

Effective power supply quality and power saving management for PCs

# CWViewer

Data Analysis Program for CW240/CW12x

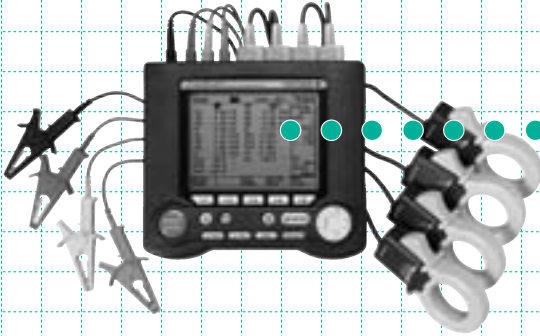
AP240E

CW240

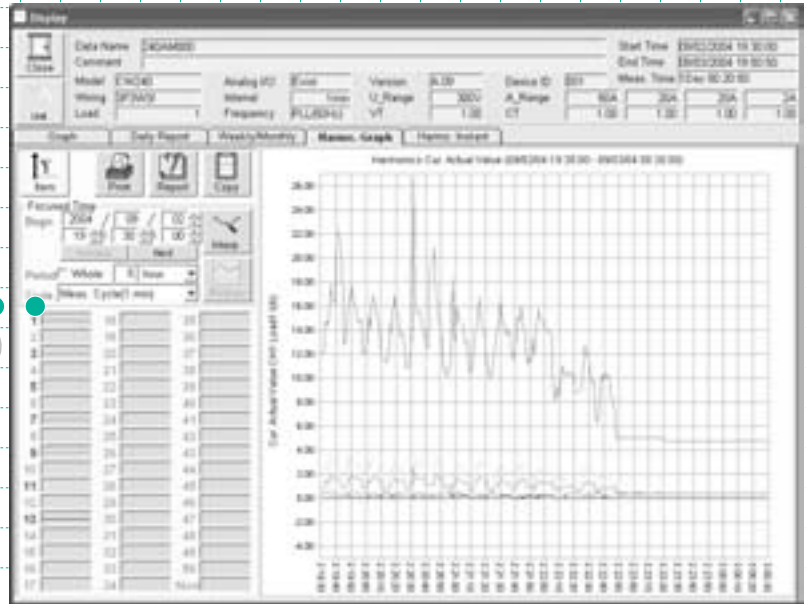
CW120

AP240E

Powerful & Accurate measurement with the CW240



AP240E report creation in line with your objectives.



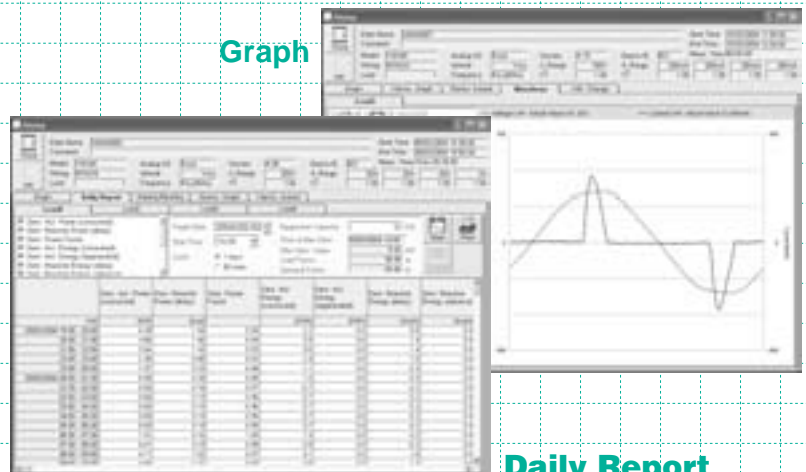
## Increased quality and effectiveness of report creation

CW Viewer AP240E is data analyzing software for the CW240 Clamp-on Power Meter. Making full use of the rich measuring functions of the CW240, this efficiently manages the large amounts of measurement data that are required in order to implement power quality management, energy management, and power saving measures. Furthermore, the quality and efficiency of report creation has been improved in order that reports to meet certain purposes can be easily created.

## Report creation in line with objectives

- Graph Display
- Daily Report Display, Weekly / Monthly Report Display
- Harmonic Graph Display
- Harmonics Instant Value Display
- Waveform Data Display
- Voltage Change Display

## Graph



## Daily Report

Power quality and power saving management data measured with the CW240

AP240E report creation in line with your objectives

Increased quality and effectiveness of report creation

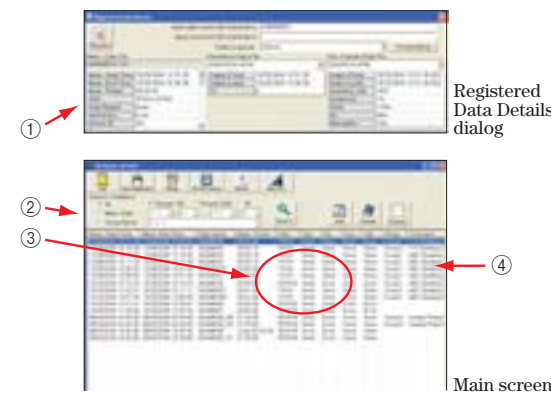
### Bulk Data Management

In order to edit measurement data to create reports that meet objectives, it is necessary to sort the required elements from a broad range of measurement data, and to set both the parameters for display, and items to display. CW Viewer AP240E carries out bulk management of data by registering measurement data and display parameters. Easy data registration, deletion, reference, and analysis means that the program is easy to use immediately, even for beginners.

