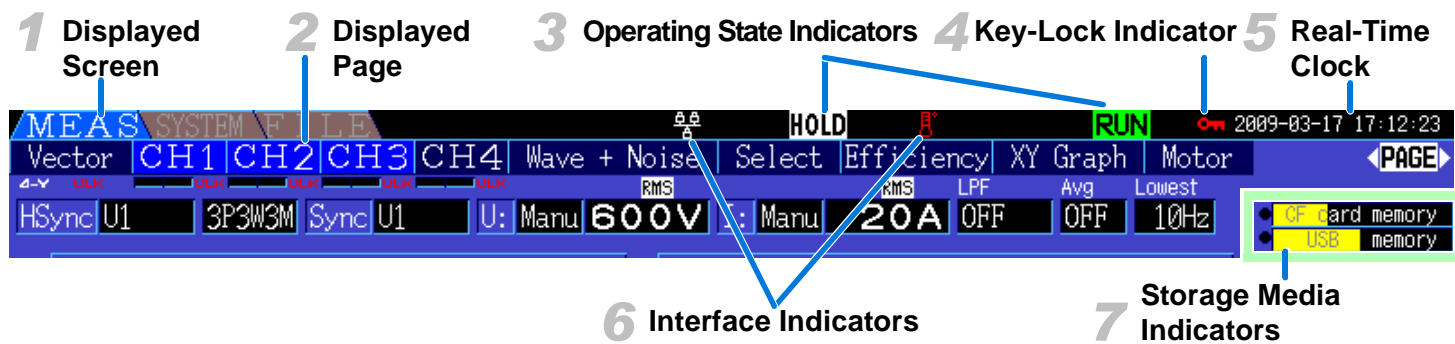


Always-Displayed Items



1 Displayed Screen

- MEAS** Measurement screen (Press **MEAS** to display)
- SYSTEM** System screen (Press **SYSTEM** to display)
- FILE** File Operations Screen (Press **FILE** to display)

2 Displayed Page

Each page shows different screen contents: select the appropriate page as needed. Select the page with **◀ ▶**.

3 Operating State Indicators

- WAIT** Lights during integration and recording.
- RUN** Indicates integration is in progress.
- STOP** Indicates integration is stopped.
- HOLD** Indicates Data Hold is active.
- PEAK** Indicates Peak Hold is active.

4 Key-Lock Indicator

- Lights to indicate Key Lock is active (keys are locked, after holding **ESC** for three seconds).
- Hold **ESC** again for three seconds to unlock.

5 Real-Time Clock

Displays the current date and time. (To set the clock: See Chapter 6 of the instruction manual.)

6 Interface Indicators

- USB** Lights when the instrument is connected to a computer by USB cable (and the computer is on).
- LAN** Lights when the instrument is connected to a LAN.
- RS-232** Indicates a printer is connected to the RS-232 interface.
- TEMP** Indicates a thermometer is connected to the RS-232 interface. Red: Temperature data has not been acquired. Blue: Temperature data has been acquired.

7 Storage Media Indicators

Level indicators for the CF card and USB drive indicate storage space usage. These turn from yellow to red when the media is 95% full.

3390 POWER ANALYZER HIOKI

Measurement Guide

May 2013 Revised edition 1 Printed in Japan
3390A983-01 13-05H

Read First

Thank you for purchasing the HIOKI "Model 3390 Power Analyzer." This guide introduces the Power Analyzer's basic measurement procedure to first-time users. Before using the instrument, be sure to read the Instruction Manual carefully.

1. Connect the Cables and Sensors, and Power On

Pre-connection inspection

- Voltage measurement cables**
Does any cable insulation appear damaged, or is bare metal exposed?
- Current sensors**
Is a clamp cracked or damaged?
- Instrument**
Is damage to the instrument evident?

If damage is found

Contact your dealer or Hioki representative if you find any damage.

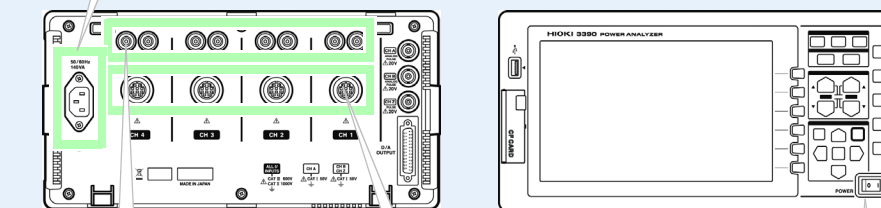
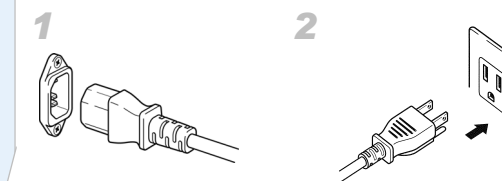
Power-on confirmation

- Does the self-test (model and version) display appear?
- When the self-test finishes, does the **[Wiring]** page of the Setting or Measurement screen appear (according to when the instrument was last turned off)?

