

PW3360-20, PW3360-21 CLAMP ON POWER LOGGER Measurement Guide

December 2013 Revised edition 2 Printed in Japan
PW3360A984-02 13-12H

Thank you for purchasing the HIOKI PW3360
Clamp on Power Logger.

This guide introduces the PW3360's basic mea-
surement procedure with the Quick Set to first-
time users.

Before using the instrument, be sure to read
the Instruction manual carefully.



Easy configuration with the Quick Set

How to configure electric energy measurement
for a 3-phase, 4-wire 220 V line

Setting Example Value

Wiring:	3P4W (3 phase, 4 wire)
Clamp sensor:	Model 9661 (500 A rating)
Current range:	50 A
Save to...:	SD memory card
Save interval:	5 minutes
Save items:	PW3360-20 Average only PW3360-21 Average only (no harmonics)
Filename:	Automatic
Rec. start method:	Interval
Rec. stop method:	Manual
Clock setting:	User-specified
Measurement frequency:	50 Hz

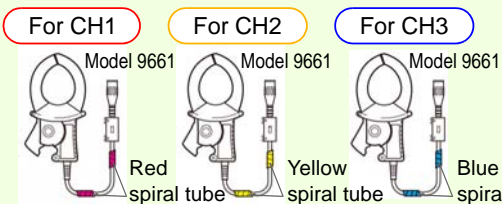
<You will need>

Concept image of measurement
3-phase, 4-wire 220 V line

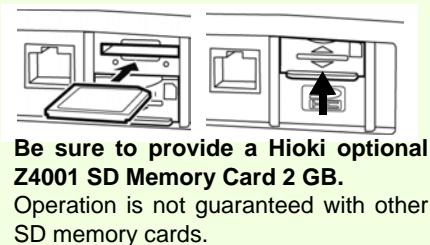
- Model PW3360 Clamp on Power Logger
- Model Z1006 AC Adapter
- Model Z4001 SD Memory Card 2GB (optional)
- Model L9438-53 Voltage Cords
 - Black (N)
 - Red (CH1)
 - Yellow (CH2)
 - Blue (CH3)
- Model 9661 Clamp on Sensor (optional) x 3
- Color Spiral tubes
 - Red (CH1)
 - Yellow (CH2)
 - Blue (CH3)

Getting reading

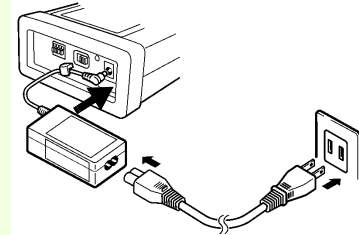
1 Attach the spiral tubes.



2 Insert the SD memory card.



3 Connect the AC adapter.

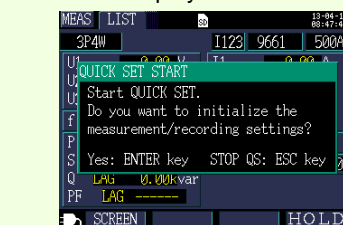


1 Starting the Quick Set

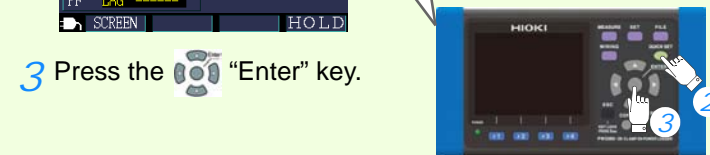
See: Instruction manual
"1.3 Names and Functions
of Parts"

1 Turn on the instrument.

2 Press the **QUICK SET** key.
The Quick Set Start dialog
will be displayed.



3 Press the **ENTER** key.



2 Basic settings

Configure the settings as the following screen, and then
press the **F2** "NEXT" key.

- WIRING: 3P4W (3Phase4Wire)
- CLAMP SENSOR: 9661 (500A)
- SAVE TO...: SD CARD
- CLOCK: 2013 Y 04 M 17 D 08 : 48 : 00

Set the current time.

