

## 1. Sample Program Instruction for PW6001 driver

### 1.1 Startup / Stop

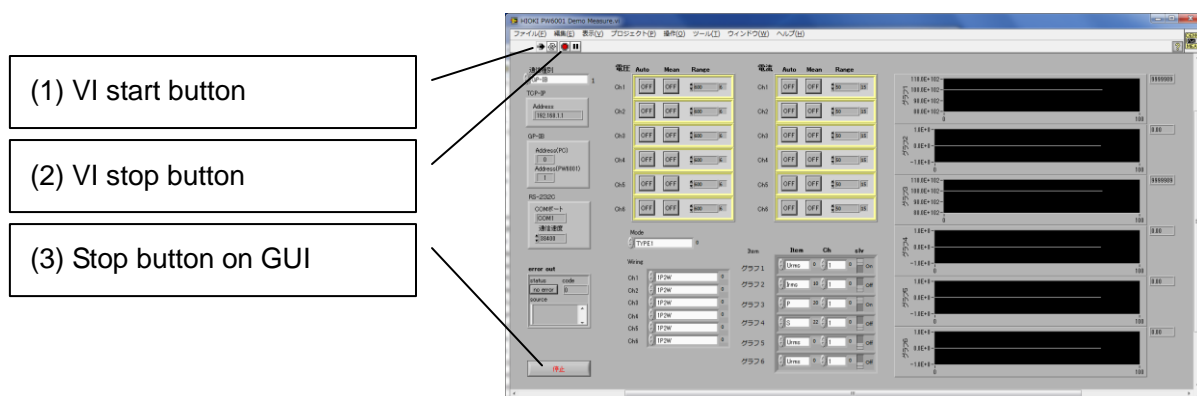
The application shown like below pops up when the following VI starts

HIOKI PW6001 Demo Measure.vi

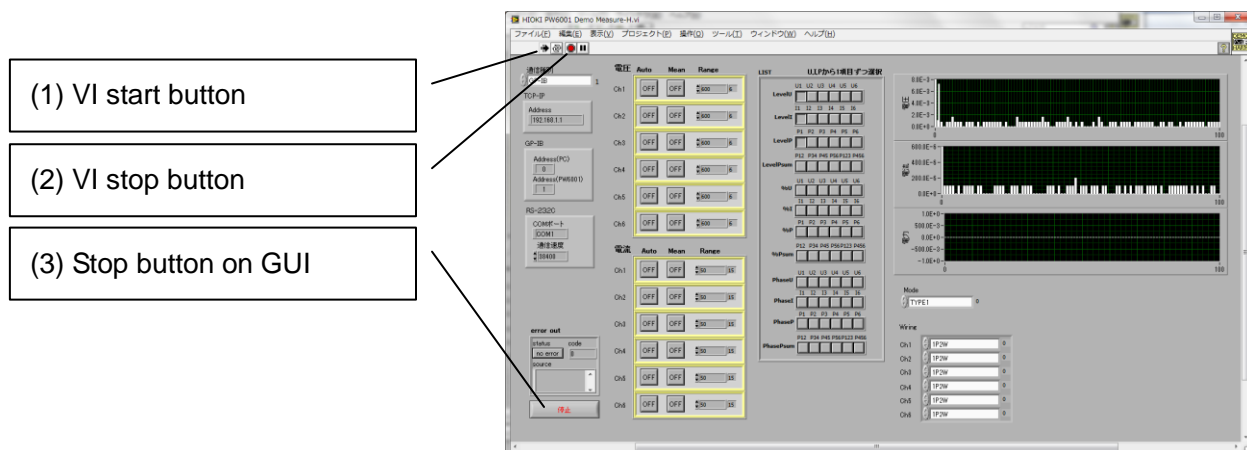
HIOKI PW6001 Demo Measure-H.vi

“(1)VI Start button” runs the application. “(3) Stop button on GUI” just stop the application. “(2)VI stop button” terminates the application in the case that (3) seems not clickable.

HIOKI PW6001 Demo Measure.vi



HIOKI PW6001 Demo Measure-H.vi



## 1.2 HIOKI PW6001 Demo Measure.vi

### 1.2.1 Main screen

Voltage / Current / Active power / Apparent power etc. are displayed in a graph with 100ms rate.

