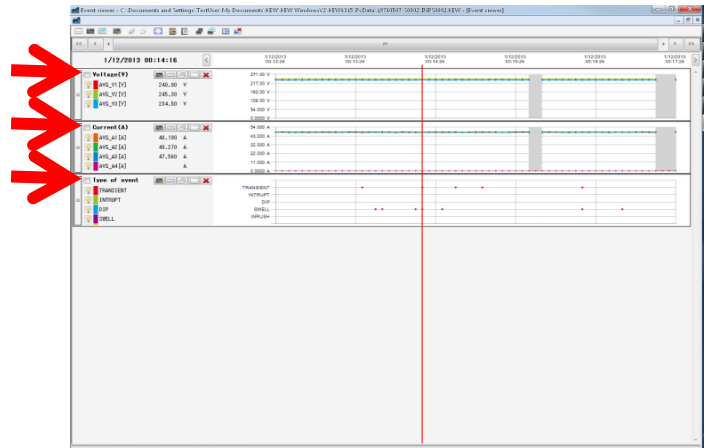
## 3 Select/ Un-select the graphs

-  To select all the graphs  
Check all the boxes for the graphs you want to display.




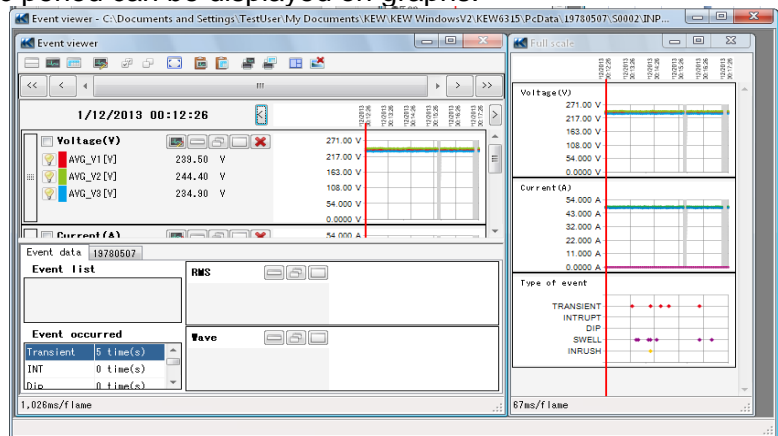
# Data Analysis

-  **To unselect all the graphs**  
Uncheck all the checked boxes.





## 4 Displaying graph in full-scale


-  **To display the selected graphs in full-scale.**  
All data recorded in the specific period can be displayed on graphs.



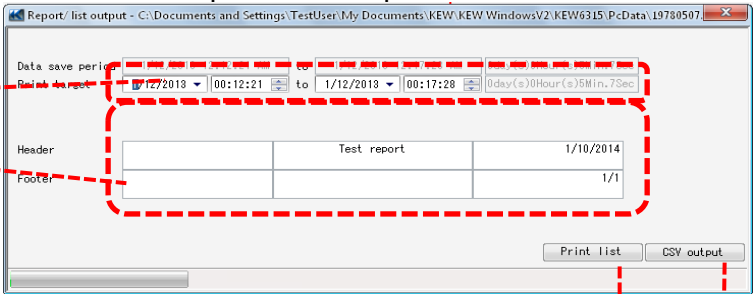
## 5 Copying to clipboard

-  **To copy graphs:**  
Copy all the displayed Time series graphs to the clipboard as an image.
-  **To copy lists:**  
Copy the selected list data to the clipboard with headers for each item as tab-delimited text data.

## 6 Printing

 **To print graph:**  
Print all the displayed Time Series graphs.

 **To print list:**  
Print reports and lists, or save CSV data of the specified time period.



Time period to print/ save

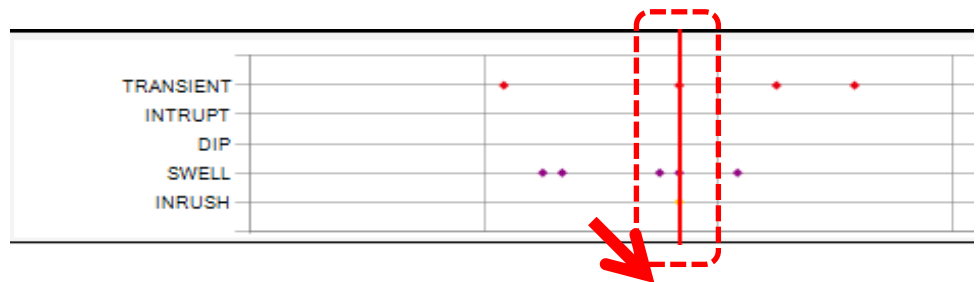
Header/ Footer for List printing

Print the list.  
Save data in CSV format.

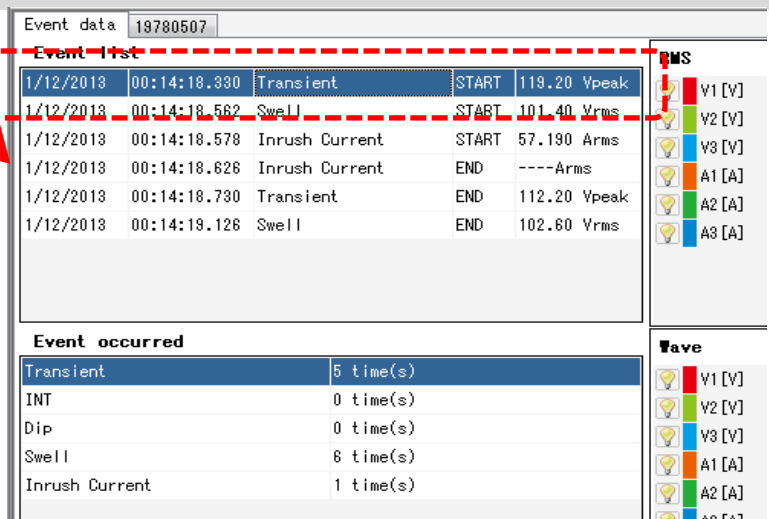
## STEP 3

### Show the list of Power quality event

**1** Locate the cursor on the event occurred point.



**2** Select the event list.



Event data 19780507				
Event list				
1/12/2013	00:14:18.330	Transient	START	119.20 Vpeak
1/12/2013	00:14:18.582	Swell	START	101.40 Vrms
1/12/2013	00:14:18.578	Inrush Current	START	57.190 Arms
1/12/2013	00:14:18.626	Inrush Current	END	----Arms
1/12/2013	00:14:18.730	Transient	END	112.20 Vpeak
1/12/2013	00:14:19.126	Swell	END	102.60 Vrms

Event occurred	
Transient	5 time(s)
INT	0 time(s)
Dip	0 time(s)
Swell	6 time(s)
Inrush Current	1 time(s)

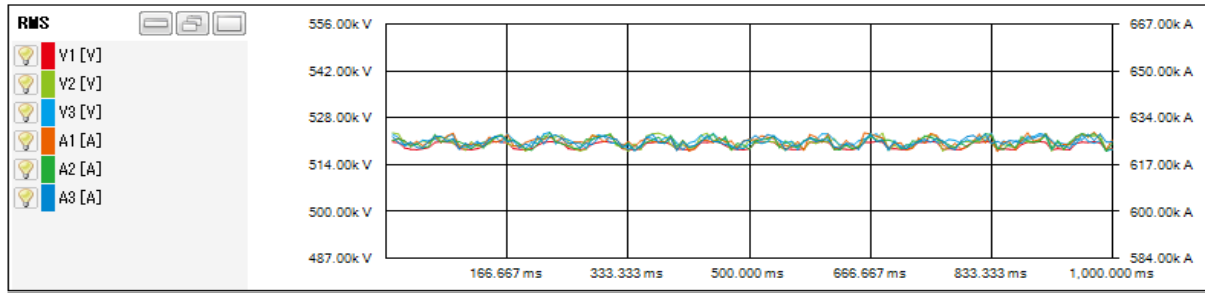
  

PMS	
V1 [V]	⚡
V2 [V]	⚡
V3 [V]	⚡
A1 [A]	⚡
A2 [A]	⚡
A3 [A]	⚡

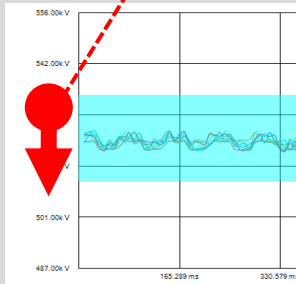
Wave	
V1 [V]	⚡
V2 [V]	⚡
V3 [V]	⚡
A1 [A]	⚡
A2 [A]	⚡
A3 [A]	⚡

## 3 RMS variation graph

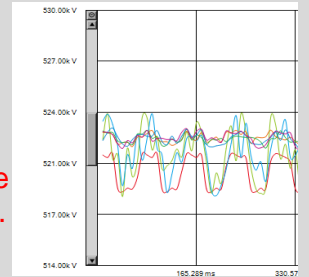


### Enlarge the measured value axis

Click and drag the tick to down or up.

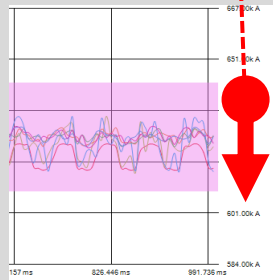


Voltage variations will be enlarged and displayed.

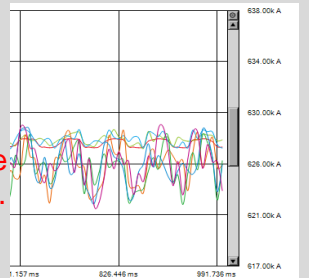


\* The blue area will be enlarged.

Click and drag the tick to down or up.

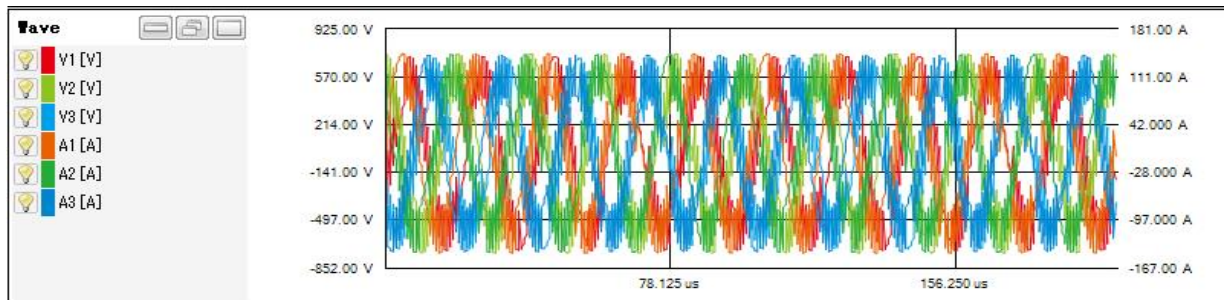


Current variations will be enlarged and displayed.



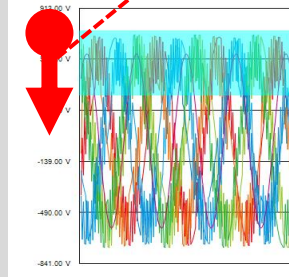
\* The pink area will be enlarged.

## 4 Waveform graph

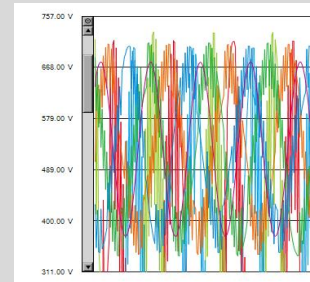


### Enlarge the measured value axis

Click and drag the tick to down or up.

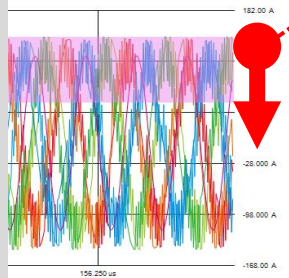


Voltage waveforms will be enlarged and displayed.

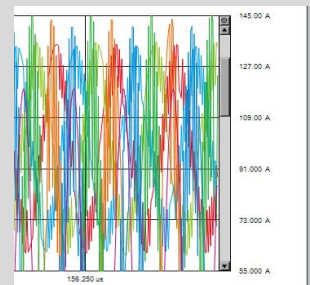


\* The blue area will be enlarged.

Click and drag the tick to down or up.



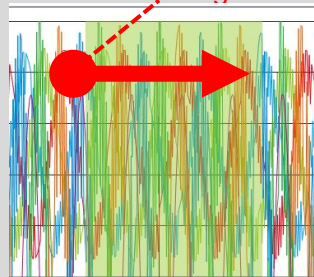
Current waveforms will be enlarged and displayed.



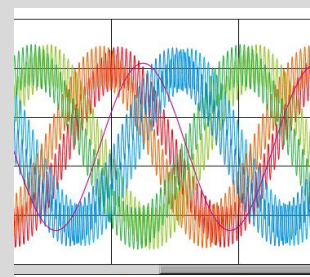
\* The pink area will be enlarged.

### Enlarge the time axis

Click and drag the tick to right or left.



Time axis will be enlarged and displayed.



\* The green area will be enlarged.

# Data Analysis

## Analysis complying with EN50160

### <Required settings for analysis according to EN50160>

Setting	Setting value	Mandatory
1. Wiring	3P3W3A(+1A), or 3P4W(+1A)	
2. Recording item	Power+Harmonics+Event	<input type="radio"/>
3. Recording method	Manual, or Continuous	<input type="radio"/>
4. THD calculation	THD-F	
5. Hysteresis	2%	
6. Swell	110%	
7. Dip	90%	
8. Int	1%	

\* Setting values for 1. and 4. through 8. should be the same as specified above. Otherwise, a warning message "Not complying with EN50160." is displayed.

### <Recording interval and test items that can be output>

Test item	10 sec or less	15 sec or more
Frequency	<input type="radio"/>	
Voltage variation	<input type="radio"/>	
Flicker	<input type="radio"/>	
Voltage unbalance	<input type="radio"/>	
Harmonics	<input type="radio"/>	
Swell	<input type="radio"/>	<input type="radio"/>
Dip	<input type="radio"/>	<input type="radio"/>
Int	<input type="radio"/>	<input type="radio"/>

## STEP 1

### Displayed items

**EN50160 Report -Fail-**

2014/07/31 13:48:21 Create

Measuring instrument: KEW6315 Ver.9.99 Serial.No.demodemo  
 Testing duration: 2014/01/20 10:00:00 - 2014/01/27 10:00:00  
 (Event): ( 2014/01/20 10:00:00 - 2014/01/27 11:00:00 )  
 Test data file(s): INPS2083.KEW/INHS2083.KEW/EVTS2083.KEW

Wiring system: 1P2Wx3      Hysteresis: 5%  
 Nominal Frequency: 50Hz      Swell: 100% (100.0V)  
 Nominal V: 100V      Dip: 90% (90.0V)

**Frequency test1**

2014/01/20 10:00:00 to 2014/01/27 10:00:00  
 7day(s)

**Requirements**  
 In 95% of the period, frequency should be between 49.50Hz and 50.50Hz.

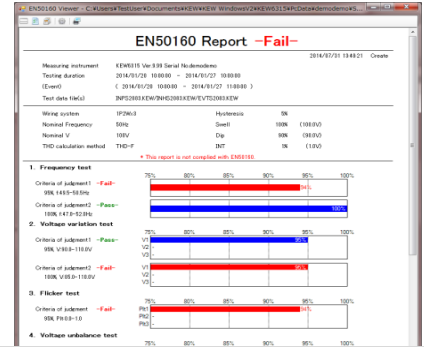
Test item(s)	Required	Result
Average(Hz)	50.00	50.05
Min(Hz)	>=49.50	49.55 ✓
Max(Hz)	<=50.50	51.41 ✗
GOOD Period (%)	>=95	94 ✗
Total number of samples	-	60480
Number of GOOD	-	57361

**Fail**

# Data Analysis

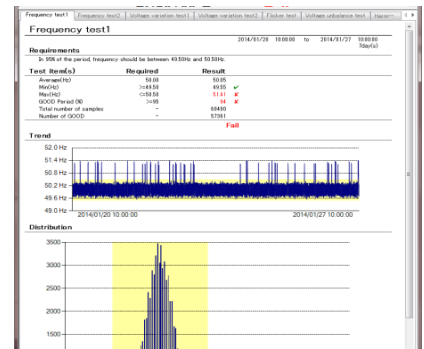
## 1 List display

A list of all results are displayed.