3 Peripheral connections

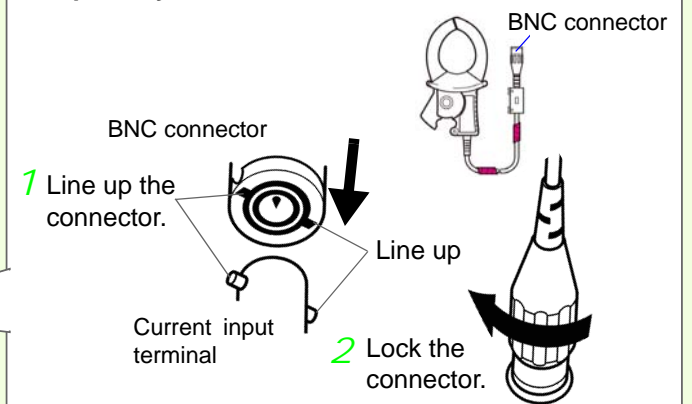
See: Instruction manual
"1.3 Names and Functions
of Parts"

- 1 Insert the voltage cord connectors.
- 2 Connect the clamp sensors.
- 3 Be sure that the SD memory card is inserted.
- 4 Press the **F2** "Next" key.

Align terminals and colors.

Connect the voltage leads and
clamp sensors using the color guides.

Proper way to connect a BNC connector



CAUTION

When disconnecting the BNC connector, be sure to
release the lock before pulling off the connector.
Forcibly pulling the connector without releasing the
lock, or pulling on the cable, can damage the con-
nector.

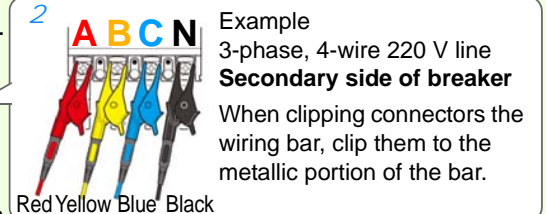
4 Connecting voltage cords to the measurement line

See: Instruction manual
"Chapter 3 Configuration and Measurement"

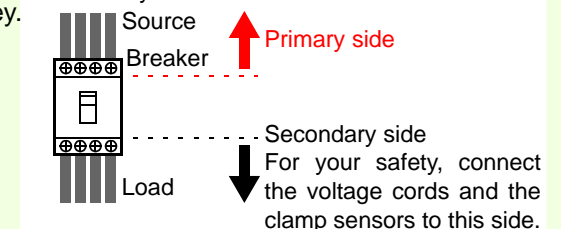
U1 222 V
U2 223 V
U3 221 V
f 50.0 Hz

PASS U INPUT
FAIL U PHASE

- 1 Check the wiring diagram.
- 2 Connect the voltage
cords to the second-
ary side of the breaker.
- 3 Check the readings.
In this example, the readings
should be approximately
220 V and 50 Hz.
- 4 Verify the results of
checking the wiring.



Hint
What are the primary and secondary sides of
the breaker?
The power source side of the breaker is called
the primary side; whereas the load side, the
secondary side.



Result is **FAIL**

- 1 Move the cursor to **FAIL** item.
- 2 Press the **ENTER** key.
- 3 Check key points and correct the wiring.

VOLTAGE PHASE SUMMARY

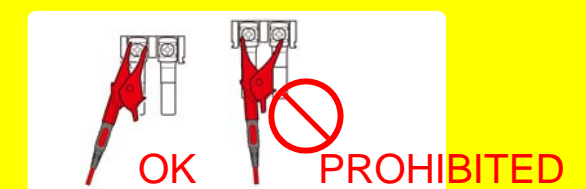
FAIL will display when the voltage
phase exceeds the range
(±10 degrees of reference.)

- Are the wiring settings correct?
- Are the voltage leads correctly
wired?
- Were the phases incorrectly laid
out during construction?

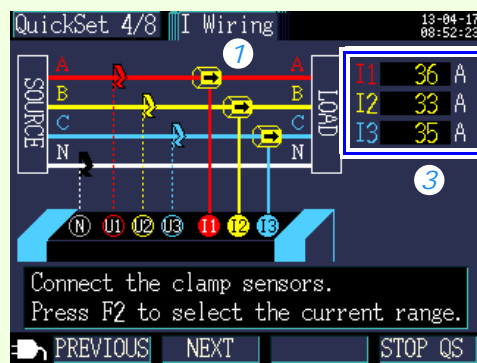
NEXT: ▾, Hit ESC to close.

