

PW3365-20 CLAMP ON POWER LOGGER Measurement Guide



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Easy configuration with the **Quick Set**

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

Setting Items	Setting Example
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	: Average only
Folder/Filename	: Automatic
Rec. start method	: Interval
Rec. stop method	: Manual
Clock setting	: User-specified
Measurement frequency	: 50 Hz

You will need

- Model PW3365-20
- Model Z1008 AC Adapter
- Model PW9020 Safety Voltage Sensor x4
- Model 9661 Clamp on Sensor (optional) x 3
- SD memory card (optional)

Color clips for clamp sensors: Red (CH1), Yellow (CH2), Blue (CH3)

Color clips for voltage sensors: Red (CH1), Yellow (CH2), Blue (CH3)

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

Preparations

- Attach the color clips.**
- Insert the SD memory card. (on right side of instrument)**

Be sure to provide a Hioki optional SD Memory Card. Operation is not guaranteed with other SD memory cards.
- Connect the AC adapter. (on left side of instrument)**

1. Starting the Quick Set

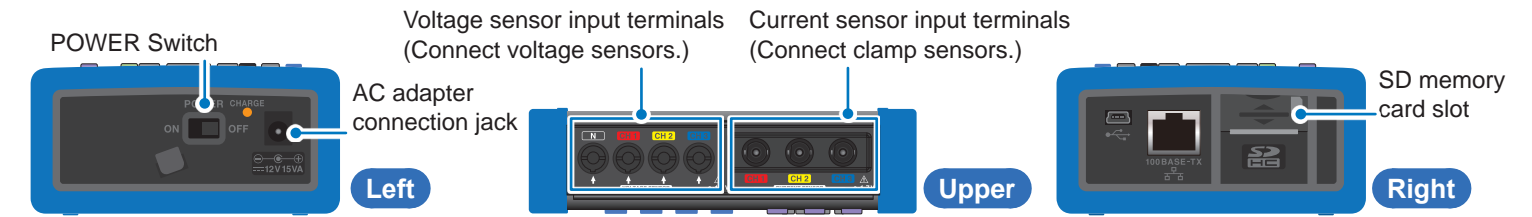
- Turn on the instrument. (on left side of instrument)
- Press the **POWER** key.
- Press the **ENTER** key.

The Quick Set Start dialog will be displayed.

2. Basic settings

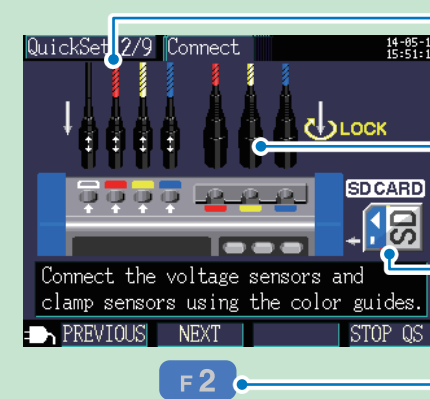
- Configure settings as shown in screenshot below.
- Press the **F2 [NEXT]** key.

Names of Parts (excerpt)

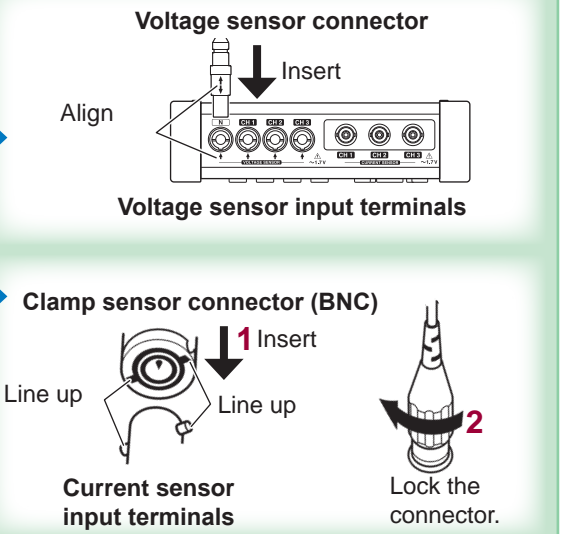


3. Connect the sensors to the instrument.

Match the color of each sensor's color clip to the color of the terminal.



- Connect the voltage sensors to the voltage sensor input terminals.
- Connect the clamp sensors to the current sensor input terminals.
- Be sure that the SD memory card is inserted. (on right side of instrument)
- Press the **F2 [NEXT]** key.



4. Connecting voltage sensors to the measurement target

Connect the voltage sensors. ENTER to view the SUMMARY.

- Refer to the wiring diagram to check the locations to which you have connected the voltage sensors.
- Connect the voltage sensors to the secondary side of the breaker.
- Check the readings.
- Verify the results of checking the wiring.
- Press the **F2 [NEXT]** key.

1 Move the cursor to **FAIL** item.

2 Press the **Enter** key.

3 Check the contents of the dialog box and correct the wiring.

Proper application

Example: 3-phase 4-wire 220 V line Secondary side of breaker

Align the insulated wire with the marks on the voltage sensor to the wire.