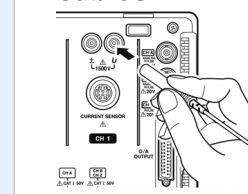
If the self-test display does not appear, or if an error is displayed

The power cord may be damaged, or the instrument may have internal damage. Please contact your dealer or Hioki representative.

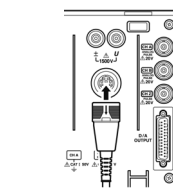
Power cord



3 Voltage measurement cables



4 Current sensor cables

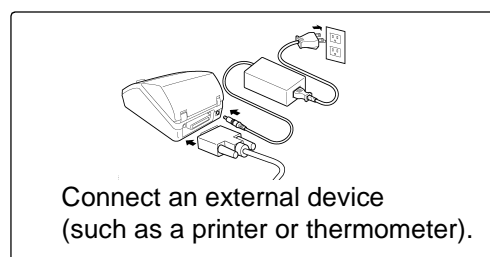


5 Power-on

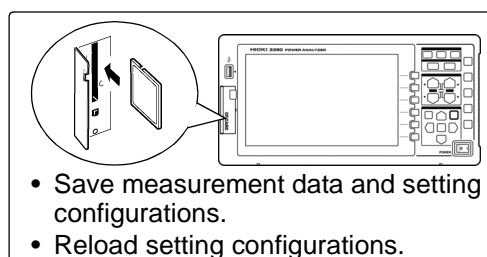


For best precision, allow at least 30 minutes warm-up before executing zero adjustment and measuring.

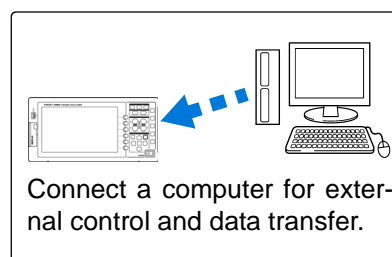
Additional Capabilities



Connect an external device (such as a printer or thermometer).



- Save measurement data and setting configurations.
- Reload setting configurations.



Connect a computer for external control and data transfer.

See the instruction manual for details, including setting procedures for measurement and display, convenience features and more.



Operation keys

MENU keys
Select a screen.
MEAS key: Measurement screen
SYSTEM key: System screen
FILE key: File operation screen

PAGE key
Changes the screen page.

F keys (Function keys)
Select and change display contents and settings.

RANGE key

- Change the voltage (U) and current (I) measurement ranges.
- Pressing the + and - keys at the same time activates auto-ranging.

ESC key

- Cancels the last change to a setting, and returns it to its previous state.
- Hold for three seconds to toggle the **key lock**.

ENTER key
Accepts selections and changes to settings.

CURSOR key
Move the cursors.

START/STOP key
Starts and stops integration and saving operations.

SAVE key

- Saves data to the storage media.
- Press **SAVE** after pressing the **SHIFT** key to capture a screen image to the specified storage media or to print it out. (Screen capture)

HOLD key
Toggles the Hold and Peak Hold function.

0 ADJ key
Performs zero adjustment and current sensor degaussing.

DATA RESET key
Resets the integration values.

SHIFT key
Activates alternate key functions.