#### ●Bulk Management of Large Quantities of Measurement Data

Using the AP240E, it is easy to register a large amount of data measured with CW240 in the database, for integrated handling.

- ① At the time of data registration, only the target files are displayed, and detailed information can be confirmed by selecting these files.
- ② Measurement data can be searched by measurement date or group name.
- ③ Automatically links to measurement data such as that for waveforms and voltage changes.
- ④ Group names and comments can be added and registered.



#### ●Fast Reproduction of Past Reports

CW Viewer AP240E links display parameters for graphs and records with measurement data, and saves this in the database, which means that reports that have been created in the past can be swiftly recreated in the same format.

### Simple Report Creation

Select measurement data, and click the Data Display button to edit reports. Settings of display items is easy, and items such as graphs and daily reports are easy to create.

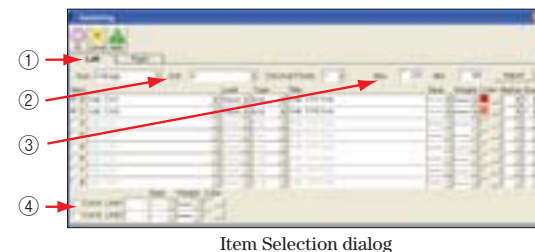
Simple Operation

Clear Display

#### ●Pick out target elements from large amounts of data.

Items that can be selected when setting display items are displayed in a list, which means that measurement data items that are required for carrying out power management and power quality management can be efficiently selected to meet objectives.

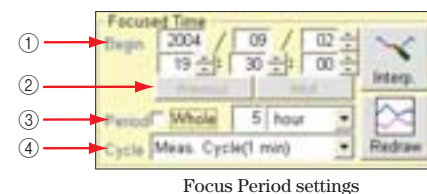
- ① Up to a maximum of 8 items can be set for both the left and right axes.
- ② Display items, units, and scale, etc. can be selected from the list.
- ③ Desired maximum and minimum values for the graph scale can be set. Additionally, the Automatic Settings button can be used to set optimal values.
- ④ This is also convenient for comparisons with power reduction targets, by setting standard values.



#### ●Easy Setting of Focus Times

Setting the start and period of the focus times enables setting of a range of part (or all) of the measurement data.

- ① The display start time can be specified from the range of existing measurement data.
- ② The specified display range can be moved easily using these buttons.
- ③ The graph display period (the whole period or a desired period) can be specified.
- ④ A desired range (more than the measurement cycle) can be specified.



### Variety of Presentations in Line with Objectives

Report formats that can be selected as a result of the types of measurement data are displayed on tabs. Report formats in line with objectives can be easily selected with tabs from a variety of report presentations.

#### ●Selection of Report Formats with Tabs

Report formats such as graph display, daily report display, harmonics graph and voltage change can be easily switched by selection with tabs.

#### Superimposed Display of Multiple Waveforms

A channel, system, and type can be selected for each measurement item such as power, voltage, and current, and up to 8 items can be simultaneously displayed on the graph for each of the left and right vertical axes (a total of 16 items). This enables the comparative display per channel and system of multiple data items.

#### ●Easy-to-see Graph Display

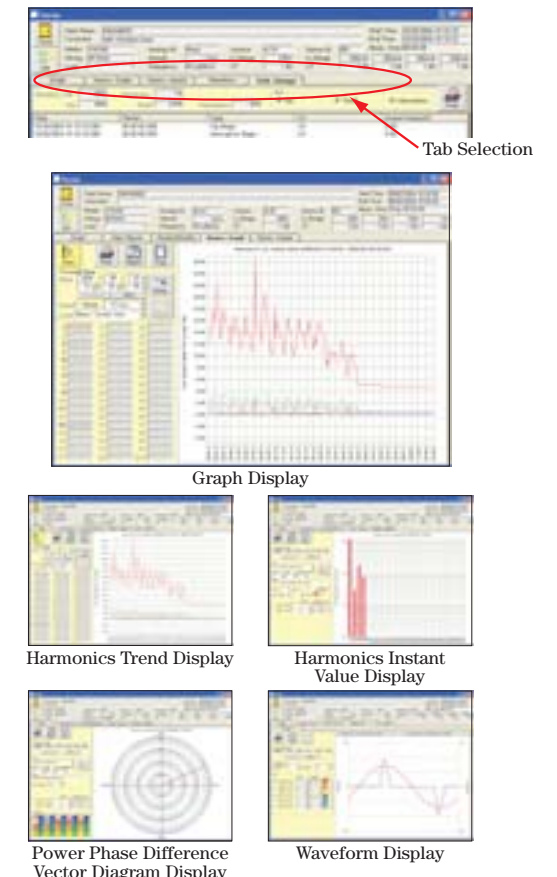
Graph display can be changed (line type, line thickness, and line color, markers, etc.) in line with objectives, and multiple measurement data can be displayed on the report in an easy to see manner.