The screenshot shows the front panel of the HIOKI PW6001 Demo Measure.vi. The interface is divided into several sections:

- Communications Interfaces:** Located on the left, it includes fields for ComType (TCP-IP), Address (192.168.1.1), GP-IB, Address(PC) (9), Address(PW6001) (1), RS-232C, COMPort (COM1), and baud rate (57600).
- Measurement Settings:** In the center, there are two columns of settings for Voltage (VOLT) and Current (CURT). Each column has six channels (Ch1 to Ch6) with buttons for Auto, Mean, and Range. The Range is set to 500 for Voltage and 50 for Current.
- Wiring Mode:** A dropdown menu labeled "Mode" is set to "TYPE1".
- Wiring Data:** A table labeled "Wiring" shows settings for Ch1 to Ch6. The default is "1P2W" for all channels.
- Item Selection:** A table labeled "Item" allows selecting items to graph. The default is "Urms" for all channels.
- Graphs:** On the right, there are six graphs (Graph 1 to Graph 6) displaying measured values. The y-axis ranges from -1.0E+0 to 1.0E+0.
- Error Handling:** A section labeled "error out" includes a "status" field (set to 0) and a "source" field.

Callouts provide additional information:

- "Set communications interfaces." points to the ComType and Address fields.
- "Allows the user to configure the communications interface." points to the Address(PC) and Address(PW6001) fields.
- "Set voltage and current range." points to the Range buttons in the VOLT and CURT sections.
- "Measured value selected in 'Item' is displayed in the graph." points to the Item selection table.
- "Specify the wiring data. 1P2W is default." points to the Wiring table.
- "Specify the wiring mode. TYPE1 is default." points to the Mode dropdown.
- "Item: Select the items to graph." points to the Item selection table.
- "Error message displays as error occurs." points to the error out section.

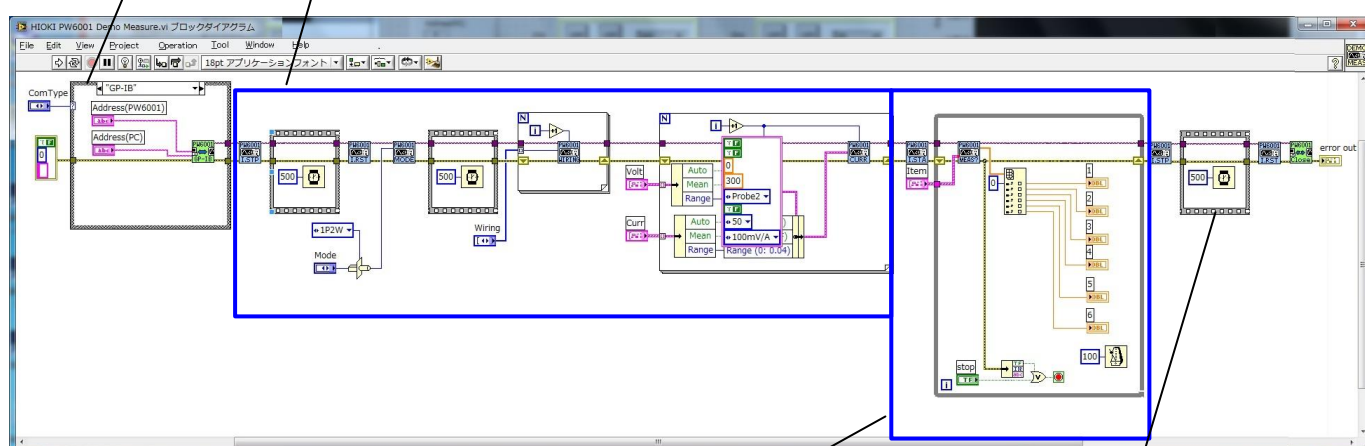
\*All settings except the graph must be done prior to starting the program.

Any changes of the setting during the operation may not result in what you expect.

## 1.2.2 Diagram (vi source code)

Connecting to PW6001 in chosen communication interface

The following steps are required to set up PW6001.  
INTEGrate:STOP -> INTEGrate:RESet -> Set wiring mode  
-> Set voltage and current range. ->INTEGrate:STARt



Measurement of the data.  
Graph updates in 100ms cycle.  
\* In RS-232C, the updating period of the graph may consist of communication speed than 100ms.