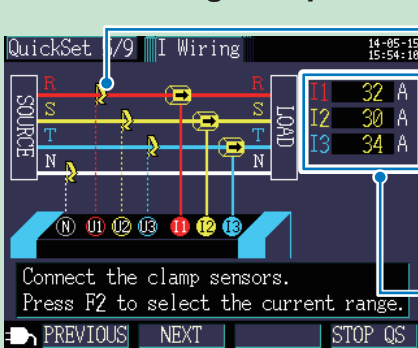
Improper application

Failure to apply the sensor properly will prevent you from being to make an accurate measurement.

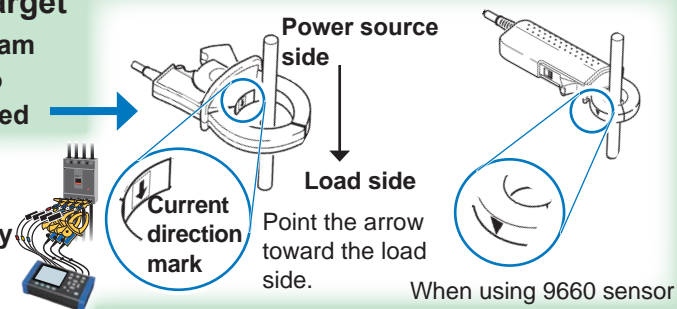
- Clamped with the tips of the clip
- Clamped too far back in the clip
- Clamped with the measurement target at an angle
- Clamping targets with different voltages at the same time

Tip
The power source side of the breaker is called the primary side; whereas the load side, the secondary side. For your safety, connect the voltage sensors and the clamp sensors to the secondary side.

5. Connecting clamp sensors to the measurement target



- 1 Refer to the wiring diagram to check the locations to which you have connected the clamp sensors.
- 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.



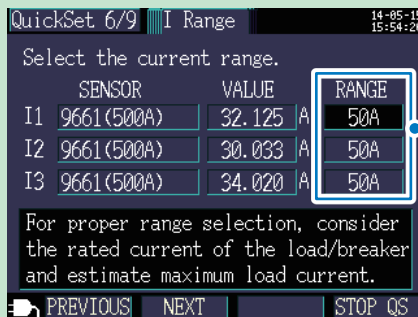
Tip *Example: For the 500 A range, values that are less than or equal to 2 A (0.4% of 500 A) will be displayed as 0 A.

When the measured value is shown as 0 A
The zero-display processing (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 lowering the current range while referring to "11.6 Range Configuration and Accuracy by Clamp Sensor" in the instruction manual.

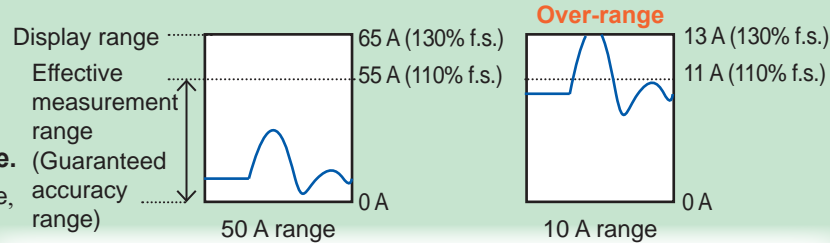
Reference
Clamp 1 conductor only.



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.



Tip
Set the current range based on the anticipated maximum load current that will occur during the measurement period. (Refer to the operating status, load rating, breaker rating, and other data to make this determination.) If the range is too low, the instrument will experience an over-range event during measurement, making accurate measurement impossible. If the range is too high, a large error component will result, making accurate measurement impossible.

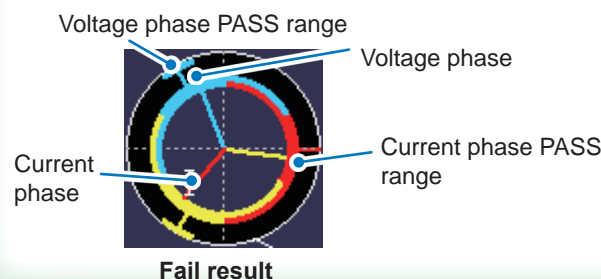
7. Checking the clamp sensor (current) wiring

- 1 **Check measured values.**
Is the value low or negative? Verify that the instrument has been wired (connected) correctly.
Is the value low? If the value is lower than 0.5, the instrument may be wired incorrectly. Check the wiring.

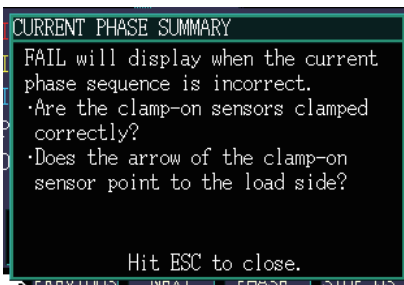


- 2 **Verify the results of checking the wiring.**
If all results are **PASS**, or if you check the wiring because **CHECK** is displayed but find no problems.
- 3 Press the **F2 [NEXT]** key.