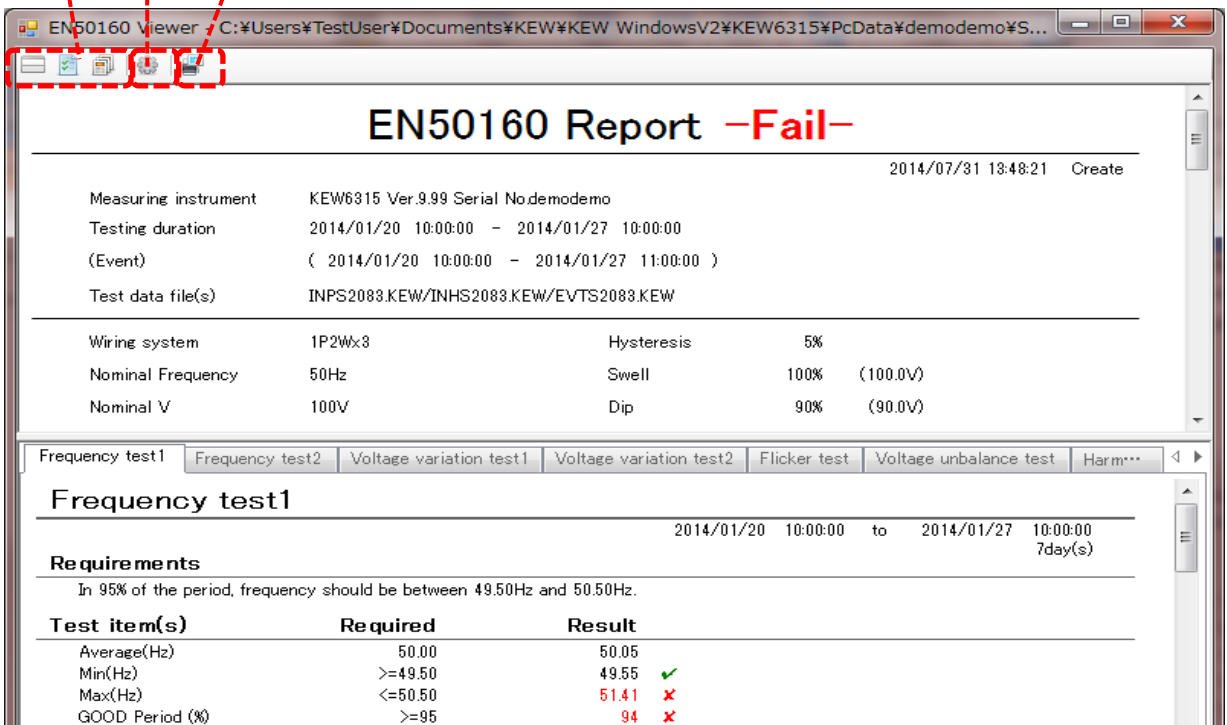
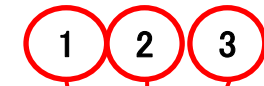
## 2 Details display

The details of each result can be checked.



## STEP 2

### Functions

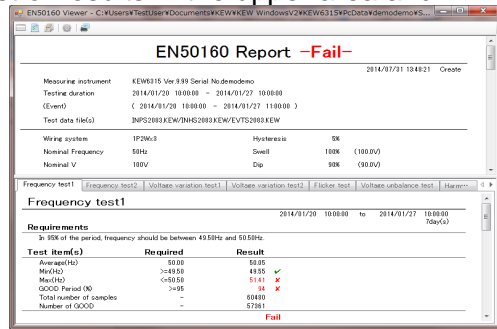


# Data Analysis

# 1 Change the display layout.

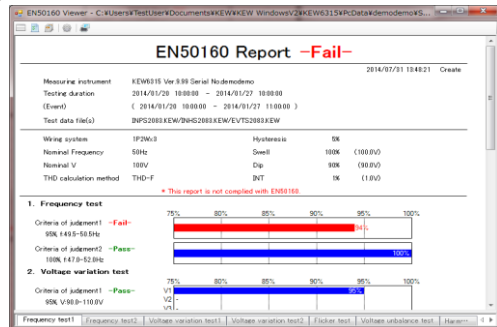
To display a list of results and the details in one screen.

Split the screen in two sections and display a list of results in the upper area and the details in the lower area.



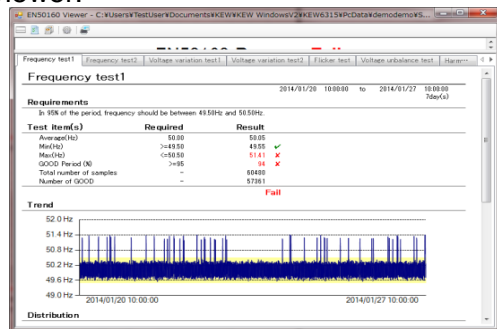
To display list only.

A list of result is displayed over the entire viewer.



To display the detailed data only.

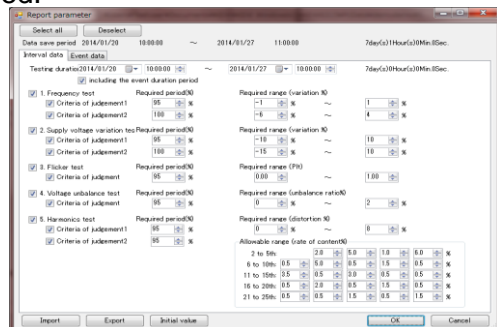
The detailed data is displayed over the entire viewer.



# 2 Switch the report parameters

To open the Parameter window

Setting window for report parameters is displayed.  
(Step 2 About each parameter ...P.41)



# Data Analysis

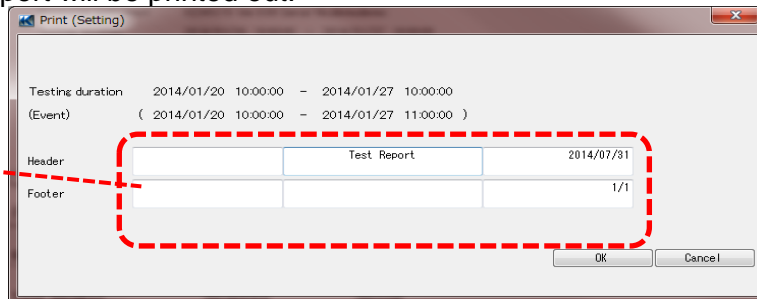


### 3 Print

 To print report

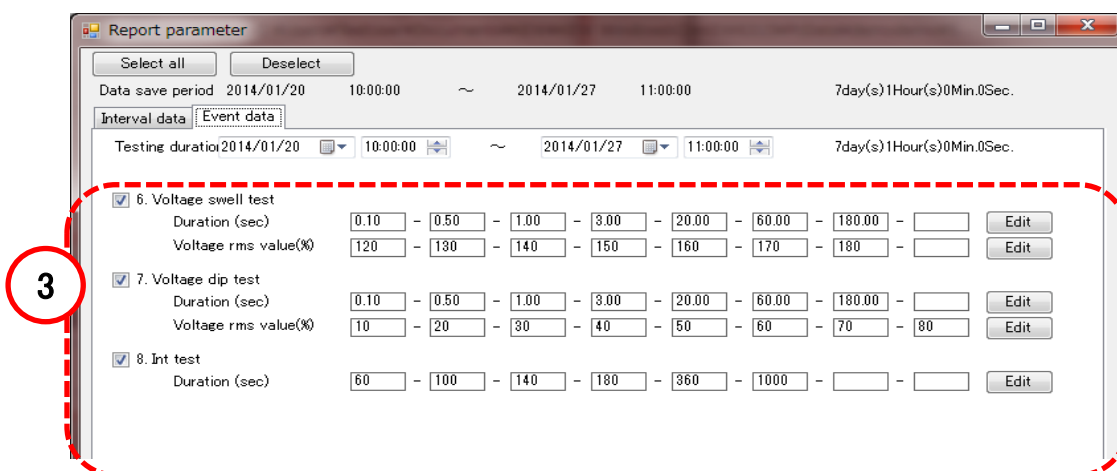
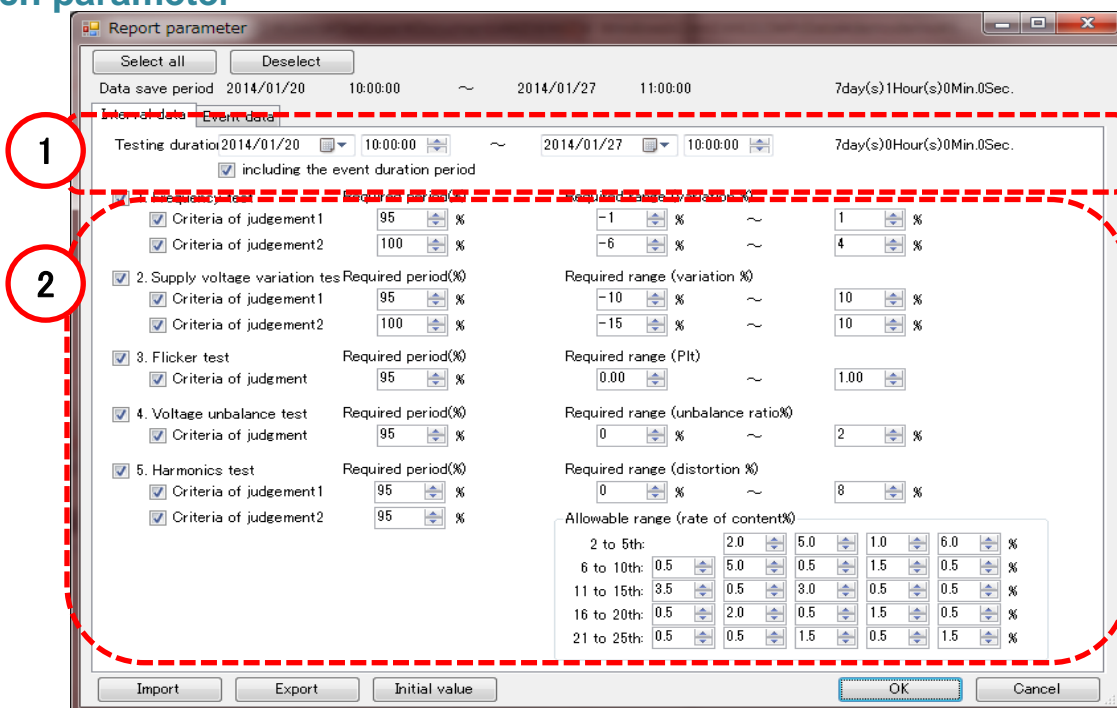
The displayed EN50160 test report will be printed out.

Header/ Footer for Report



## STEP 2

### About each parameter



## Data Analysis

# 1 Specify the test duration period

The period of test duration can be changed.

Testing duration: 2014/05/23 13:20:17 ~ 2014/05/29 8:20:13 5day(s)18Hour(s)59Min56Sec.  
 including the event duration period

\* During the duration period of any of swell/ dip/ int events, reliability of the other event duration” and exclude the values measured during such event duration to obtain reliable statistical results.

# 2 Select the test item, period and range

Select desired test items and change the test period or range.

1. Frequency test  
 Criteria of judgement: 1 Required period(%) 95 %  
Required range (variation %) -1 % ~ 1 %

Specify the desired requesting period.  
Uncheck the box to exclude the item for test.

Specify the desired range.

For harmonics, only the upper limits can be specified.

Allowable range (rate of content%)

2 to 5th:	2.0	5.0	1.0	6.0	%	
6 to 10th:	0.5	5.0	0.5	1.5	0.5	%
11 to 15th:	3.5	0.5	3.0	0.5	0.5	%
16 to 20th:	0.5	2.0	0.5	1.5	0.5	%
21 to 25th:	0.5	0.5	1.5	0.5	1.5	%

# 3 Adjust ranges to classify the number of events

Durations of events and ranges of rms values can be adjusted.

6. Voltage swell test  
Duration (sec) 0.10 - 0.50 - 1.00 - 3.00 - 20.00 - 60.00 - 180.00 - Edit  
Voltage rms value(%) 120 - 130 - 140 - 150 - 160 - 170 - 180 - Edit

List of test ...

0.10	Add
0.50	Edit
1.00	Delete
3.00	
20.00	
60.00	
180.00	

Cancel  
Close

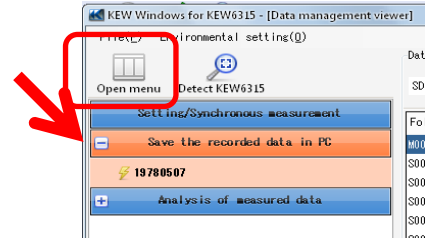
# Data save to PC

## Data import from SD card to PC

### STEP 1

#### Open the Menu

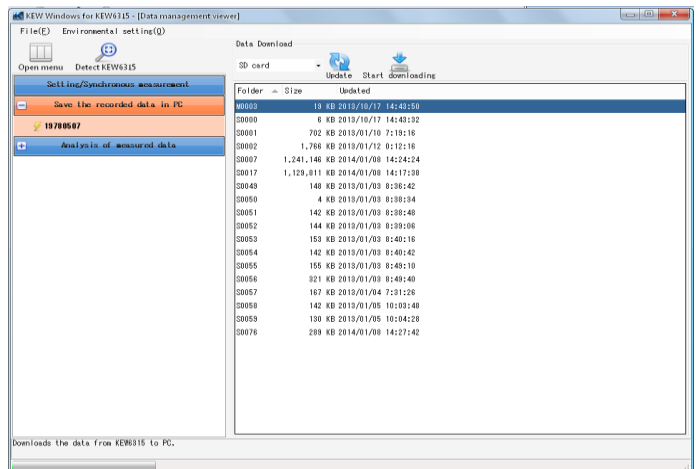
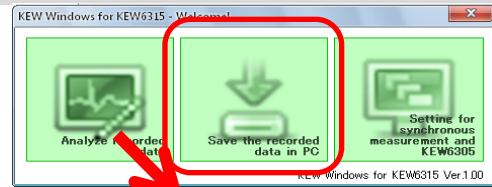
- 1 Click the [Open menu] icon on the "Data management viewer".



### STEP 2

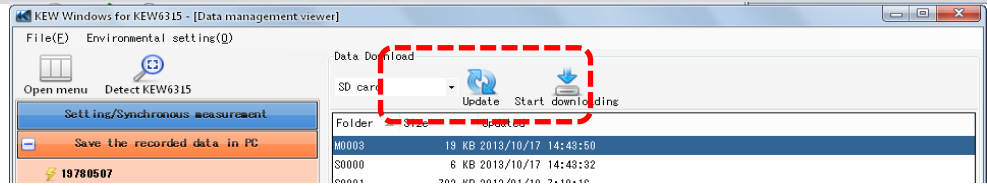
#### Show the list of data stored in SD card.

- 1 Click the [Save the recorded data in PC] icon.



# Data save to PC

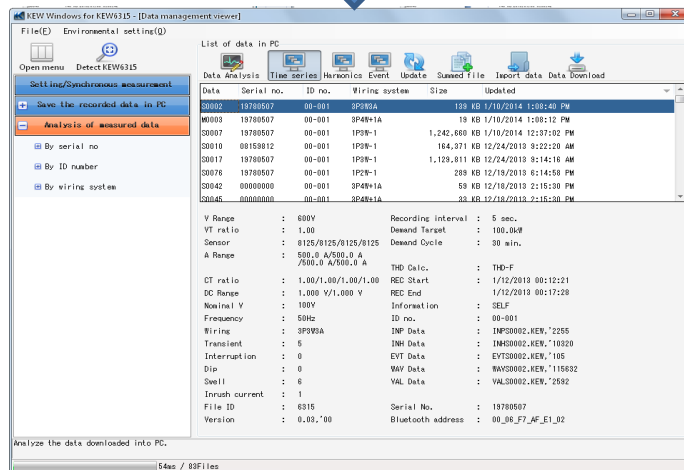
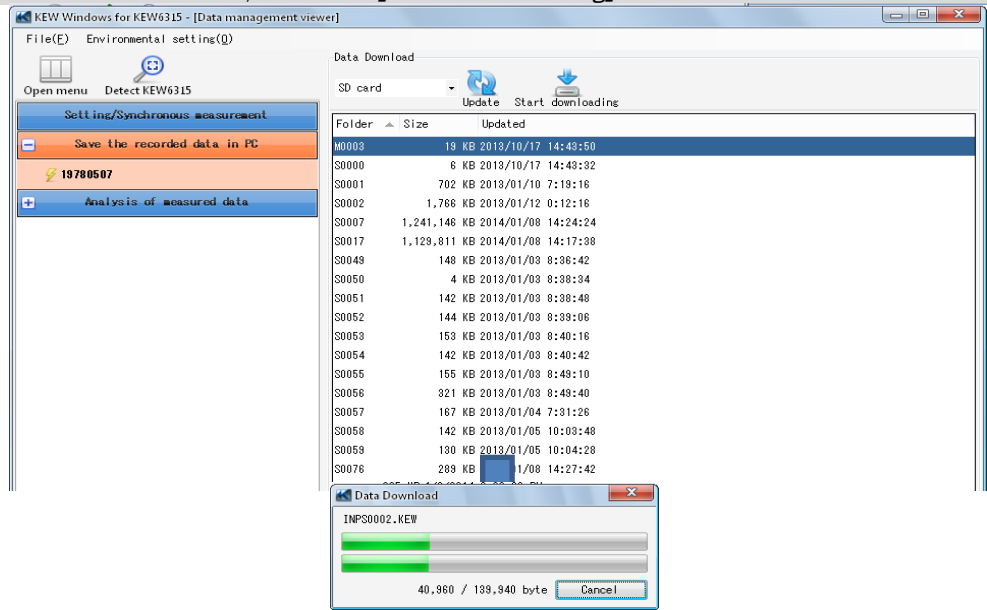
2 Click and select "SD card".



## STEP 3

Save the recorded data to PC.