Terminate the connection of PW6001 after  
INTEGrate:STOP -> INTEGrate:RESet

## 1.3 HIOKI PW6001 Demo Measure-H.vi

### 1.3.1 Main screen

Harmonic data (U / I / P) is displayed in bar graph.

The screenshot shows the main interface of the HIOKI PW6001 Demo Measure-H.vi software. The interface is divided into several sections:

- Communications Section (Left):** Includes fields for TCP-IP (Address: 192.168.1.1), RS-232C (COM1, Baud rate: 38400), and a status code field.
- Measurement Settings Section (Center):** Contains tabs for Volt and Curr (Current). Each tab has a table for 6 channels (Ch1 to Ch6) with settings for Auto, Mean, and Range. The Volt tab shows a range of 600 V, and the Curr tab shows a range of 50 A.
- LIST Section (Center-Right):** Contains fields for LevelU, LevelI, LevelP, %U, %I, %P, PhaseU, PhaseI, and PhaseP. A note below states "selects from U, I, and P by one item".
- Graph Section (Right):** Displays three bar graphs for harmonic data. The top graph is for LevelU, the middle for LevelI, and the bottom for LevelP. The y-axis ranges from -1.0E+0 to 1.0E+0.
- Wiring Section (Bottom Right):** Includes a Mode dropdown (set to TYPE1) and a Wiring section with 6 channels (Ch1 to Ch6) each set to 1P2W.

Callouts provide additional information:

- Set communications interfaces.** (Points to the TCP-IP and RS-232C fields)
- Allows the user to configure the communications interface.** (Points to the TCP-IP field)
- Item: Select the items to graph.** (Points to the LIST section)
- Measured value selected in "Item" is displayed in the graph.** (Points to the bar graphs)
- Set voltage and current range.** (Points to the Range fields in the Volt and Curr tabs)
- Specify the wiring data. 1P2W is default.** (Points to the Wiring section)
- Specify the wiring mode. TYPE1 is default.** (Points to the Mode dropdown)
- Error message displays as error occurs.** (Points to the status code field)

\*All settings except the graph must be done prior to starting the program.

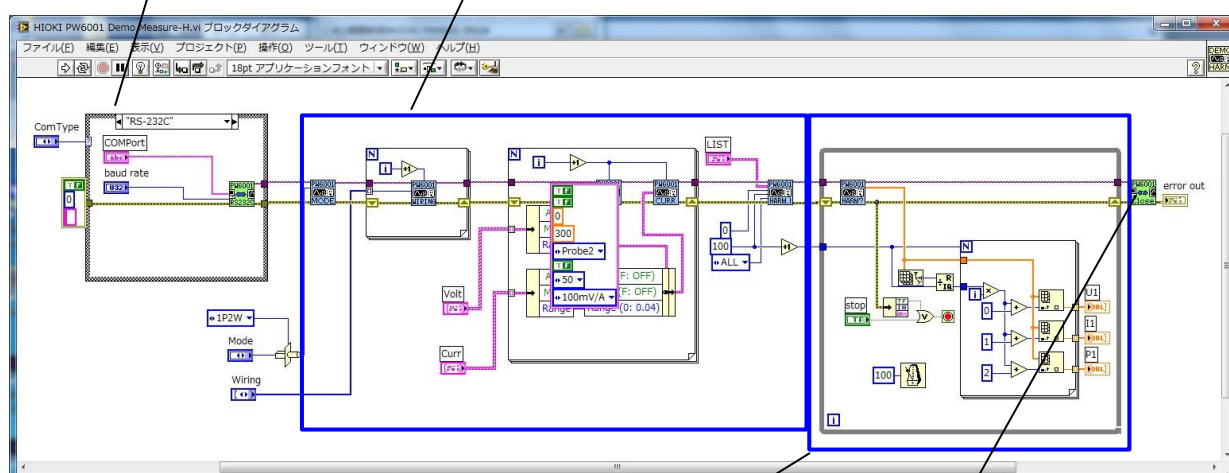
Any changes of the setting during the operation may not result in what you expect.

Select only one item from U / I / P fields respectively. Invalid data will show up in the case of multiple items selected.