DANGER

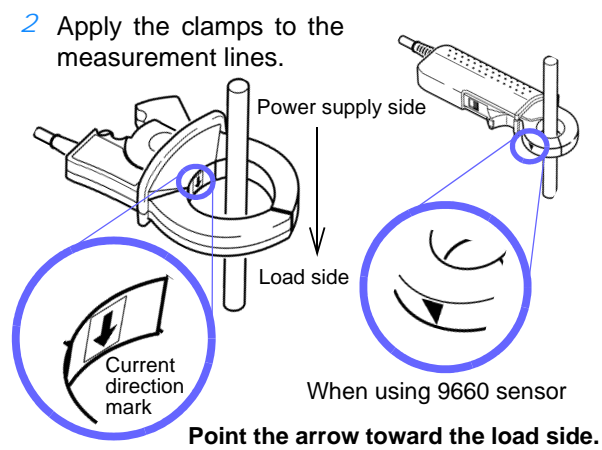
To avoid electric shock and short circuits, do not
allow the voltage cord clips to touch two wires at the
same time. Never touch the edge of the metal clips.



5 Connecting the clamp sensors to the measurement lines



- 1 Check the wiring diagram.
- 2 Connect the clamp sensors to the secondary side of the breaker.
- 3 Verify that measured values are being displayed.
- 4 Press the **F2** "Next" key.



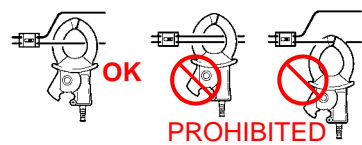
Hint

When the measured value is shown as 0 A
The zero suppression function (which forces the display to read "0 A" when the reading is 0.4% of the range) may cause the display to read "0 A." Try using a lower current range as described in the following step.

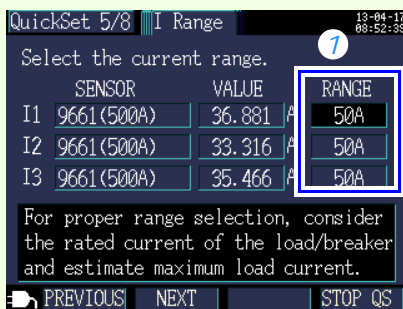
See: Instruction manual "2.6 Turning the Power On/Off"

Example: Zero suppression function
With the 500 A range
Display will read "0 A" when the measured value is 2 A (0.4% of 500 A) or less.

NOTE Clamp 1 conductor only.



6 Setting the current range

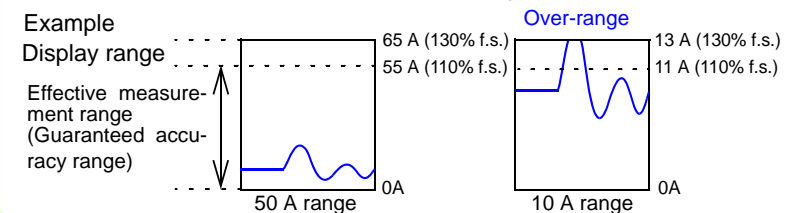


- 1 Set the range.
In this example, the instrument is set to 50 A.
- 2 Press the **F2** "Next" key.



Hint

Select an appropriate range based on factors such as the rated load, operating state, and breaker rating. When the range is too low, an over-range event will occur during measurement, preventing accurate measurement. When the range is too high, the magnitude of the error component will increase, preventing accurate measurement. Set the current range based on your expectation of the maximum load current that will flow during the measurement period.

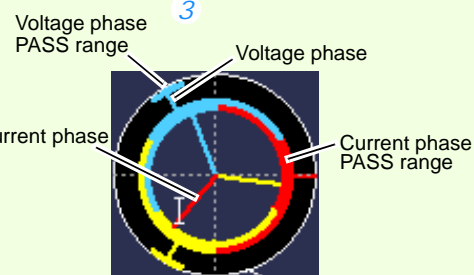
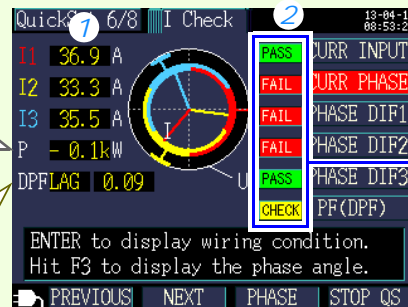


7 Checking the clamp sensor (current) wiring

- 1 Check measured values.

Is the value negative?
Check the wiring.