1 Select the data you want to save to PC, and click [Start downloading].



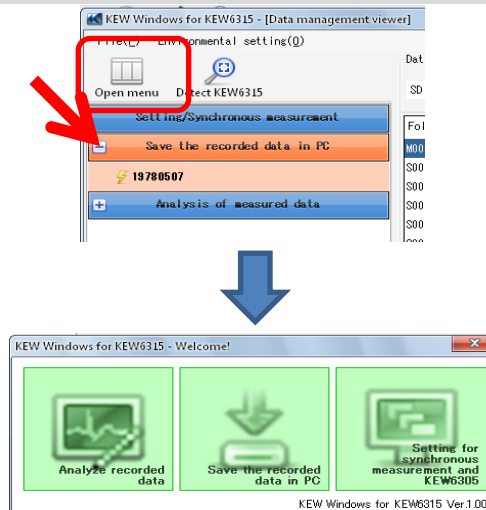
# Data save to PC

## Data import from KEW6315 internal memory to PC

### STEP 1

#### Open the Menu

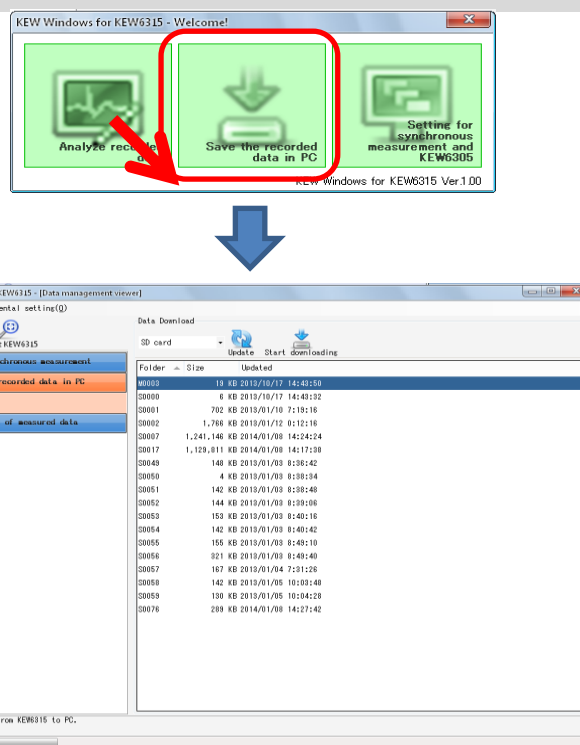
- 1 Click the *[Open menu]* icon on the "Data management viewer".



### STEP 2

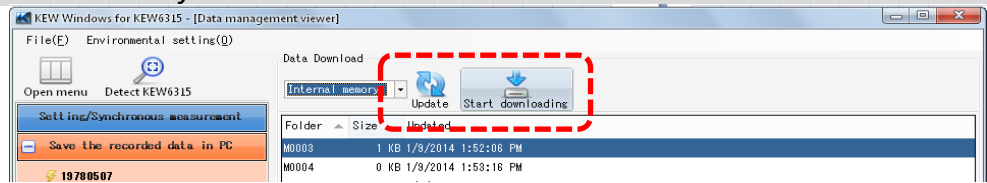
#### Show the list of data stored in the internal memory.

- 1 Click the *[Save the recorded data in PC]* icon.



# Data save to PC

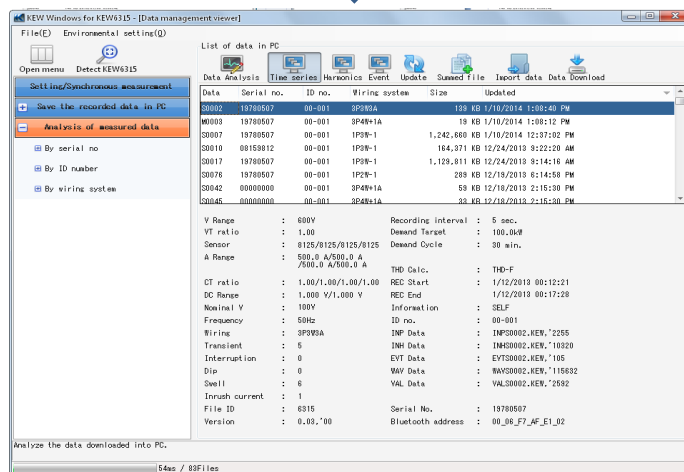
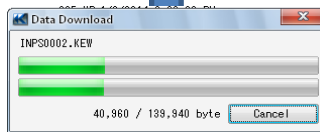
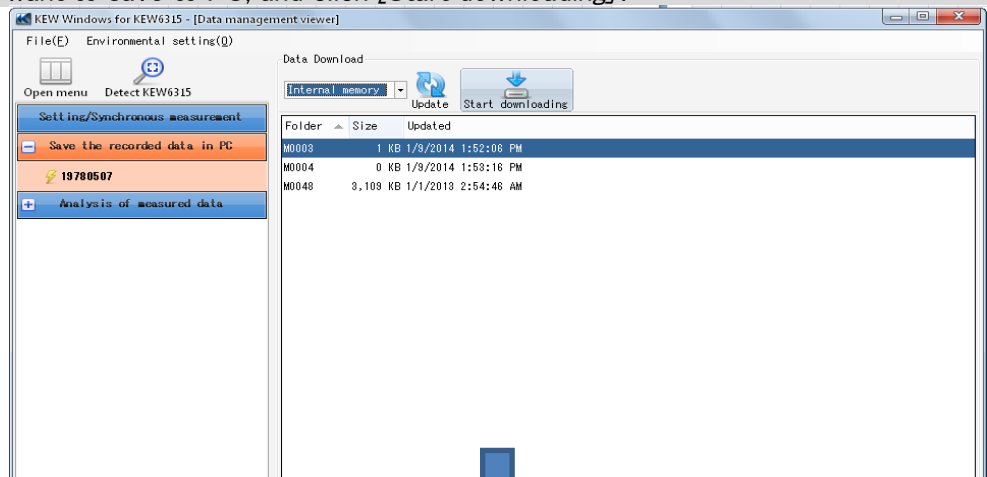
2 Click and select "internal memory".



## STEP 3

Save the recorded data to PC.

1 Select the data you want to save to PC, and click [Start downloading].



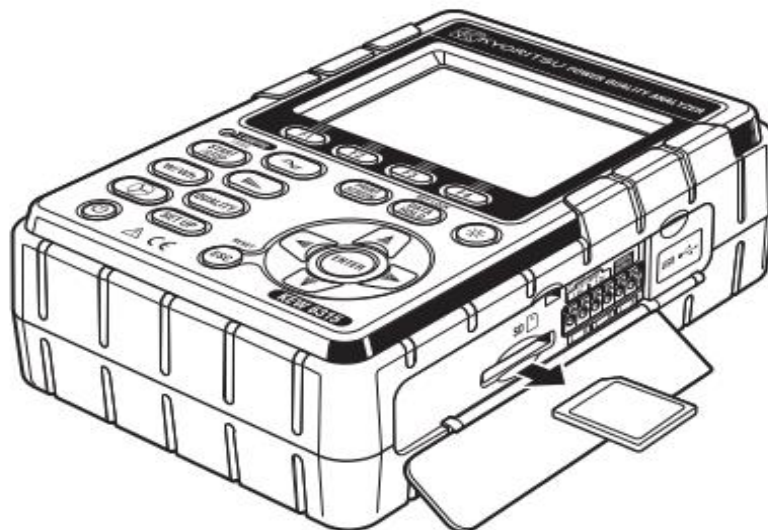
# Data save to PC

## Data import by using Card reader

### STEP 1

#### Extract the SD card from KEW6315.

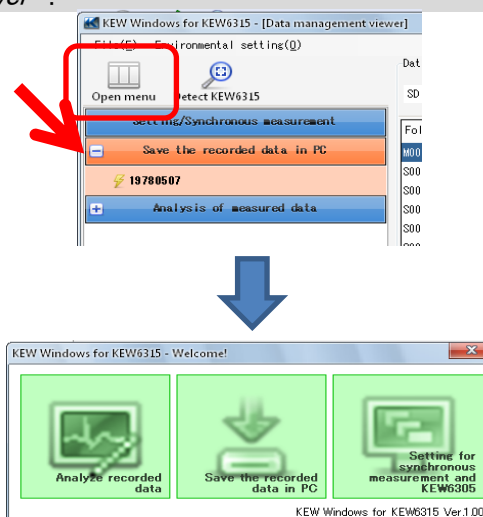
- 1 Extract the SD card from KEW6315.



### STEP 2

#### Open the Menu

- 1 Click the [Open menu] icon on the "Data management viewer".

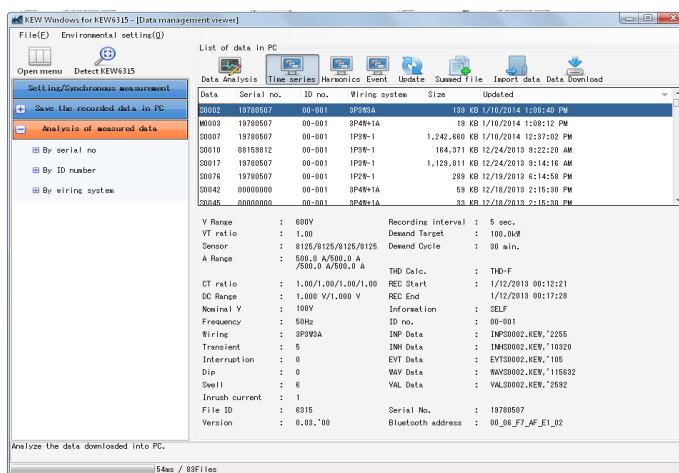
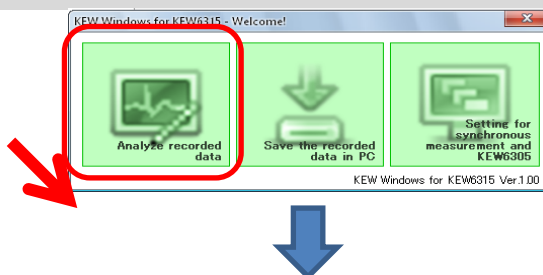


# Data save to PC

## STEP 3

### Show the list of data stored in PC.

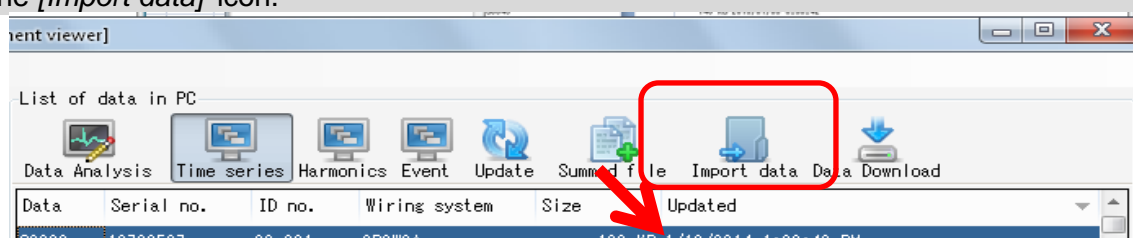
1 Click the [Analyze recorded data] icon.



## STEP 4

### Import the recorded data from the SD card into PC.

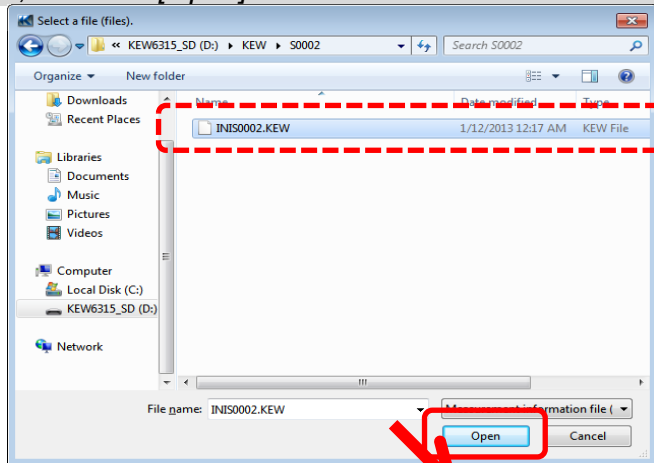
1 Click the [Import data] icon.



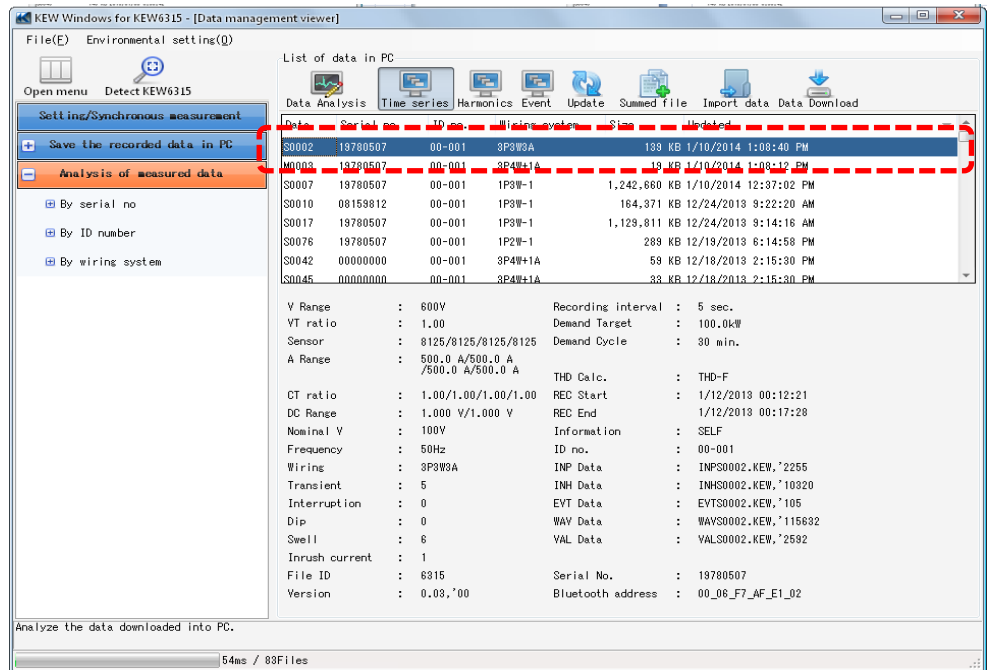


# Data save to PC

2 Select any Measurement info file, and click [Open].



e.g.) KEW6315\_SD(D:)\KEW\S0002\INIS0002.KEW

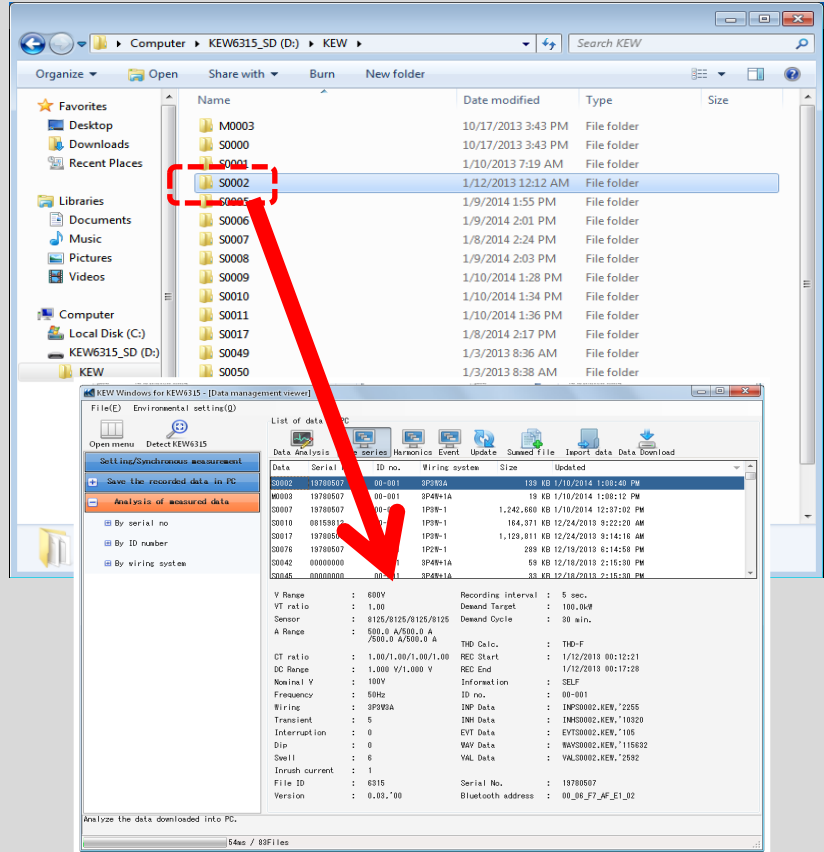


# Data save to PC

## \*Drag & Drop Import

You can use Drag and Drop to easily import the data folders onto PC. To import the folders onto PC, drag a folder and drop it into the "Data management viewer".

e.g.) KEW6315\_SD(D:)\KEW\S0002



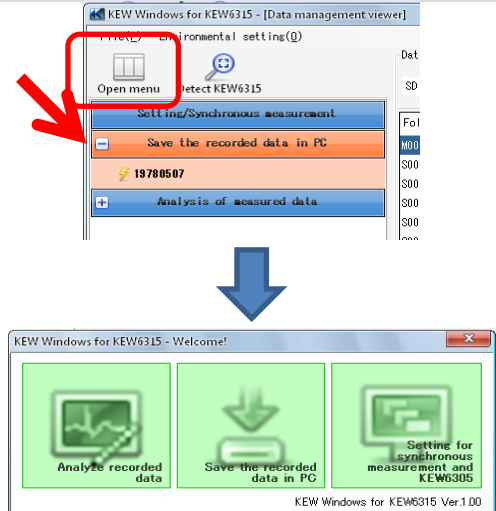
# KEW6315 Setting

## Making of KEW6315 Setting data

### STEP 1

#### Open the Menu

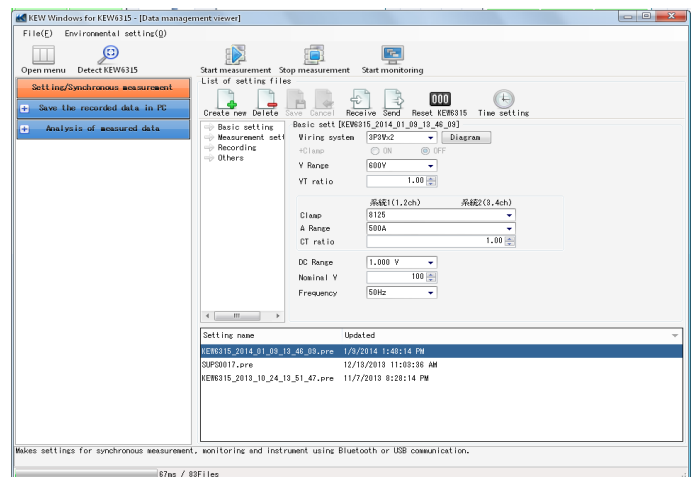
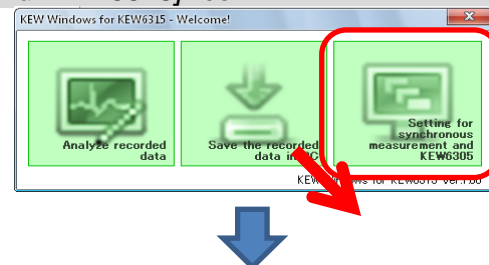
- 1 Click the [Open menu] icon on the "Data management viewer".