## 1.3.2 Diagram (vi source code)

Connecting to PW6001 in chosen communication interface

The following steps are required to set up PW6001.  
Set wiring mode -> Set voltage and current range.  
-> Set harmonic wave output.



Measurement of the data.

Graph updates in 100ms cycle.

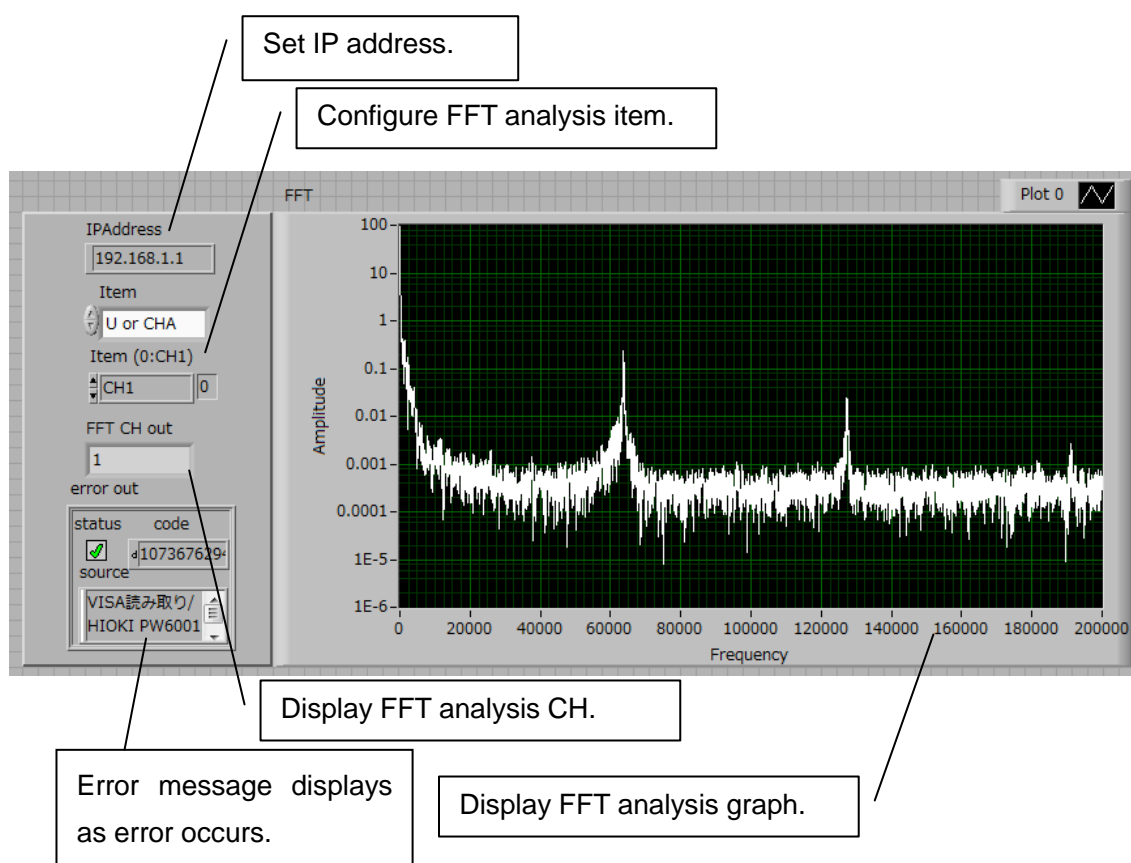
\* In RS-232C, the updating period of the graph may consist of communication speed than 100ms.

Terminate the connection of PW6001.