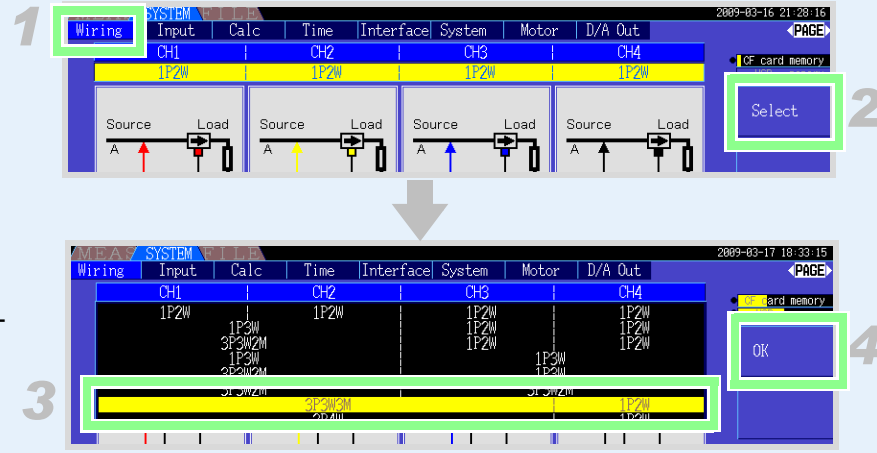
2. Select the Wiring Mode

1 Press **SYSTEM** to display the System screen, and select the **[Wiring]** page with the **◀ ▶** keys.

2 Press **F1 [Select]**.

3 Use the **◀ ▶** keys to select the wiring mode (phase configuration) of the measurement system.

4 Press **F1** to accept the selection. The wiring diagram(s) are displayed.



3. Attach voltage measurement cables and current sensors to the measurement lines according to the wiring diagram(s).

1 **<IMPORTANT> Always perform zero adjustment before attaching to the lines.**

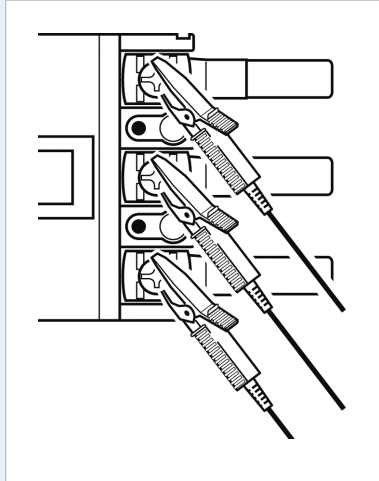
1. Press **0ADJ**.

[Execute zero adjust.] is displayed.

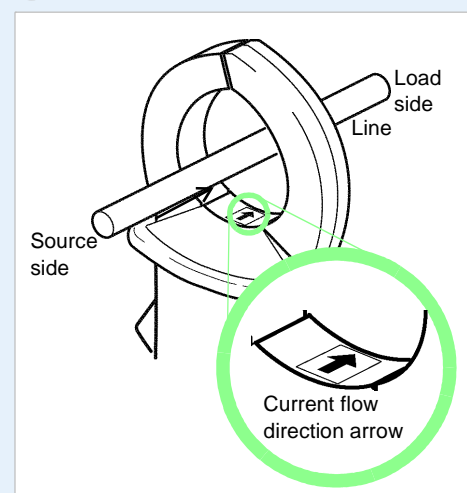
2. Press **ENTER**.

[Executing...] is displayed for 30 seconds, until finished.

2 Connect voltage measurement cables



3 Attach current sensors



4. Execute quick setup, and verify correct wiring

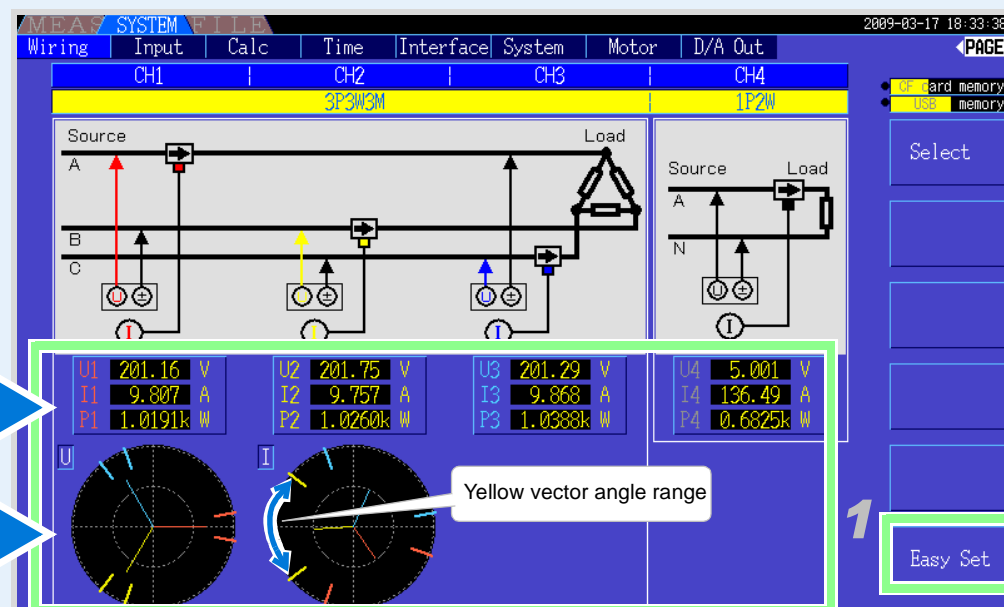
1 Press **F6 [Easy Set]**, and then **ENTER** to execute.

When execute quick setup

Executing quick setup automatically configures the following settings to the Hioki-recommended values for the selected wiring mode (phase system): voltage and current ranges, sync source, lower measurement frequency limit, integration mode, harmonic sync source and rectification method.