### STEP 2

#### Show the KEW6315 settings.

- 1 Click the [Setting for synchronous measurement and KEW6315] icon.

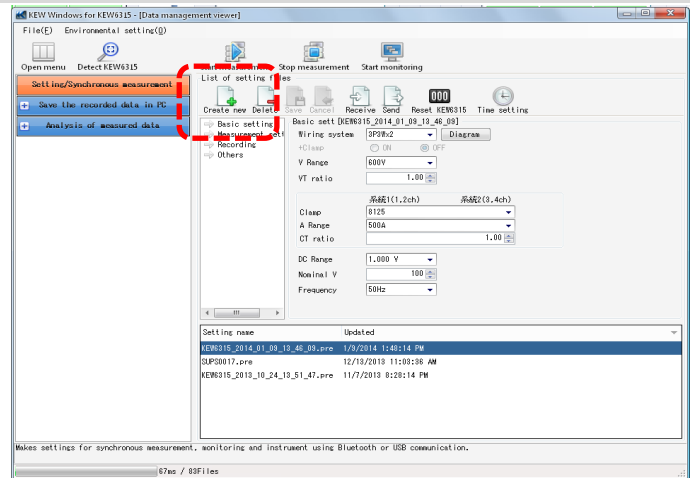


# KEW6315 Setting

## STEP 2

### Create a new setting for KEW6315

1 Click the [Create new] icon.



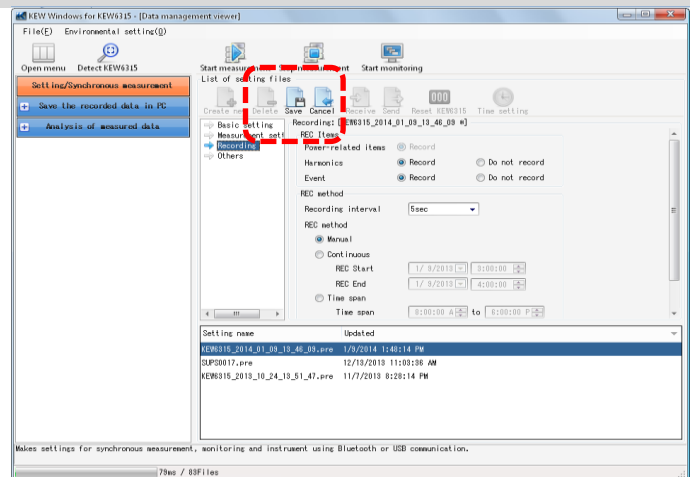
2 Customize the settings.

\* As for the details of setting values, refer to the full version of the instruction manual for KEW6315.

## STEP 3

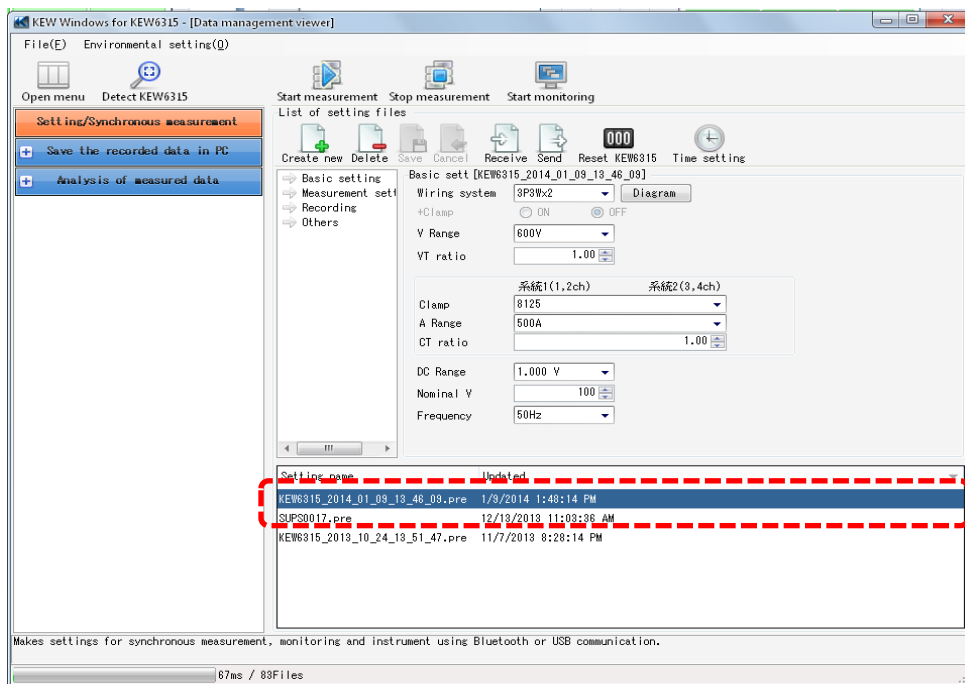
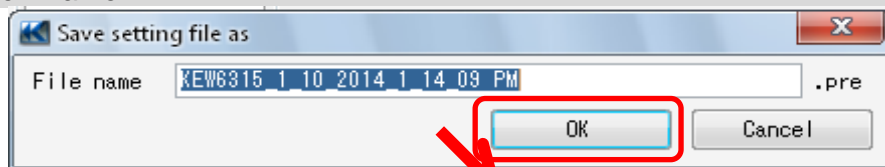
### Save the edited setting.

1 Click the [Save] icon.



# KEW6315 Setting

2 Save the file under a new name.



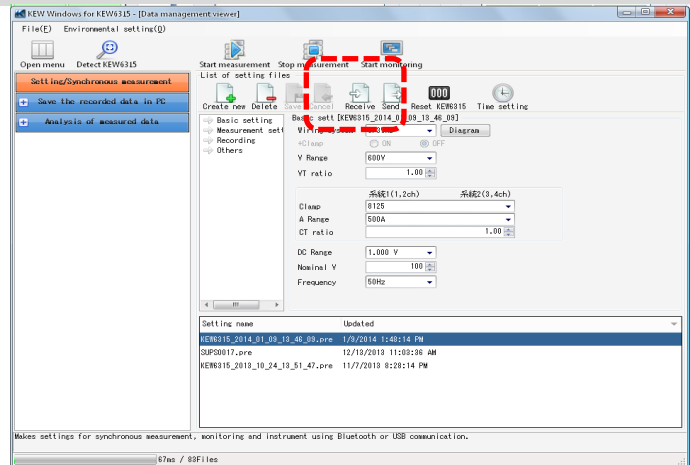
# KEW6315 Setting

## Setting data readout from KEW6315

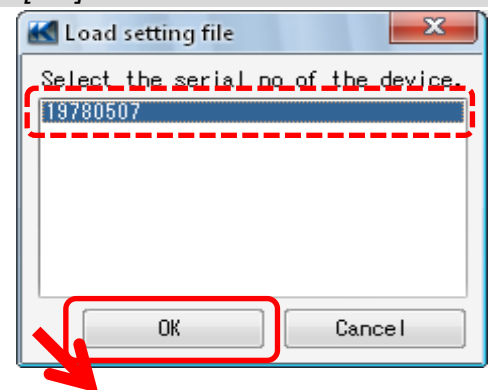
### STEP 1

#### Readout the Setting data from KEW6315.

1 Click the [Receive] icon.



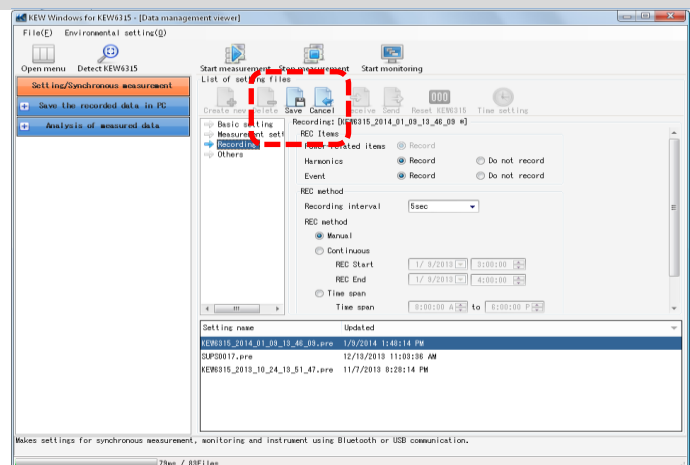
2 Select the serial no. of the connected KEW6315, and click [OK].



### STEP 3

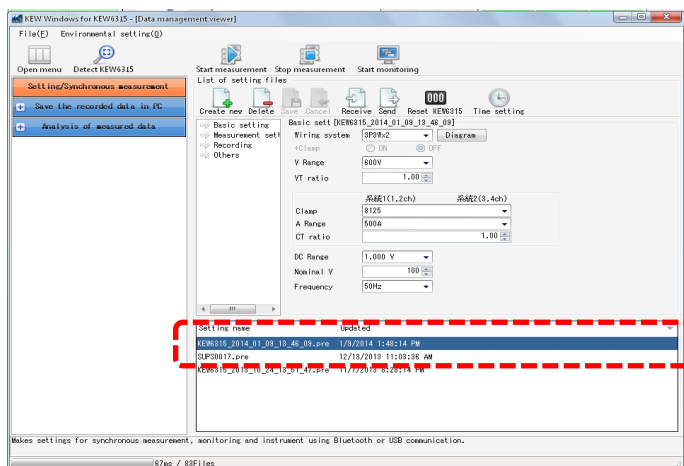
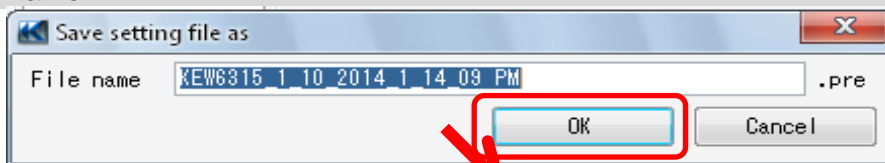
#### Save the received setting to PC.

1 Click the [Save] icon.



# KEW6315 Setting

2 Save the file under a new name.



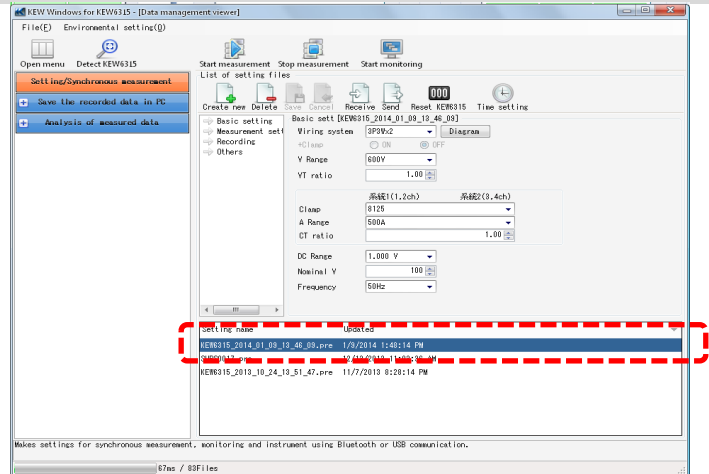
# KEW6315 Setting

## Reflecting edited setting data on KEW6315

### STEP 1

#### Select a desirable setting data.

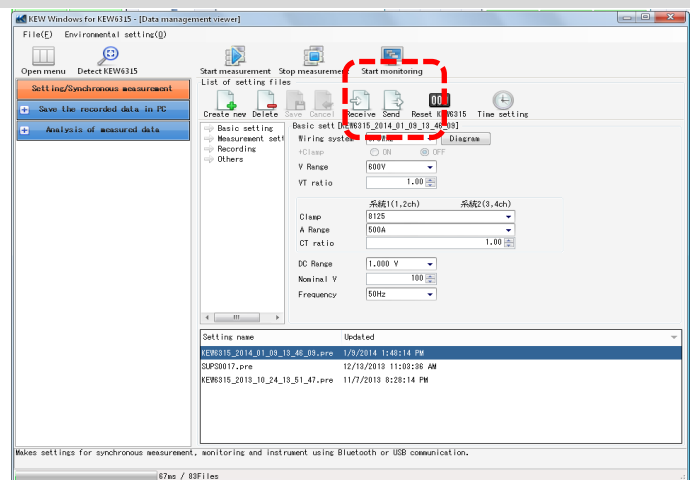
- 1 Select the setting data you want to reflect it on KEW6315.



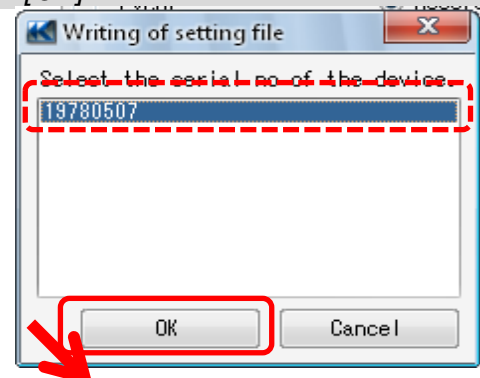
### STEP 2

#### Reflect the selected setting data to KEW6315.

- 1 Click the [Send] icon.



- 2 Select the serial no. of the connected KEW6315, and click [OK].





# Real-time Measurement

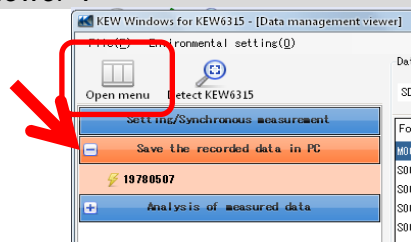
## Starting synchronous measurement

Note) Graph and list data might not be updated and displayed properly depending on the spec and performance of the PC connected. For details, please refer to "Troubleshooting" on page 79.

### STEP 1

#### Open the Menu

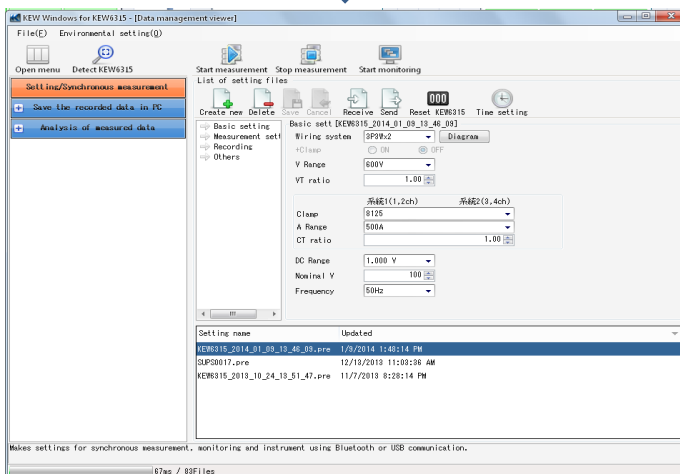
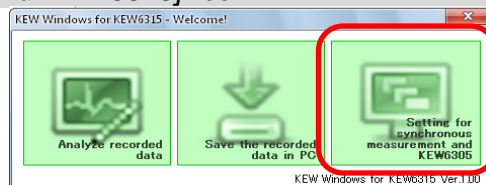
1 Click the [Open menu] icon on the "Data management viewer".