## 1.4 HIOKI PW6001 Demo Measure\_FFT.vi

### 1.4.1 Main Screen

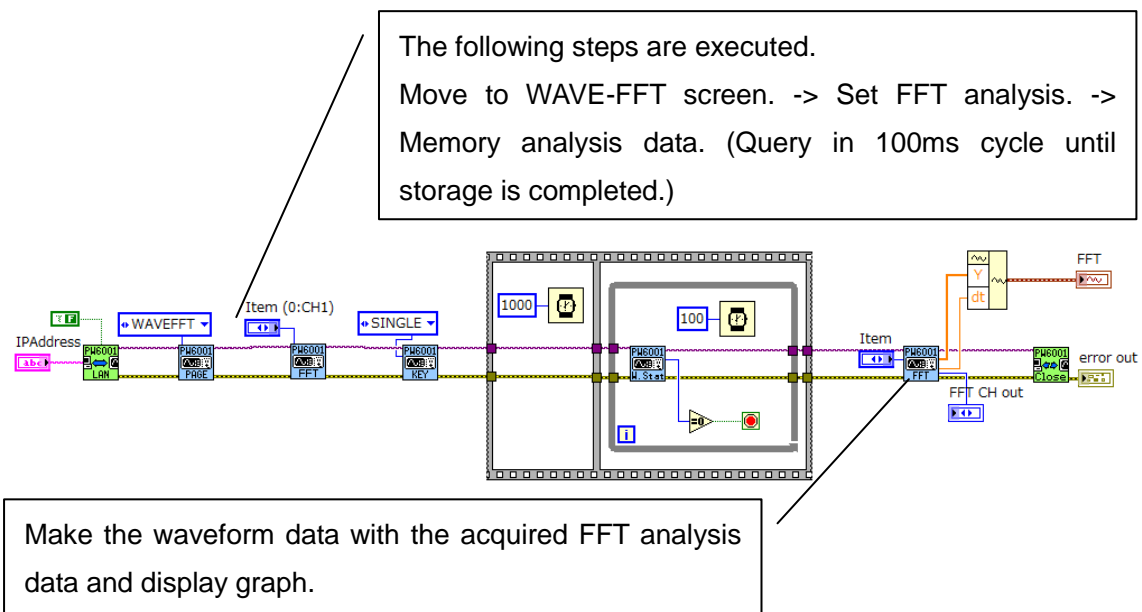
Display FFT analysis data on the graph. This VI is valid only when connected to LAN.



Note:

Specify the FFT analysis setting before starting the program.

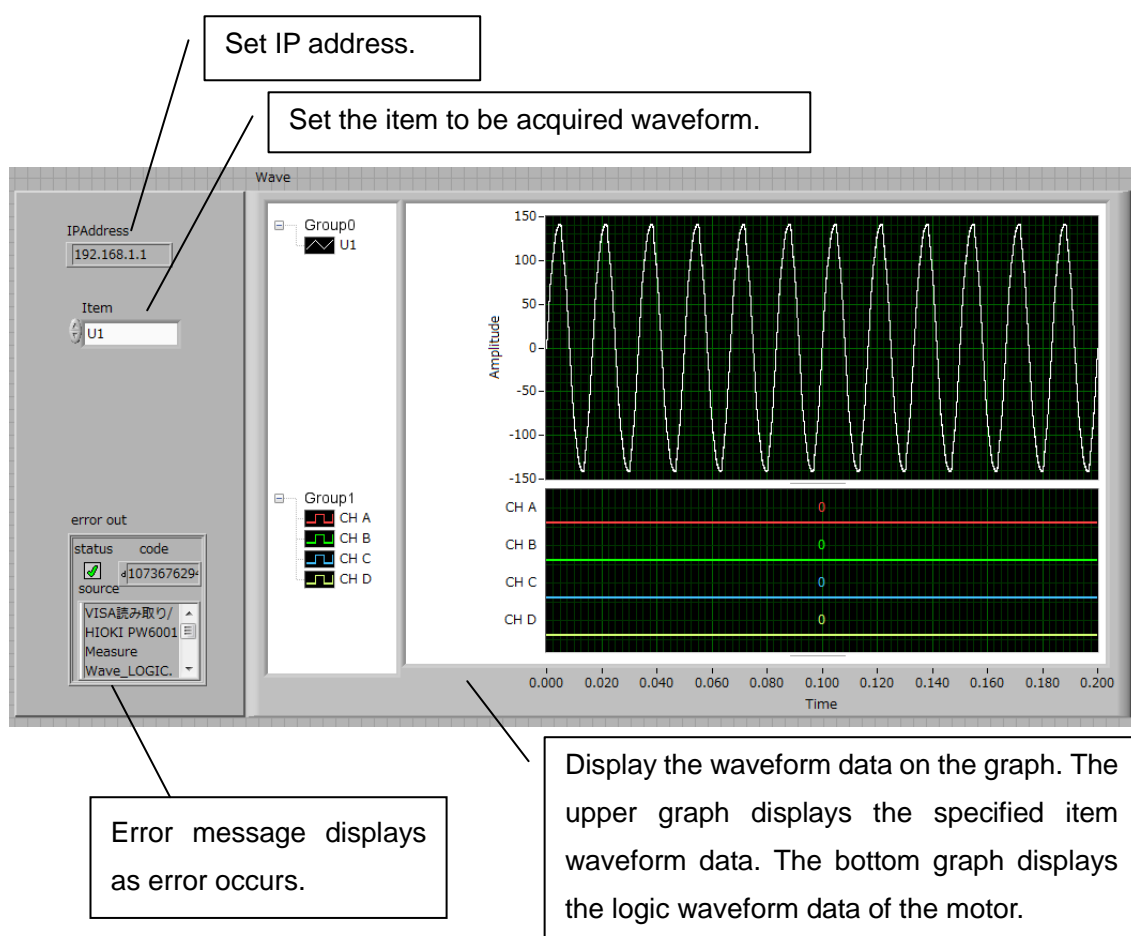
## 1.4.2 Diagram (vi source code)