2 Verify that appropriate measurement values are displayed.

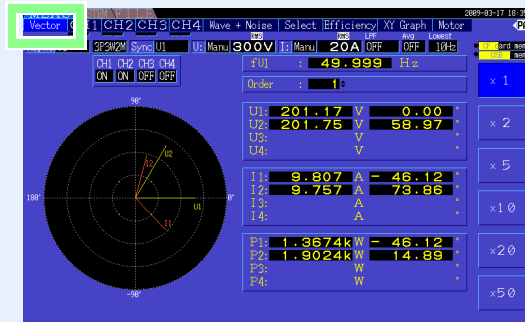
3 Verify that the vectors are displayed with the appropriate range, and that vectors are not too short, or of unequal lengths.



5. View Measurement Values

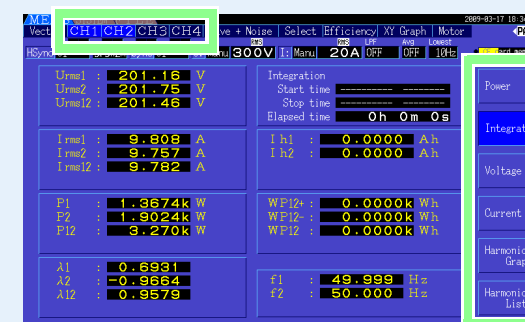
Press **MEAS** to display the Measurement screen, and press **◀ ▶** to select screen pages.

Vector



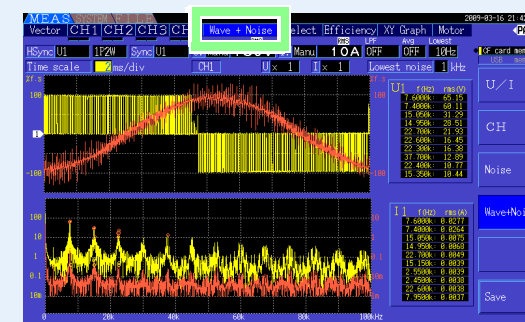
This page displays measured voltage, current, and power on channels 1 to 4 as numerical values and as vectors.

CH1 to CH4



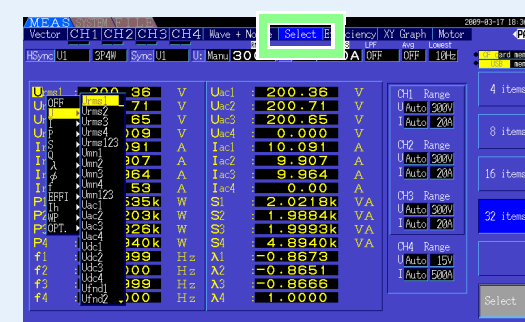
This page displays measured power, voltage and current values, integration values, and provides access to harmonic graphs and lists for each channel.

Wave + Noise

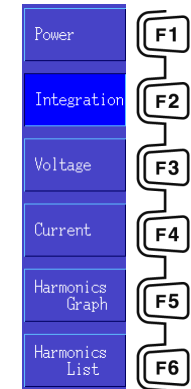


This page displays voltage, current, and noise waveforms. The waveforms can be saved.

Select



Select any parameter on this page for display.

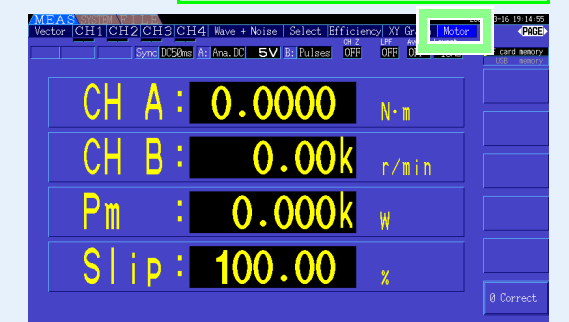


With the **F** keys

- Change display contents
- Select setting item

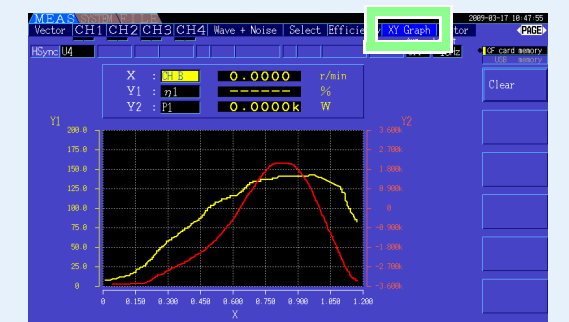
Motor

This page is available only when the Model 9791 Motor Testing Option or the 9793 Motor Testing & D/A Output Option is installed.



This page displays measured values for the motor analysis options.

XY Graph



This page displays an X-Y graph of measurement parameters selected for horizontal and vertical axes.

Efficiency



This page displays the numerical values of efficiency and loss determined by calculation formulas.