### STEP 2

#### Show the synchronous measurement control screen.

1 Click the [Setting for synchronous measurement and KEW6315] icon.

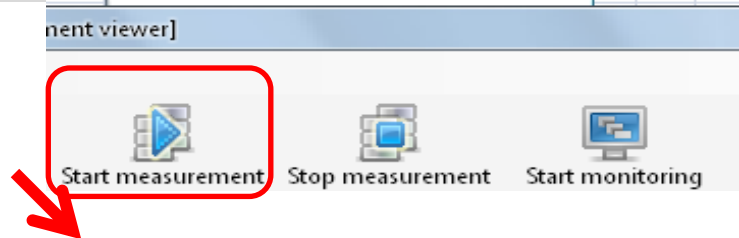


# Real-time Measurement

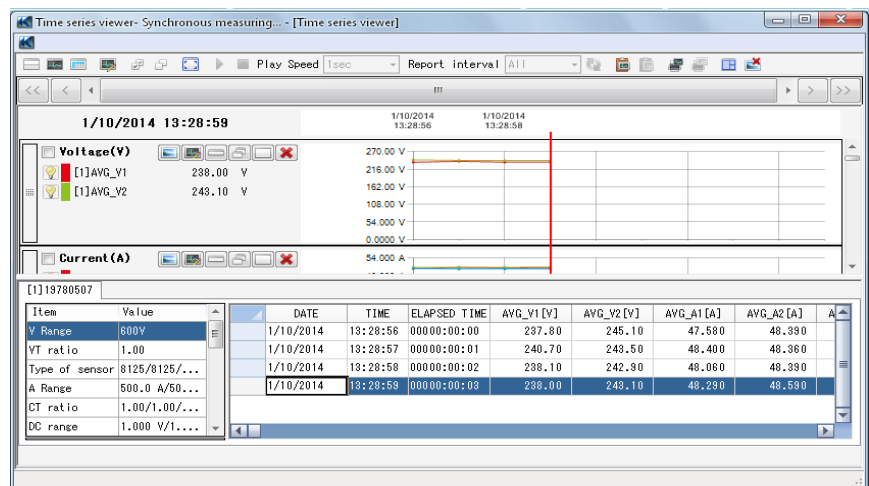
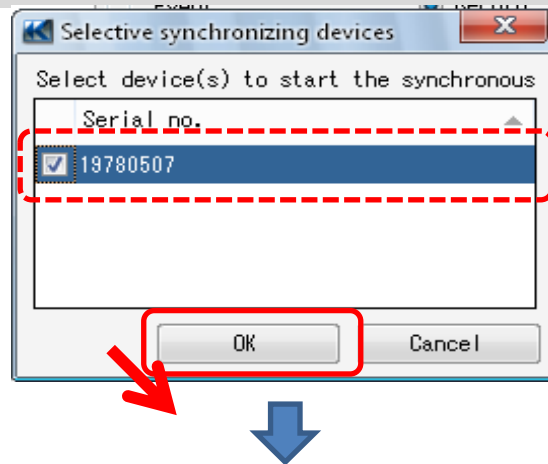
## STEP 3

### Start synchronous measurement.

1 Click the [Start measurement] icon.



2 Check the box for the serial no. of KEW6315 that performs synchronous measurement, and click [OK].

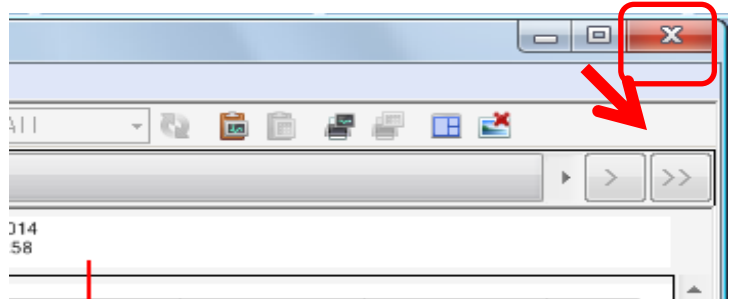


# Real-time Measurement

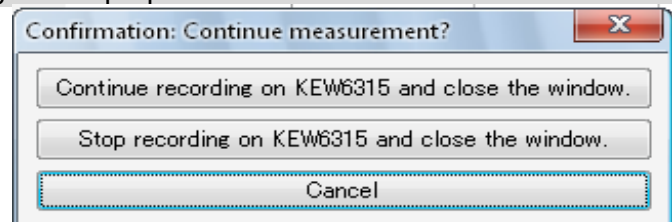
## STEP 4

### Close window.

- 1 Click [x] on the window.



- 2 Select any of the following three depending on the purpose.



#### **"Continue recording on KEW6315 and close the window."**

KEW6315 continues recording even after the window is closed.

You can access to KEW6315 again and monitor the recording status. [Monitoring =>?.??]

#### **"Stop recording on KEW6315 and close the window."**

Recording will be stopped.

#### **"Cancel"**

You can back to the Real-time measurement screen.

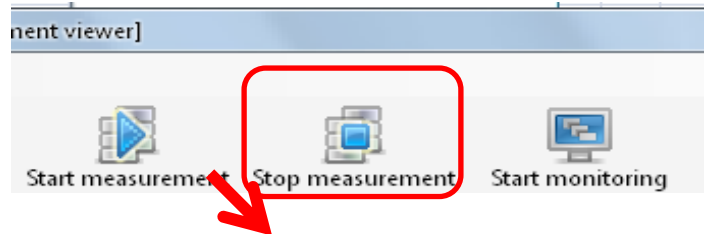
# Real-time Measurement

## Terminating synchronous measurement

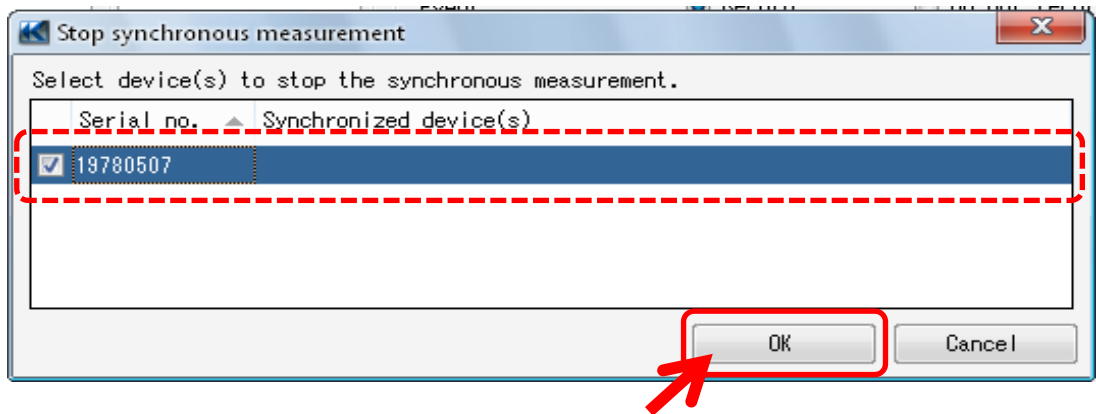
### STEP 1

#### Stop synchronous measurement.

1 Click the [Stop measurement] icon.



2 Uncheck the box for the serial no. of KEW6315 to stop it, and click [OK].



# Real-time Measurement

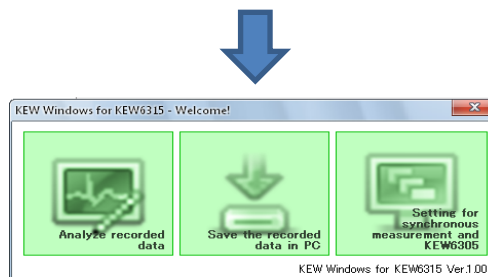
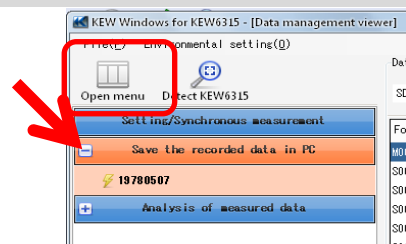
## Synchronous measurement with 2-unit of KEW6315

Note) Graph and list data might not be updated and displayed properly depending on the spec and performance of the PC connected. For details, please refer to "Trouble-shooting" on page 79.

### STEP 1

#### Open the Menu

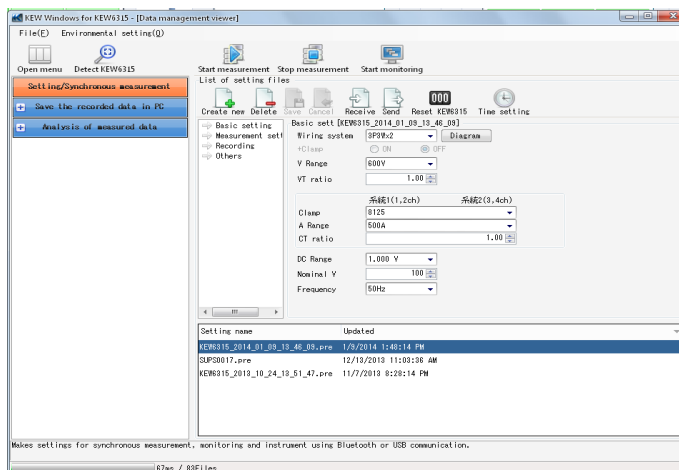
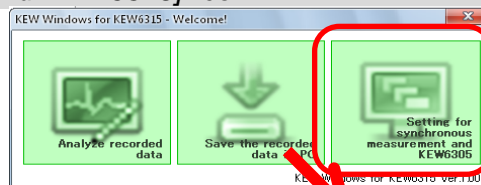
1 Click the [Open menu] icon on the "Data management viewer".



### STEP 2

#### Show the synchronous measurement control screen.

1 Click the [Setting for synchronous measurement and KEW6315] icon.

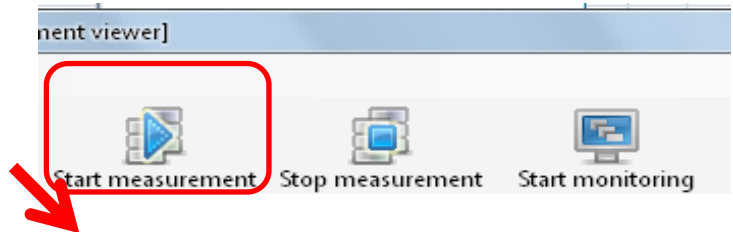


# Real-time Measurement

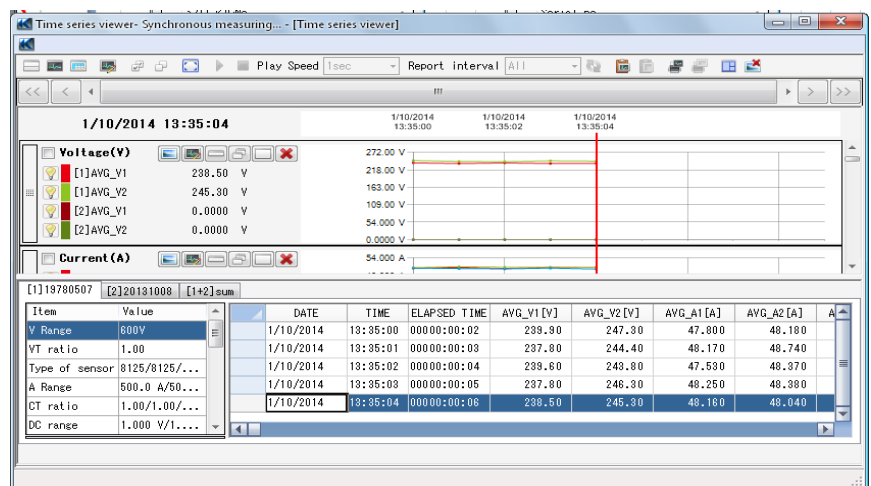
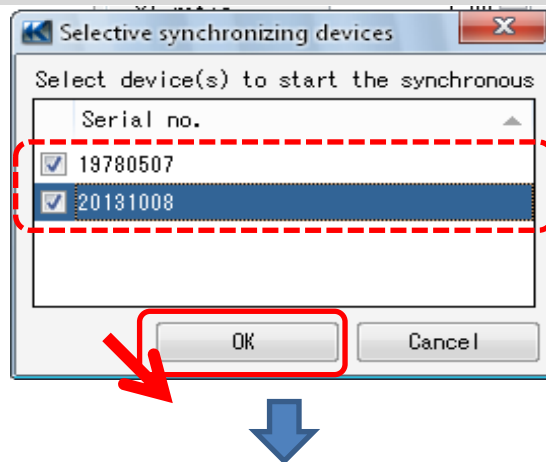
## STEP 3

### Start synchronous measurement.

1 Click the [Start measurement] icon.



2 Check the box for the serial no. of KEW6315 that performs synchronous measurement, and click [OK].



# Real-time Measurement

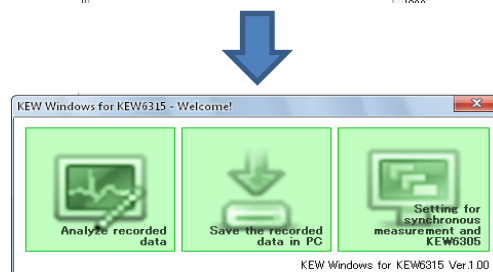
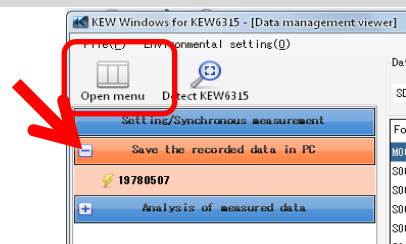
## Monitoring

Note) Graph and list data might not be updated and displayed properly depending on the spec and performance of the PC connected. For details, please refer to "Troubleshooting" on page 79.

### STEP 1

#### Open the Menu

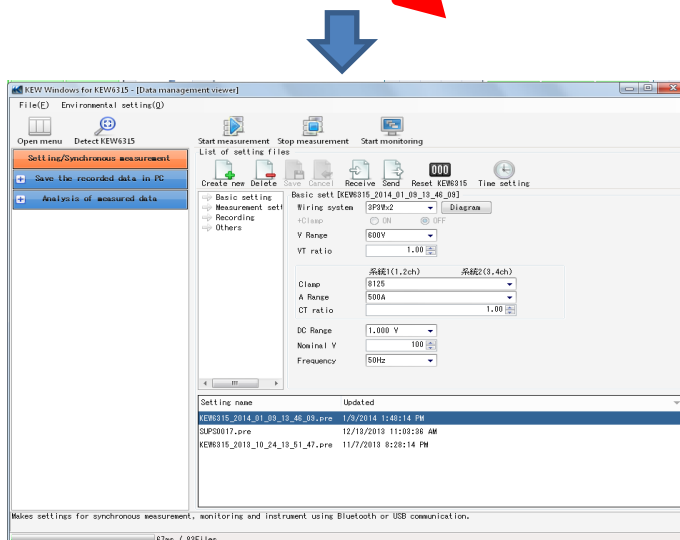
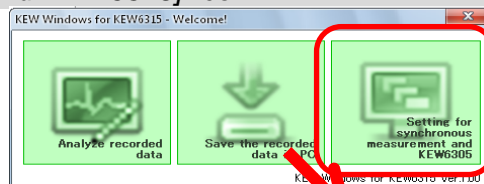
1 Click the [Open menu] icon on the "Data management viewer".



### STEP 2

#### Show the synchronous measurement control screen.

1 Click the [Setting for synchronous measurement and KEW6315] icon.

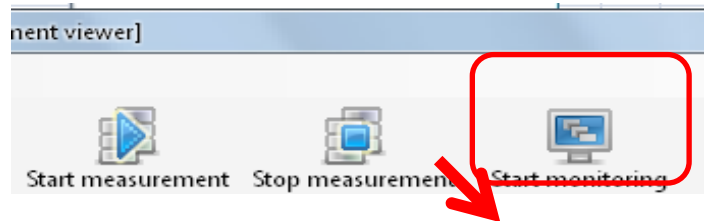


# Real-time Measurement

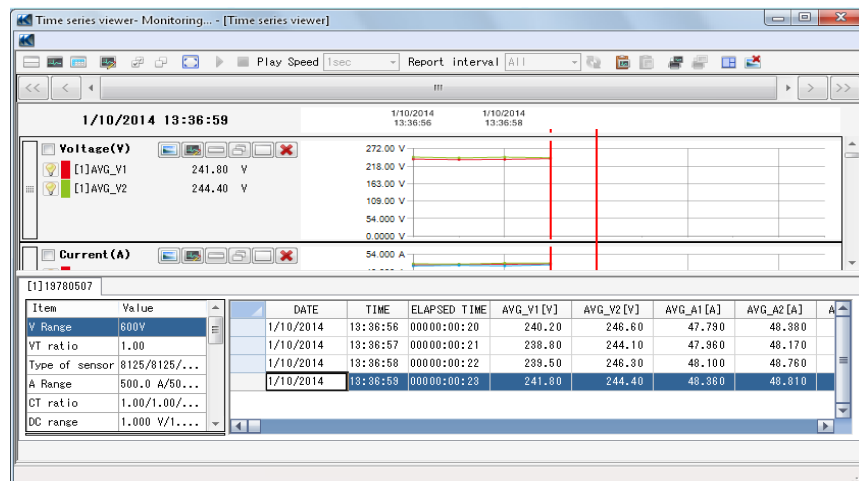
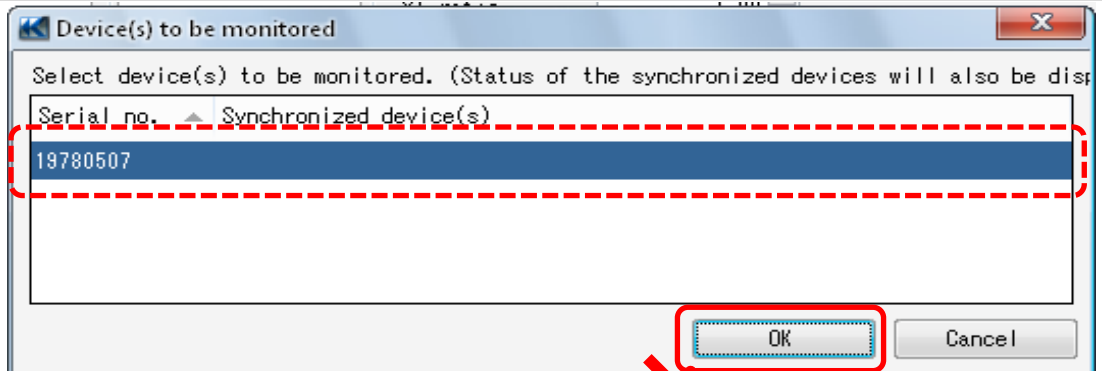
## STEP 3

### Start monitoring.

1 Click the [Start monitoring] icon.



2 Check the box for the serial no. of KEW6315 to be displayed on the PC screen, and click [OK].





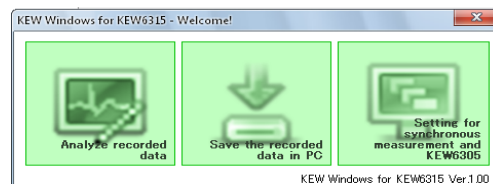
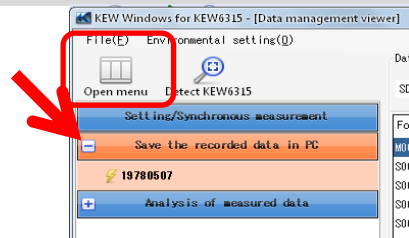
# Other Functions

## Summing the Power data stored in the separate units

### STEP 1

#### Open the Menu

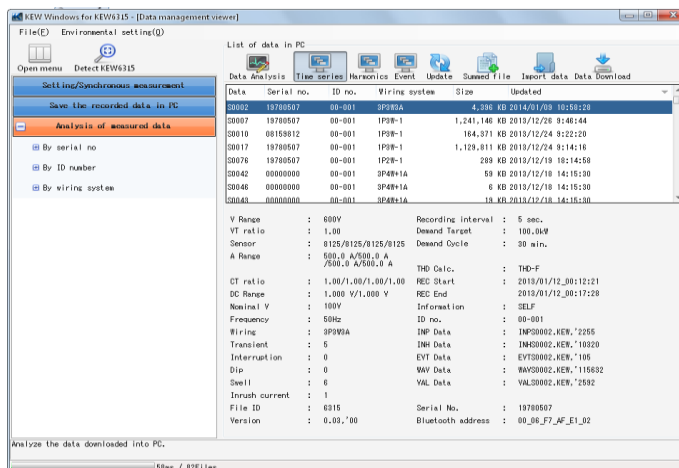
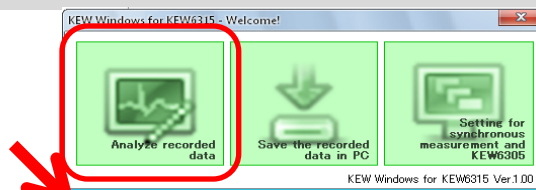
1 Click the [Open menu] icon on the "Data management viewer".