## 1.5 HIOKI PW6001 Demo Measure\_Wave.vi

### 1.5.1 Main Screen

Display the analog waveform data and the logic waveform data on the graph. This VI is valid only when connected to LAN. In order to display the logic waveform data of the motor, the motor analysis option is required.

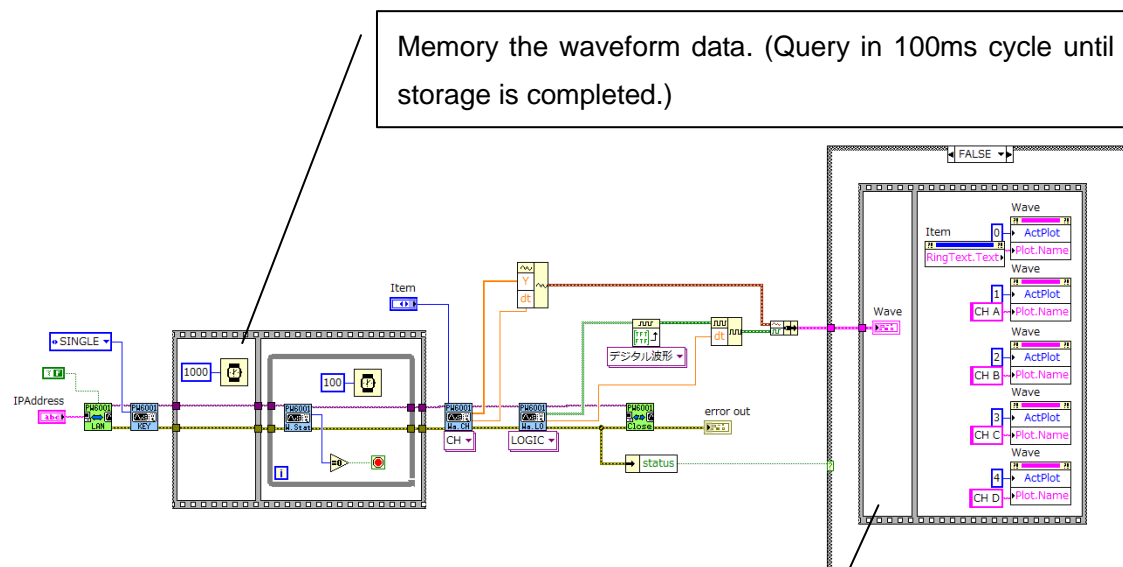


Note:

Specify the acquired waveform setting before starting the program.



## 1.5.2 Diagram (vi source code)



The following steps are executed.

Acquire the waveform data. -> Make the waveform. ->  
Combine analog waveform and digital waveform into one  
graph. -> Display the graph. -> Change the plot names.

## Revision History

Edition	Contents	Reviser	Date
1.00	First Edition	HIOKI	2015/10/15
2.00	Adding the “Demo Measure_FFT.vi” and “Demo Measure_Wave.vi”	HIOKI	2017/10/31