#### ●Harmonics Data Analysis

Harmonics graphs are displayed by selecting the desired degree from amongst 50. Harmonics trend graphs and harmonics instant value graphs can be selected with tabs, and in the harmonics instant value tab, all harmonics levels, harmonics content ratios, and phase differences can be displayed. Vector display of power phase differences is also possible.

#### ●Waveform Data Display

Displays as a graph waveform data (maximum of 7 for each of four systems) measured with the CW240. Irregularities in voltage and current waveforms for each phase can be viewed at a glance, making for effective management of electrical power quality (current situation and confirmation of measures taken).



### One-Touch Selection of Daily and Weekly Reports

#### ●Daily Report Display

Demand measurement values for power consumption are displayed in time units (30 minutes or 1 hour) as daily reports, simply by selecting the desired demand measurement items. Furthermore, load and demand ratio calculations are carried out automatically by setting capacitance values for facilities.

#### ●Weekly and Monthly Report Display

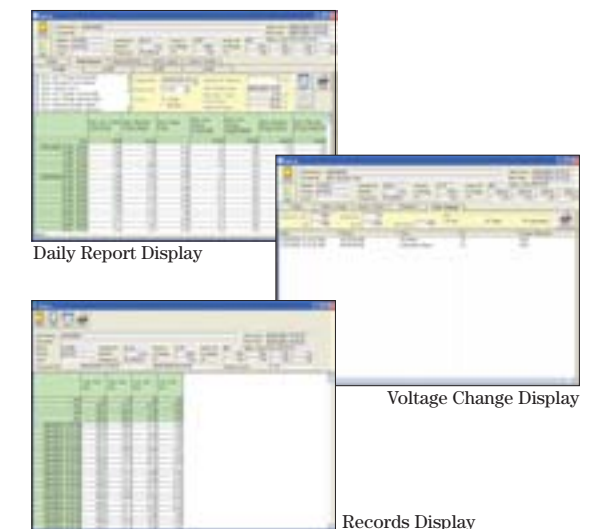
Demand measurement values for power consumption in 1 day units are displayed as weekly and monthly reports. Load and demand ratio calculations are carried out automatically in the same way as with daily reports.

#### ●Voltage Change Display

Displays in a list voltage drops, rises, and momentary power interruption detection data and detection time. This enables confirmation of the start, end, and period of voltage changes.

#### ●Record Display

When the graph display, harmonics trend display, and harmonics instant value display tabs have been selected, numerical data for the displayed graph range can be displayed as a record.



Report Creation Customization Functions

●Graph and Record Printing

Print graphs and records by using the Print buttons on the graph display screen and records screen. Additionally, when printing, the preview screen will allow confirmation of output.



Print Preview

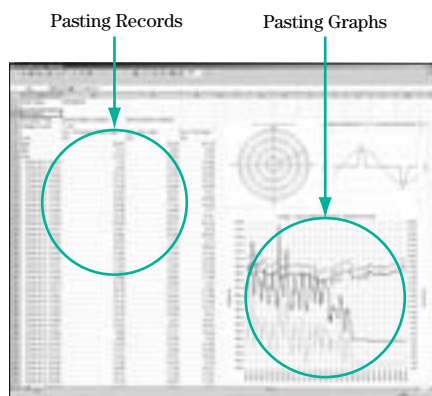
●Selectable Printer Type

Printer configuration is possible in order that either color or monochrome are printed correctly.

AP240E Analysis Data can be Further Edited in MS Excel and Word

●Graph Copy

The portion of the graph on the displayed screen can be copied to the clipboard by using the Graph Copy button on the graph screen. This enables graph images that are created in CW Viewer AP240E to be pasted into Excel or Word documents. Power phase difference vector diagrams and waveform data are also handled in the same way.



Example of Copying Graphs and Records

●Record Copy

By using the Record Copy button in the same way as with graphs, record data can be copied to the clipboard. Record data is copied as text data.

●Saving Record Data as CSV Format Files

The range of data displayed on the daily report, monthly report, and record screens can be saved as CSV format files. CSV files can be used in spreadsheet software; this is convenient for secondary analysis of measurement data, and creation of original reports.

Useful Functions

●Analog Input Data

Scaling for analog input data settings, and unit settings can be carried out. This enables comparison of measurement data such as temperature and lighting density with data such as used energy.



Scaling Settings

●Voltage Unbalance Ratio Display

Automatically measures voltage unbalance ratios when CH1 ~ CH3 voltage is measured, and can display as a graph in the same way as with other measurement data items.

●Default Settings

Frequently used unit settings, graph display parameter settings, and group name settings, etc. can be registered as defaults in advance.



Default Settings

●Display Settings / Measurement Parameter Display

Settings parameters and measurement intervals, etc. at the time of measurement are displayed on the top of the tabs on the data display screen, enabling constant confirmation by selecting tabs even if the report format is changed.



Measurement Parameter Display