### STEP 2

#### Show the list of data stored in PC

1 Click the [Analyze recorded data] icon.

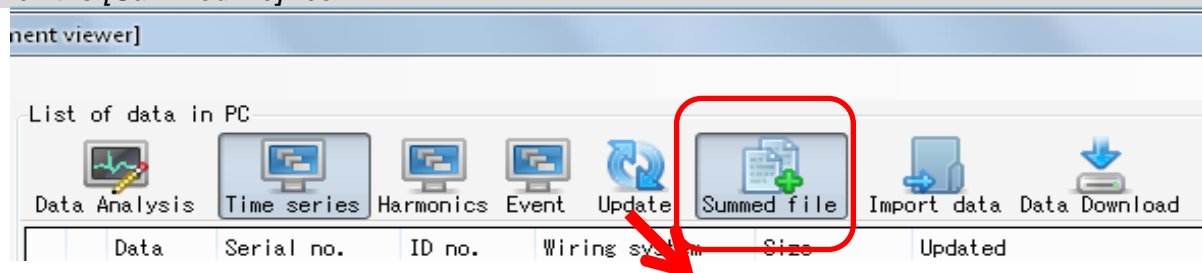


# Other Functions

## STEP 3

### Sum two recorded data.

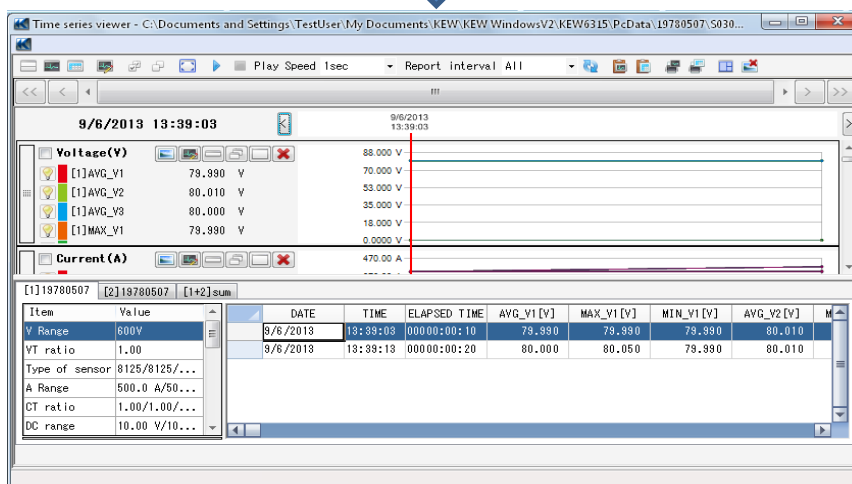
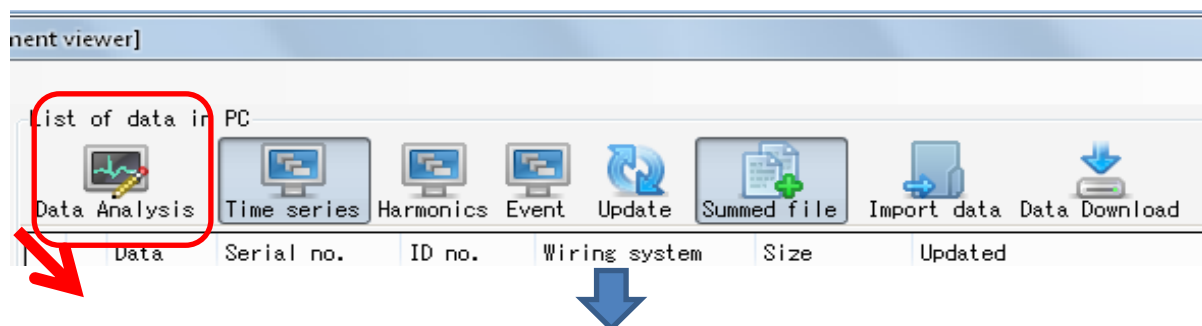
1 Click the [Summed file] icon.



2 Check two boxes to be summed.

<input type="checkbox"/>	S0100	19780507	00-001	3P4W+1A
<input type="checkbox"/>	S0110	19780507	00-001	3P4W+1A
<input type="checkbox"/>	S0115	19780507	00-001	3P4W
<input type="checkbox"/>	S0210	19780507	00-001	1P2W-1+3A
1 <input checked="" type="checkbox"/>	S0305	19780507	00-001	3P4W+1A
2 <input checked="" type="checkbox"/>	S0322	19780507	00-001	1P3W-2
<input type="checkbox"/>	S0328	19780507	00-001	3P4W+1A

3 Click the [Data Download] icon.

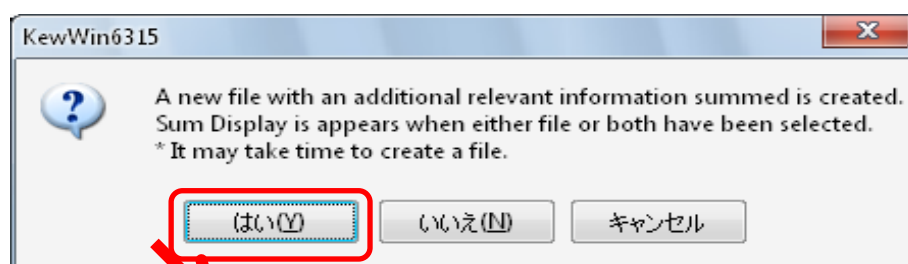
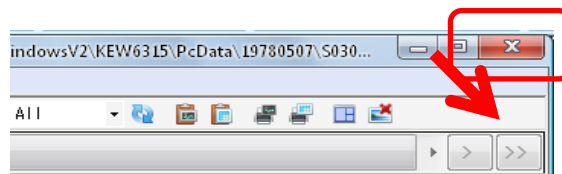


# Other Functions

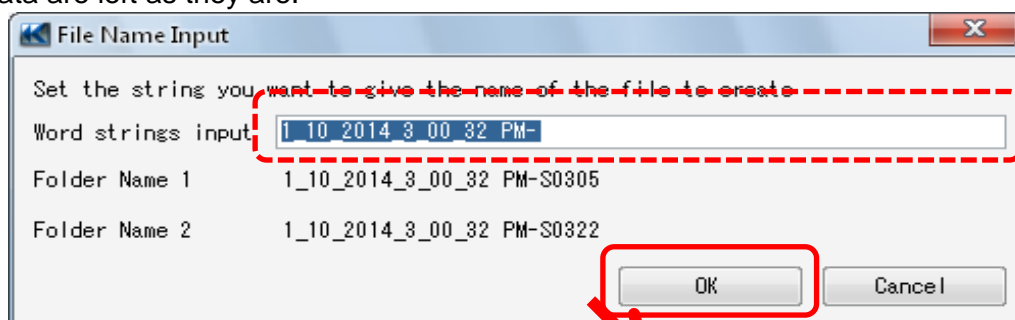
## STEP 4

### Save the summed data with file association information.

- 1 Save the summed data with file association information.  
The confirmation window will appear when closing the viewer. Click [Yes].



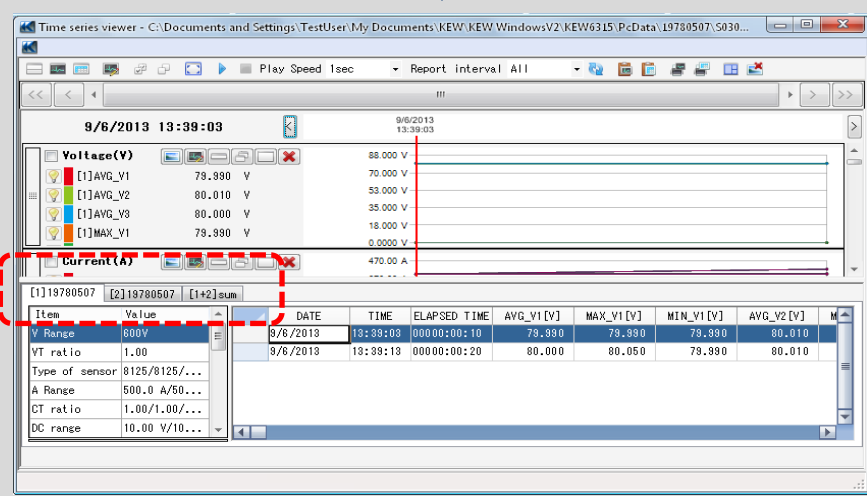
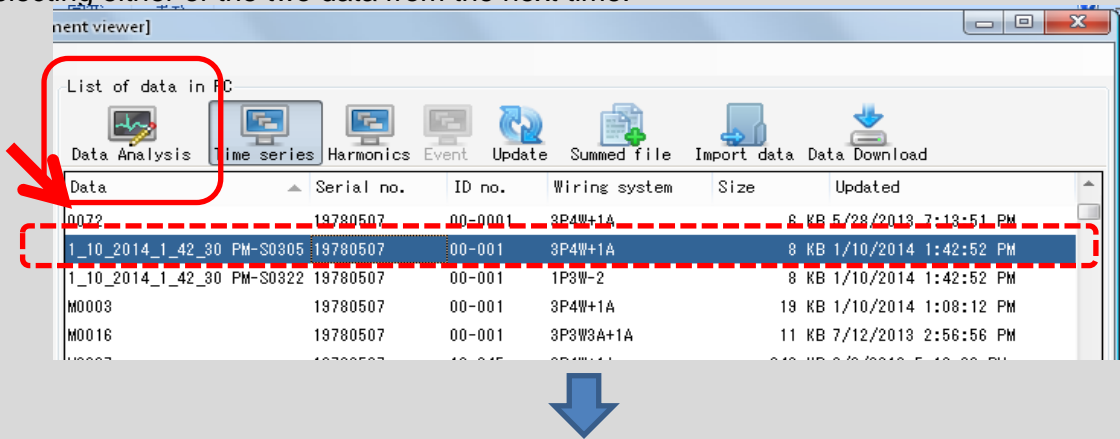
- 2 Share the common name.  
A common name will be assigned as a prefix for the name of the two files associated with each other, and the copies of each data will be saved.  
\* Original two data are left as they are.



# Other Functions

**\*Open the associated data files.**

The two files associated with each other will be summed and can be analyzed just by selecting either of the two data from the next time.



# Other Functions

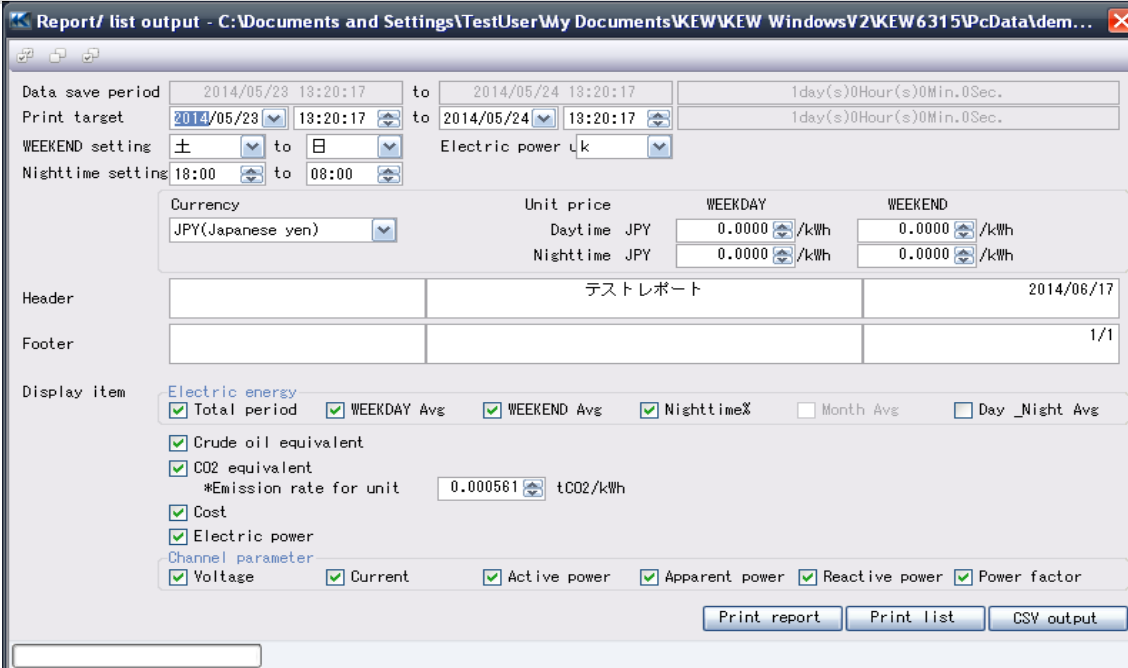
## Printing Electricity usage report

### STEP 1

#### Show the Report output screen.

1 Click the [Data Analysis] to show the Power data Analysis screen.

2 Click the [  Report/ list output] icon.



The screenshot shows a software window titled "Report/ list output - C:\Documents and Settings\TestUser\My Documents\KEWKEW WindowsV2\KEW6315\PCData\dem...". The window contains several configuration sections:

- Data save period:** 2014/05/23 13:20:17 to 2014/05/24 13:20:17 (1day(s)0Hour(s)0Min.0Sec.)
- Print target:** 2014/05/23 13:20:17 to 2014/05/24 13:20:17 (1day(s)0Hour(s)0Min.0Sec.)
- WEEKEND setting:** 土 (Sat) to 日 (Sun)
- Nighttime setting:** 18:00 to 08:00
- Electric power:** k
- Currency:** JPY(Japanese yen)
- Unit price:**

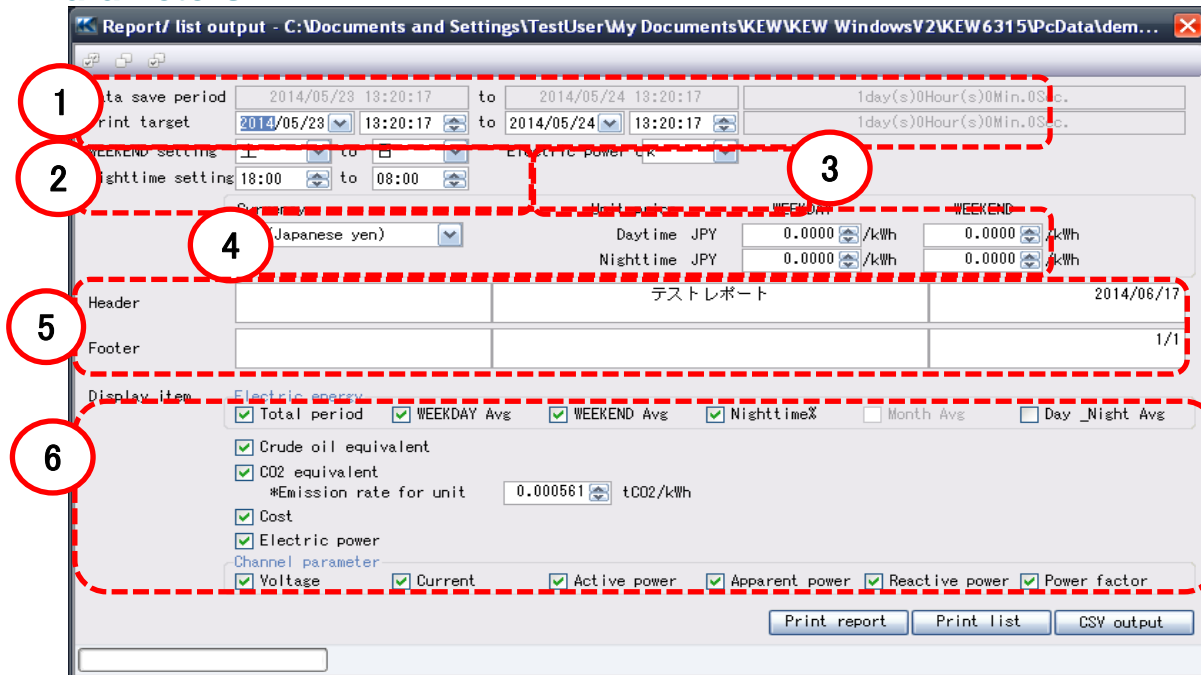
	WEEKDAY	WEEKEND
Daytime JPY	0.0000 /kWh	0.0000 /kWh
Nighttime JPY	0.0000 /kWh	0.0000 /kWh
- Header:** テストレポート (Test Report) | 2014/06/17
- Footer:** | 1/1
- Display item:**
  - Electric energy:**  Total period,  WEEKDAY Avg,  WEEKEND Avg,  Nighttime%,  Month Avg,  Day\_Night Avg
  - Crude oil equivalent
  - CO2 equivalent: \*Emission rate for unit: 0.000561 tCO2/kWh
  - Cost
  - Electric power
  - Channel parameter:**  Voltage,  Current,  Active power,  Apparent power,  Reactive power,  Power factor

Buttons at the bottom: Print report, Print list, CSV output.