Check even if the graph display falls within the pass range.

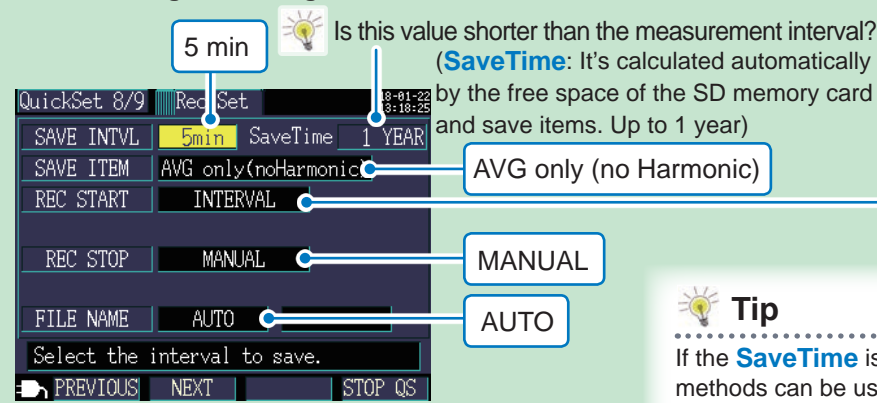


- 1 Move the cursor to **FAIL** item.
- 2 Press the **Enter** key.
- 3 Check the contents of the dialog box and correct the wiring.



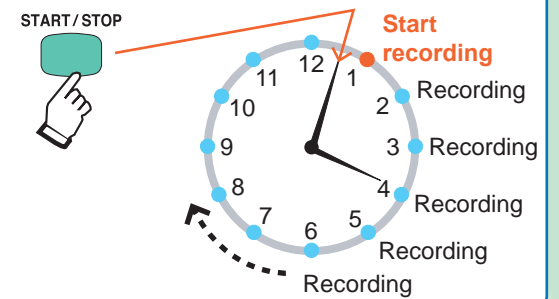
8. Recording settings

- 1 **Configure settings as shown in screenshot below.**



- 2 Press the **F2 [NEXT]** key.

Rec. start method: INTERVAL
Example: With the save interval set to 5 min.

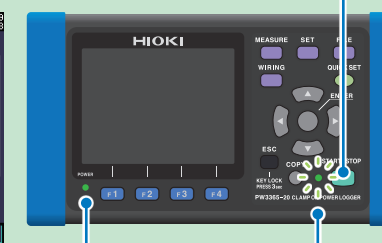
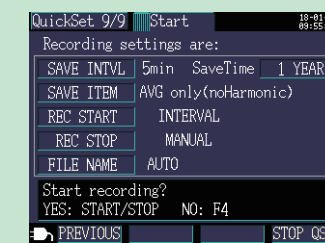


Tip
If the **SaveTime** is shorter than the measurement period, the following methods can be used to increase the available save time:
• Increase the **SAVE INTVL**.
• If there is any unnecessary data on the SD memory card, delete it or reformat the card. (Exit the Quick Set and access the File screen.)

9. Checking settings and starting recording

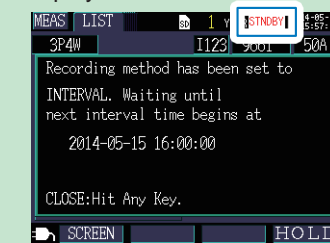
For more information, see "Chapter 6 Starting and Stopping Recording and Measurement" in the instruction manual.

- 1 **Check the settings.**
- 2 Press the **START/STOP** key.



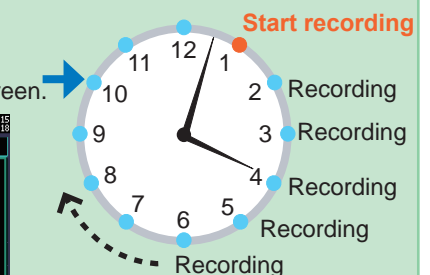
POWER LED
Recording LED flashing (standby)

The standby screen will be shown. Pressing any key will display the Measurement screen.



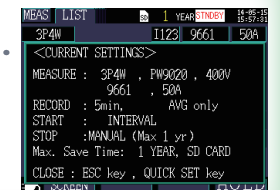
(Standby state continues.)

Recording will start at a well-defined time.



Data will be saved to the SD memory card for each save interval.
Recording LED lit up (recording)

- Tip**
- 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 **START/STOP** 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.
A dialog box asking you to confirm that you wish to stop recording will be displayed.
- 2 Press the **Enter** key.
Recording will be stopped.



After measurement is complete

- 1 Disconnect the sensors from the measurement target.
- 2 Turn off the instrument.
- 3 Disconnect the sensors from the instrument.
- 4 Disconnect the AC adapter. (on left side of instrument)
- 5 Remove the SD memory card.

Tip
For more information, see "9.3 SF1001 Power Logger Viewer (Optional)" in the instruction manual.

Saved data can be loaded onto a computer and analyzed using the SF1001 Power Logger Viewer (optional) or an application such as Spreadsheet software.