Is the value low? If the value is lower than 0.5, the instrument may be wired incorrectly. Check the wiring.

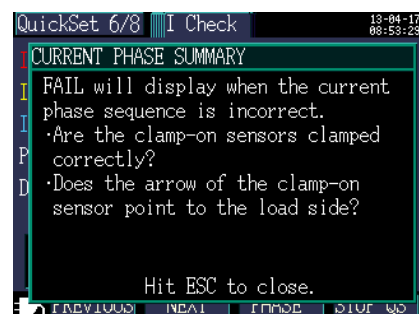


If all results are **PASS**, or if you check the wiring because **CHECK** is displayed but find no problems

- 3 Press the **F2** "Next" key.

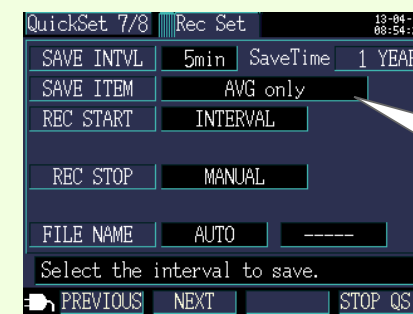
If a result is FAIL

- 1 Move the cursor to **FAIL** item.
- 2 Press the **Enter** key.
- 3 Check key points and correct the wiring.



8 Recording settings

Configure the settings as the following screen, and then press the **F2** "NEXT" key.



Verify that the value is longer than the period for which you wish to perform measurement. (The maximum data storage time is one year.)

PW3360-20 Average only
PW3360-21 Average only (no harmonics)



Hint

If the available save time is shorter than the measurement period, the following methods can be used to increase the available save time:

- Increase the save interval.
- If there is any unnecessary data on the SD memory card, delete it or reformat the card. (Exit the Quick Set and access the File screen.)

Example **Rec. start method:**

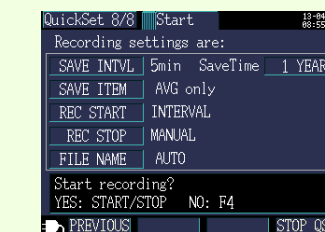
Interval time

With the save interval set to 5 min.

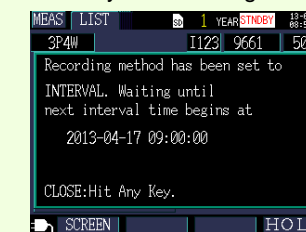


9 Checking settings and starting recording

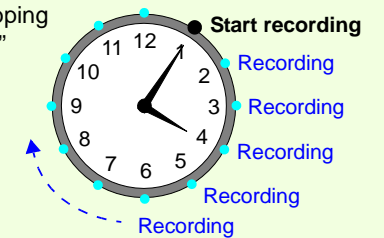
- 1 Check the settings.



Stand by for recording.



If you wish to close the window, press any key. The standby state will continue.



Data will be saved to the SD card for each save interval.

- 2 Press the **START/STOP** key.

The instrument will enter the standby state. Recording will start at a well-defined time.



Hint

The auto power-off function will cause the screen to turn off, but recording will continue (the Recording and Power LEDs will stay on).

- Press the **QUICK SET** key to display the Setting Confirmation screen, which allows you to check key recording and setting information on a single screen.



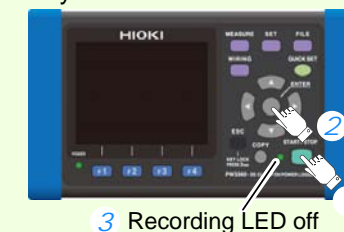
10 Stopping recording

- 1 Press the **START/STOP** key.

The Rec Stop dialog will be displayed.



- 2 Press the **Enter** key.



11 After measurement is complete

- 1 Disconnect the wires.
- 2 Turn off the instrument.
- 3 Disconnect the cables from the instrument.
- 4 Disconnect the AC adapter.
- 5 Remove the SD memory card.



Hint

Saved data can be loaded onto a computer and analyzed using the SF1001 Power Logger Viewer (optional) or an application such as Spreadsheet software. For more information, see the instruction manual. (Harmonic data is saved in a binary format and can only be analyzed by the SF101 Power Logger Viewer.)

See: Instruction manual "9.2 SF1001SF1001 Power Logger Viewer (Optional)"