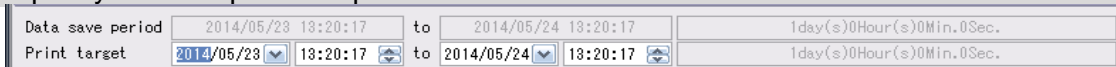
# Other Functions

## STEP 2

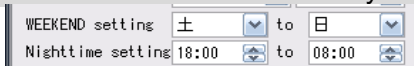
### Parameters



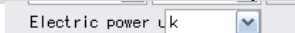
#### 1 Specify the time period to print.



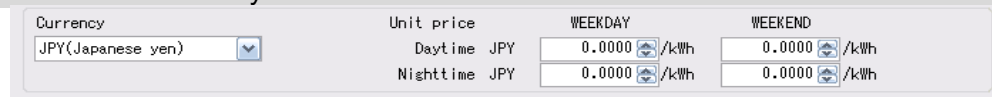
#### 2 Select and set weekend days and nighttime period.



#### 3 Select the unit for power.



#### 4 Select the currency and unit.



#### 5 Enter words for Header/ Footer for report.



# Other Functions

## 6 Select the items to be displayed on a report.

Display item

Electric energy

Total period  WEEKDAY Avg  WEEKEND Avg  NighttimeX  Month Avg  Day\_Night Avg

Crude oil equivalent

CO2 equivalent

\*Emission rate for unit  tCO2/kWh

Cost

Electric power

Channel parameter

## STEP 3

### Print Report.

#### 1 Click [Print report file].

Voltage  Current  Active power  Apparent power  reactive power  Power factor

#### 2 Print.

Test report 2013/10/30

開始日時 2013/10/18 10:17:14  
終了日時 2013/10/18 10:17:27  
最終期間 01 開始時刻02:21:30

換算量	全期間	WEEKDAY	WEEKEND	NighttimeX	Month Avg	Day_Night Avg
電力量	0.0	0.0	0.0	0.0	0.0	0.0
原油換算量	0.0	0.0	0.0	0.0	0.0	0.0
CO2換算量	0.0	0.0	0.0	0.0	0.0	0.0
コスト	0.0	0.0	0.0	0.0	0.0	0.0
電力	0.0	0.0	0.0	0.0	0.0	0.0



印刷

プリンタの選択

プリンタの追加

ApeosPort-III C3300

ApeosPort-III C3300 (FAX)

ApeosPort-IV C3375

Microsoft Office Document Image Writer

Microsoft XPS Document Writer

状態: 準備完了

場所:

コメント:

ページ範囲

すべて(L)

選択した部分(I)

現在のページ(J)

ページ指定(G):

部数(C): 1

部単位で印刷(O)

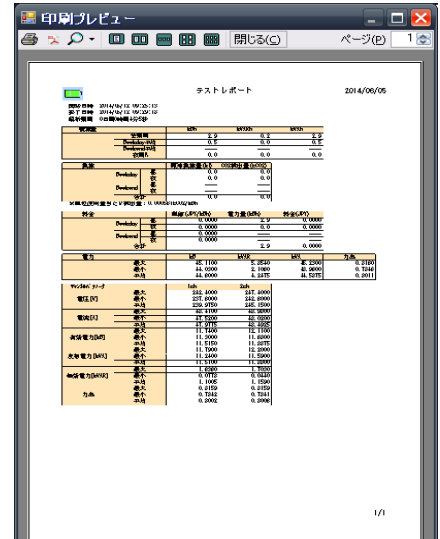
# Other Functions

# Exporting data in PDF format

## STEP 1

### Opening PDF Output Window

1 Open the PrintPreview window.



2 Click the PDF Output Button.



Select the output quality.

Check the box; the saved file will always open in the associated application.



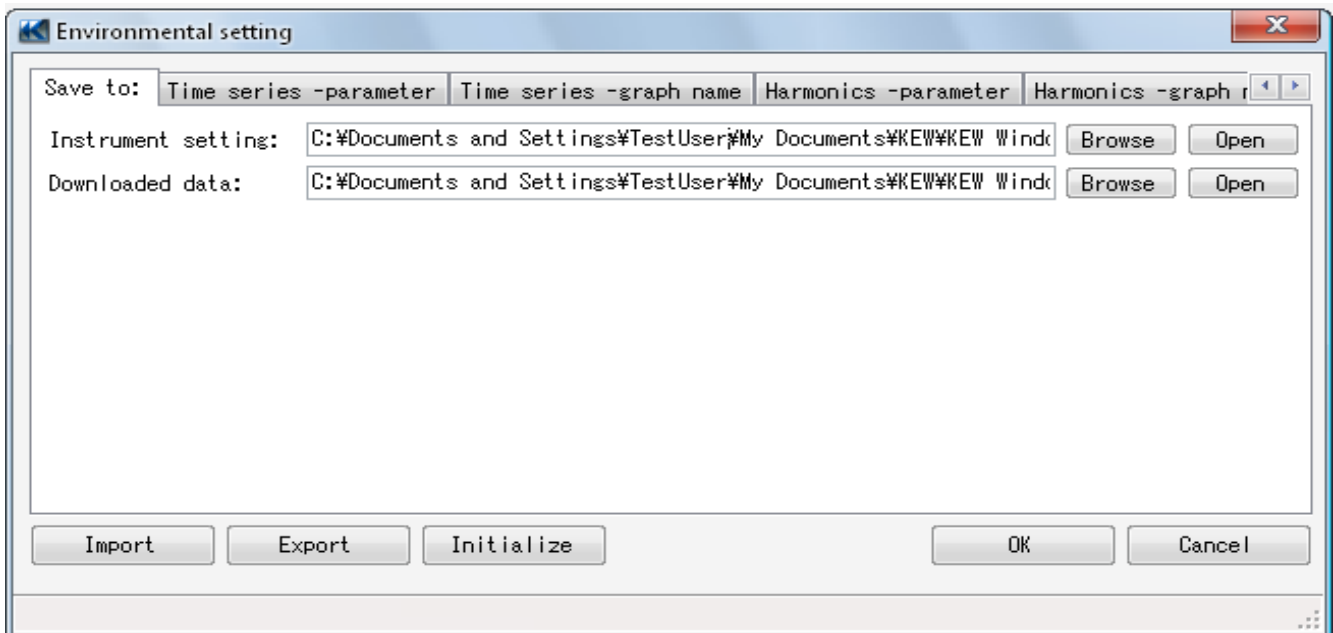
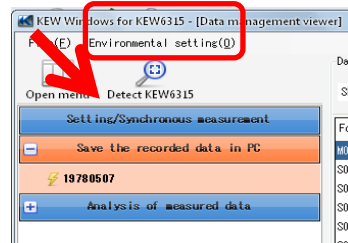
# Environmental Setting

## Changing the Operation setting for KEW Windows for KEW6315

### STEP 1

#### Show the Environmental setting change screen.

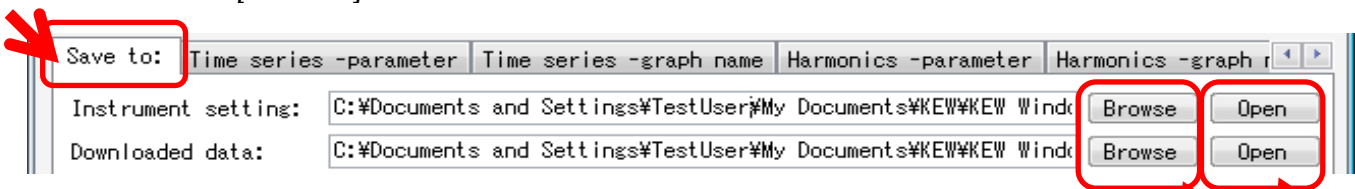
- 1 Click [Environmental Setting] on the Menu bar.



### STEP 2

#### Change the Environmental settings.

- 1 Change the destination to save each data.  
Click on [Save to:] tab.



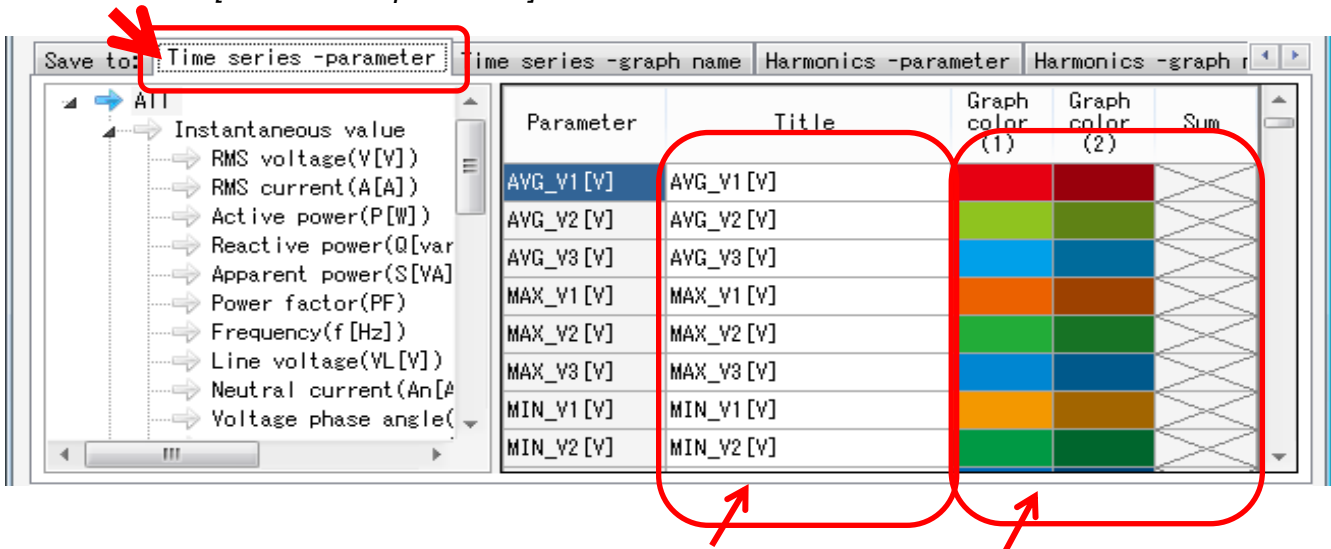
**Instrument setting:** ...Destination pre-set in KEW6315 settings.

**Downloaded data:** ...Destination to save the data downloaded from KEW6315 to PC

Specify the folder to save the data.  
Open explorer and go to the folder to save the data.

# Environmental Setting

- 2** Change the displayed items on graphs shown on Time Series viewer.  
Click on [Time series -parameter] tab.

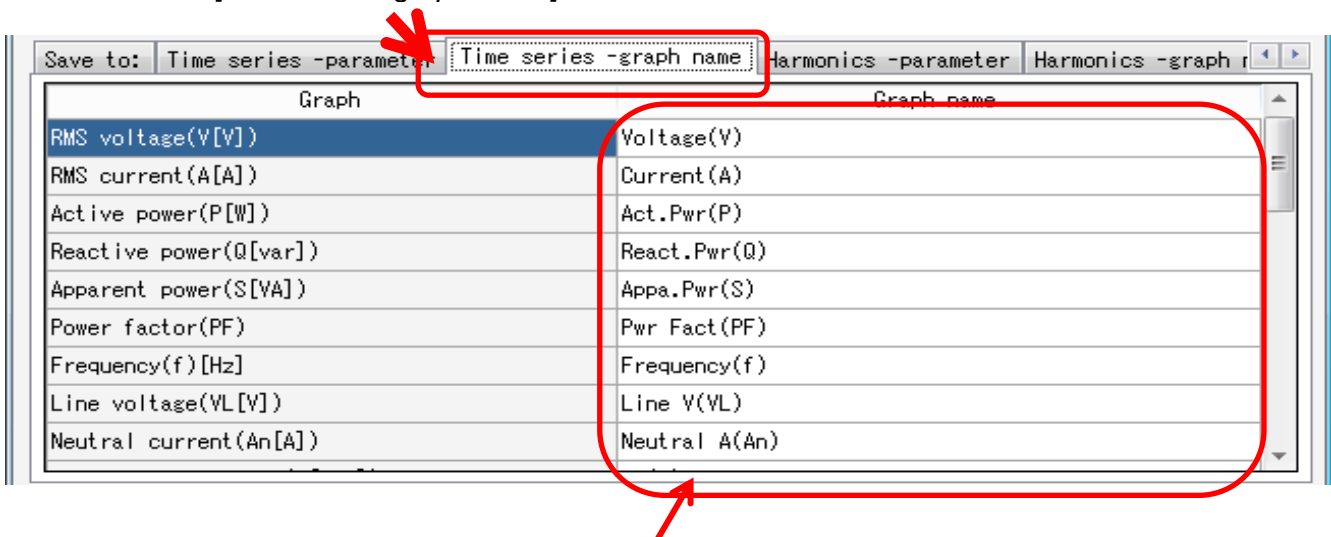


Edit the item names displayed on graph.

Select any colors for each item displayed on graph.

\*To reflect these settings on the Time Series viewer under analysis, close the viewer on then open it again.

- 3** Change the graph name displayed on Time Series viewer.  
Click on [Time series -graph name] tab.

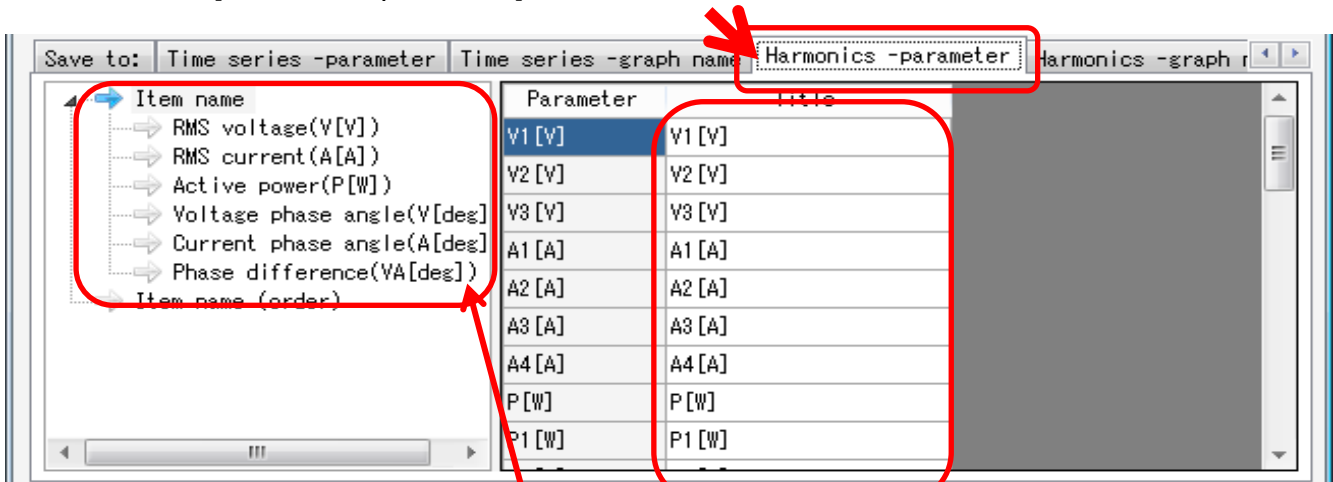


Edit graph title.

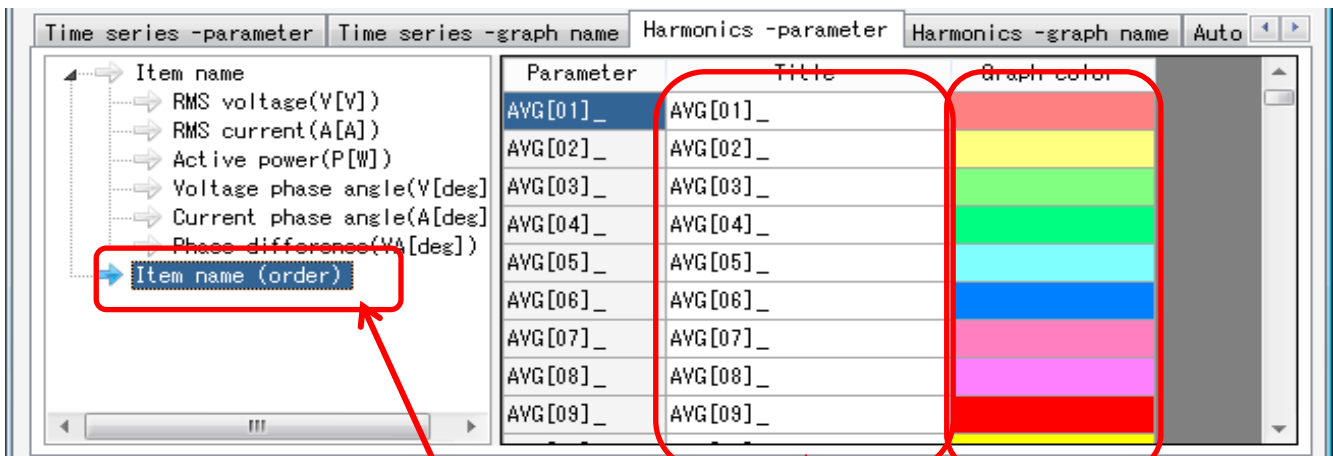
\*To reflect these settings to the Time Series viewer under analysis, close the viewer once and then open it again.

# Environmental Setting

- 4** Change the displayed items on graphs shown on Harmonics viewer.  
Click on *[Harmonics -parameter]* tab.



Select an item name displayed on graph.  
Edit the item names displayed on graph.



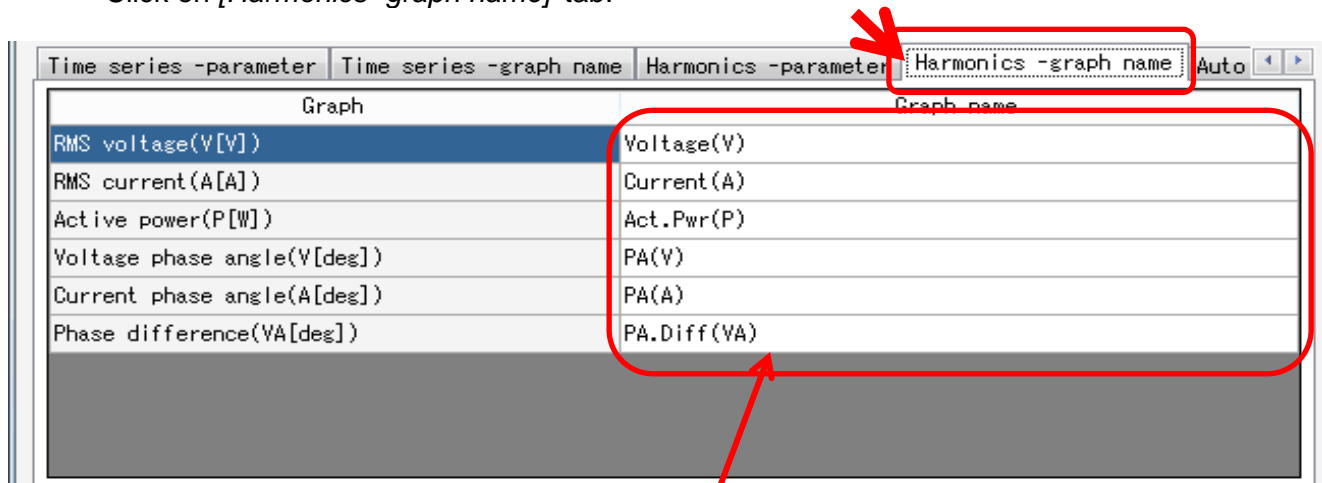
Select *[Item name (order)]*.  
Edit the order name displayed on graph.  
Select any colors for each item displayed on graph.

\*The name to be displayed will be "Item name" + "Item name(oder)".  
(e.g. "V1[V]" + "AVG\_01" ..."V1[V]AVG\_01")

\*To reflect these settings to the Time Series viewer under analysis, close the viewer once and then open it again.

# Environmental Setting

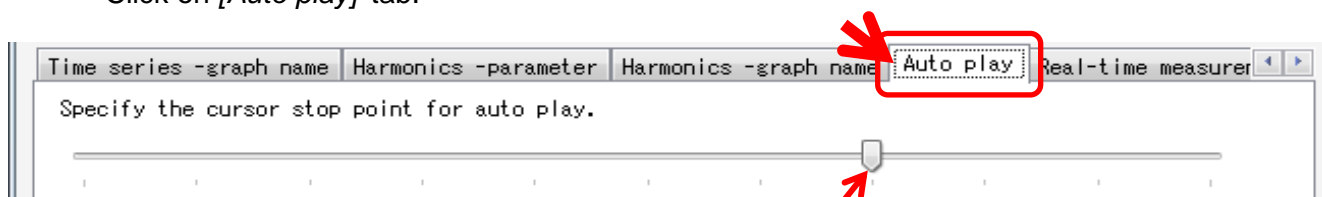
- 5** Change graph names shown on Harmonics viewer.  
Click on [*Harmonics -graph name*] tab.



Edit the graph name.

\*To reflect these settings to the Time Series viewer under analysis, close the viewer once and then open it again.

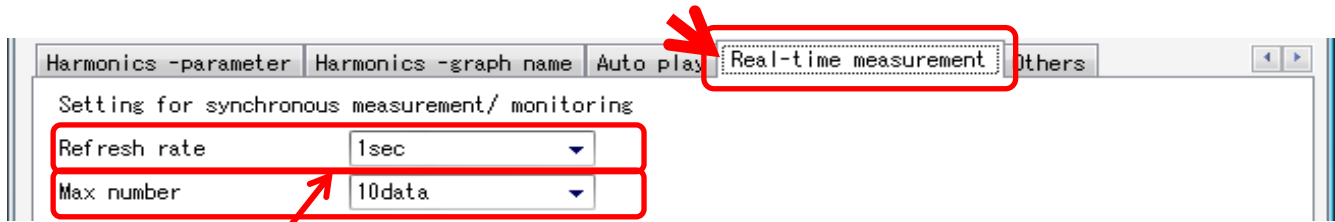
- 6** Change Auto-play settings.  
Click on [*Auto play*] tab.



Move the cursor to the desirable start point.

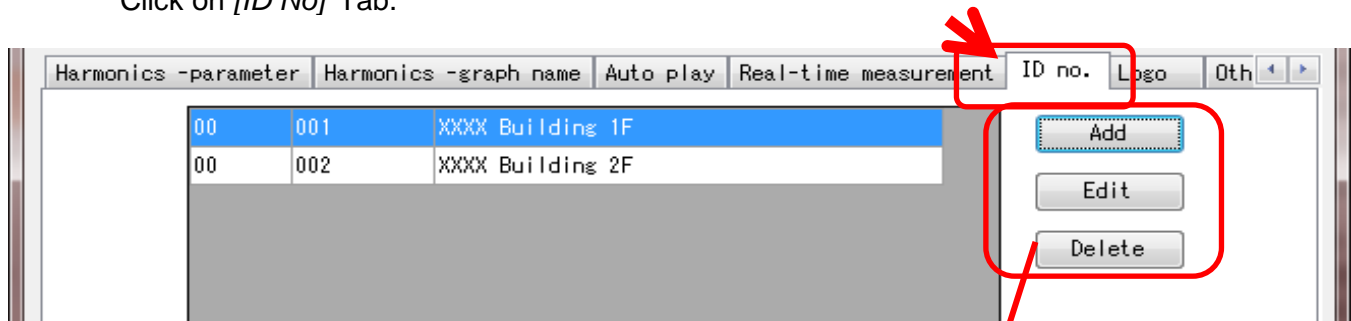
# Environmental Setting

- 7** Change real-time measurement settings.  
Click on [Real-time measurement] tab.

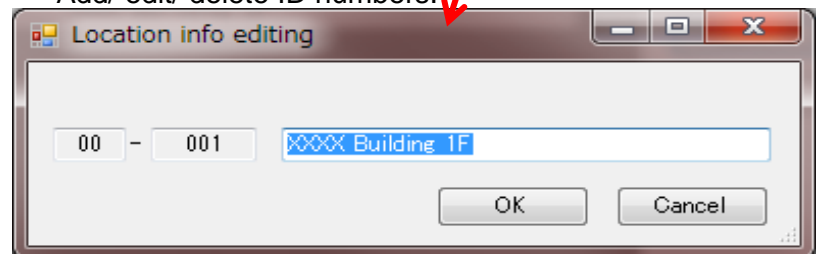


Change the refresh rate for graph.  
Change the number of data displayed on one screen.

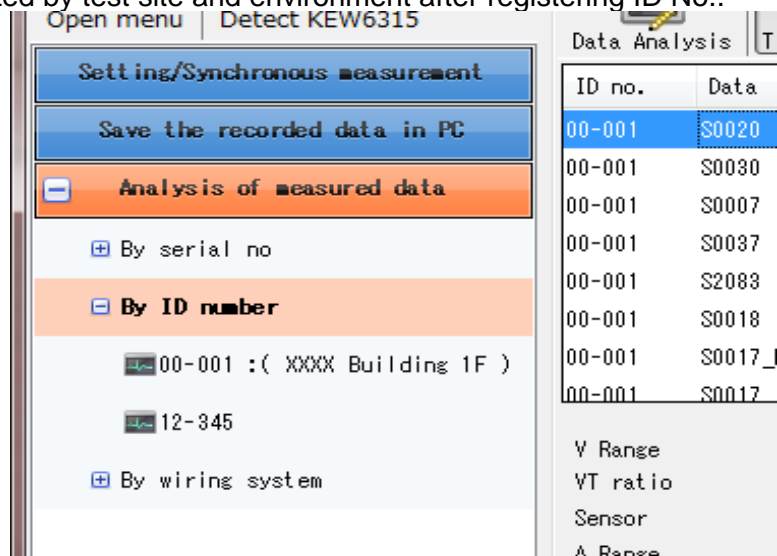
- 8** Register the ID No.  
Click on [ID No] Tab.



Add/ edit/ delete ID numbers.



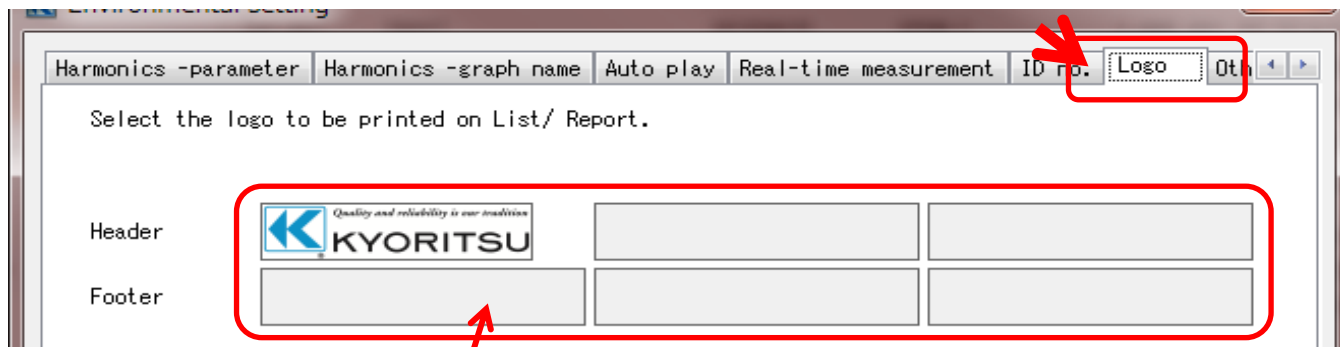
Measured data can be organized by test site and environment after registering ID No..



# Environmental Setting

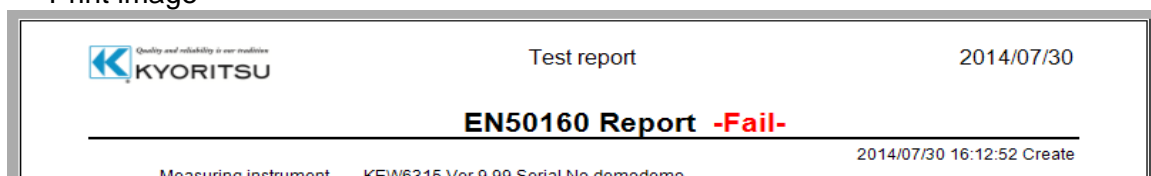
## 9 Add logos to be displayed.

Click on [Logo] tab.



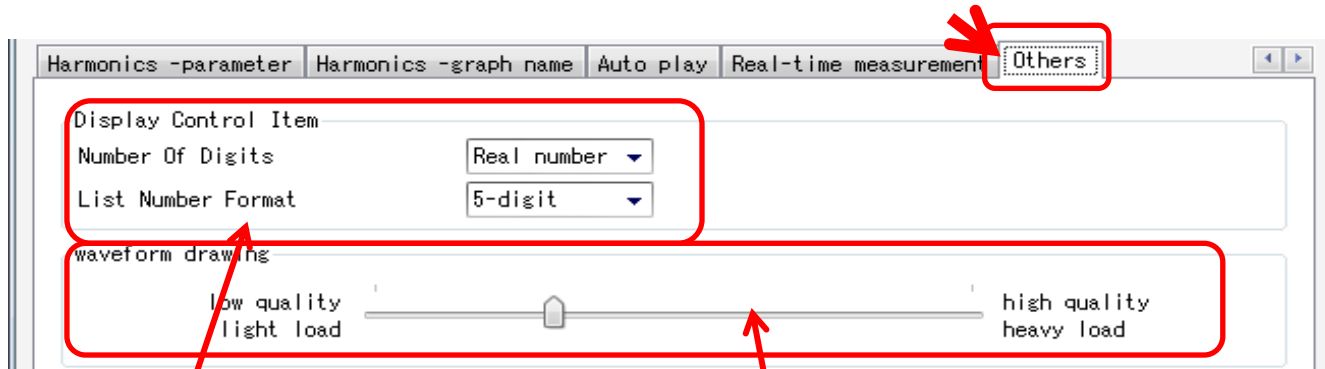
Add logos to be displayed and printed with a list or report.  
Select an area (for Header or Footer) and add logo data (image file).  
Click the added logo to delete it.

Print image



## 10 Other setting items

Click on [Others] tab.



Change the numerical display form.  
If you prefer Real number display,  
specify the number of digits.

Adjust the fineness of waveforms for Event data.



ice and



# Trouble-shooting

- \* **KEW6315 is not displayed on the list although it has been connected with PC by using USB cable.**

Disconnect and reconnect the USB cable. Then click "Redetect".

If KEW6315 were not displayed after trying above procedure, USB driver may not be recognized properly. Follow the procedure below and reinstall the driver.

Insert the supplied CD into PC and right click on the CD drive. Then click "Open" on the displayed list. Then you can see "DRIVER" folder. Start "kewusb\*\*\*\_setup.exe" to start installation.

Please refer to the Installation manual for further details.

- \* **Communication between KEW Windows for KEW6315 and KEW6315 unit fails while using USB communication.**

If communication processes such as synchronous measurement, data download or instrument setup cannot be done while using USB communication, click "Detect KEW6315". Then disconnect and reconnect the USB, and click "Detect KEW6315".

Check that the serial no. of the connected KEW6315 is displayed under "Data download".

- \* **Downloading time**

Downloading time will be longer when file size becomes bigger.

It is recommended to use SD card to copy big data to PC.

USB transfer rate : approx. 27sec. for transferring internal data of 3MB

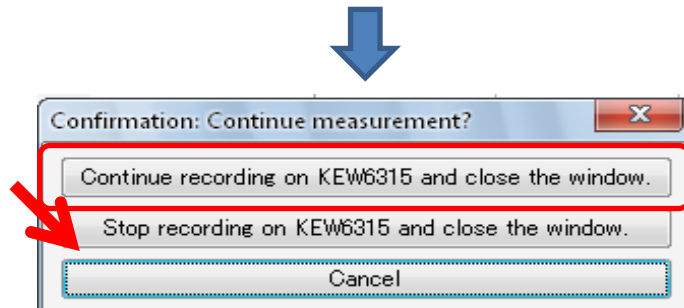
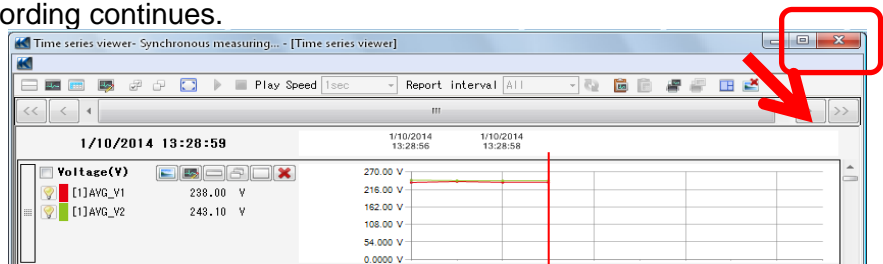
Bluetooth transfer rate : approx. 10.5min. for transferring internal data of 3MB

- \* **Delayed update of graph and list at synchronized and monitoring measurement**

Display update may not be properly done at the interval set via Environment setting depending on PCs. When "-----" (bars) is displayed at List display, lag of update is suspected. Please follow the steps below and extend the update interval.

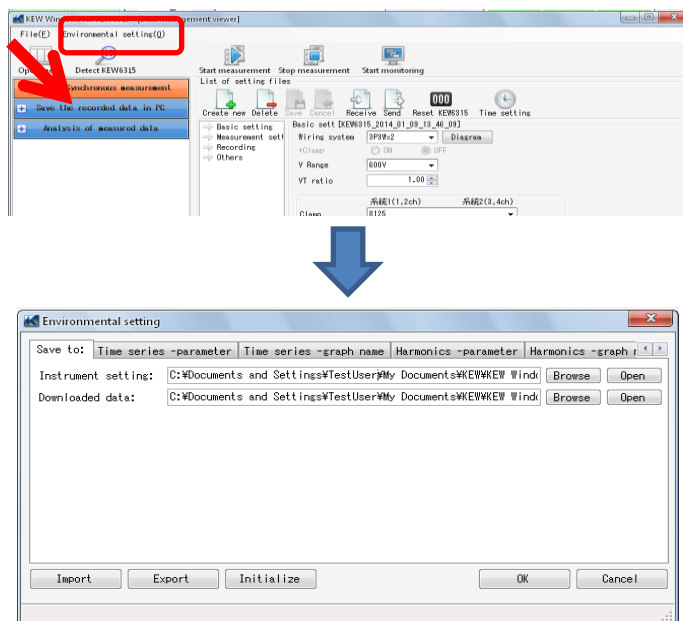
- 1 Click on the "x" in the upper right corner of the window.

The viewer is closed, but the recording continues.



# Trouble-shooting

- 2** Click on the "Environment Setting" tab in menu bar.  
The environment setting window will open.



- 3** Adjust the settings of real-time measurement.  
Click on the "Real-time measurement" tab and adjust "Refresh rate" to change display update interval.

