

Thank you for downloading the PW3335 LabVIEW driver.

This LabVIEW driver is used to control and collect data from our Power Meter PW3335, -01, -02, -03, and -04 by using the LabVIEW manufactured by National Instruments Corporation.

Refer to the “**Driver list**” below for the driver types and a detailed description of each driver.

◆ Specifications

1. Operation has been checked in the LabVIEW versions 2009 to 2014.
2. Each driver can control and obtain data from the PW3335.

◆ Operation environment

The personal computer must be running Microsoft Windows 7, or 8, and the LabVIEW. It must also be installed with any of the RS-232C, LAN, and GP-IB interfaces.

Note.

1. NI-VISA and NI-488.2 are necessary.

The versions of NI-VISA and NI-488.2 that can work with LabVIEW vary according to the version of LabVIEW. Please visit the National Instruments Corporation's website to download NI-VISA and NI-488.2 the versions of which are guaranteed to operate with your LabVIEW.

2. The GP-IB interface manufactured by National Instruments Corporation.
3. It also depends on the operation specifications of the LabView.

In any versions other than version 2009, the program may be automatically recompiled.

Even for a personal computer running an operation system other than those specified above, we assume that drivers can still function properly as long as the computer supports the LabVIEW. However, if any error occurs, please contact us.

◆ Content of the files

readme_E.pdf	This file
HIOKI3335.llb	LabVIEW driver for PW3335
Communication Command Instruction Manual_E.pdf	Communication command manual
DEMO vi Manual_E.pdf	Instruction manual for DEMO Measure*.vi

◆ Important reminder

1. Copyright  
The copyrights of this driver and any related documents belong to Hioki E.E. Corporation.
2. Conditions of use  
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This driver is free software. It can be used for any purpose under the user's own responsibility. We do not assume any responsibility for any results arising from using this software.


















◆ Version Upgrade History








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## Driver list

Driver name	Icon	Description
HIOKI PW3335 Initialize.vi		Opens the communication interface Initial setting of RS-232C/LAN/GP-IB
HIOKI PW3335 Close.vi		Closes the communication interface
HIOKI PW3335 IDN.vi		Executes the *IDN? command (device ID acquisition)
HIOKI PW3335 OPT.vi		Executes the *OPT command (optional information acquisition)
HIOKI PW3335 RST.vi		Executes the *RST command (system reset)
HIOKI PW3335 CLS.vi		Clears the event register
HIOKI PW3335 ESE SRE.vi		Sets/queries the event status enable register
HIOKI PW3335 ESR STB.vi		Obtains the event register
HIOKI PW3335 TRG.vi		Executes the *TRG command (measurement trigger)
HIOKI PW3335 OPC.vi		Executes the *OPC command (process termination)
HIOKI PW3335 WAI.vi		Executes the *WAI command (waiting for processing)
HIOKI PW3335 ERROR.vi		Outputs the error information.
HIOKI PW3335 Conf Voltage.vi		Sets/queries the voltage range, voltage auto range, selecting the voltage range, zero-cross filter's threshold level, and VT ratio
HIOKI PW3335 Conf Current.vi		Sets/queries the current input type, current range , current auto range, selecting the current range, zero-cross filter's threshold level, and CT ratio
HIOKI PW3335 Conf Source.vi		Sets/queries the synchronous source, frequency range, and timeout
HIOKI PW3335 Conf Averaging.vi		Sets/queries the average number of times
HIOKI PW3335 Conf IntegTime.vi		Sets/queries the integration time, and auto-range integration mode
HIOKI PW3335 Conf Harmonic.vi		Sets/queries the harmonic analysis upper limit order

Driver name	Icon	Description
HIOKI PW3335 Conf SyncControl.vi		Sets/queries the synchronous condition for multiple systems
HIOKI PW3335 Conf AOUT.vi		Sets/queries the D/A output items
HIOKI PW3335 Display.vi		Sets/queries the normal measurement display items Use "Display Mode Select.vi" for switching the display.
HIOKI PW3335 DisplayHRM.vi		Sets/queries the harmonic display items common to all Orders Use "Display Mode Select.vi" for switching the display.
HIOKI PW3335 DisplayHRM Select.vi		Sets/queries the harmonic display items for order selection Use "Display Mode Select.vi" for switching the display.
HIOKI PW3335 Display Mode Select.vi		Switches/queries the display
HIOKI PW3335 Hold.vi		Switches/queries the HOLD/MAX/MIN value and resets the maximum/minimum value
HIOKI PW3335 Integrate_Start.vi		Starts the integration
HIOKI PW3335 Integrate_Stop.vi		Stops the integration
HIOKI PW3335 Integrate_Reset.vi		Resets the integration value
HIOKI PW3335 Integrate_State.vi		Obtains the integration status
HIOKI PW3335 ZeroADJ.vi		Executes zero adjustment and checks the condition
HIOKI PW3335 MeasureUIP.vi		Obtains the voltage, current, active power, and power factor data for normal measurement
HIOKI PW3335 MeasureUIP_MAX.vi		Obtains the maximum values of the voltage, current, active power, and power factor data for normal measurement
HIOKI PW3335 MeasureUIP_MIN.vi		Obtains the minimum values of the voltage, current, active power, and power factor data for normal measurement
HIOKI PW3335 MeasurePower.vi		Obtains the active power, apparent power, reactive power, and power factor data for normal measurement
HIOKI PW3335 MeasurePower_MAX.vi		Obtains the maximum values of the active power, apparent power, reactive power, and power factor data for normal measurement
HIOKI PW3335 MeasurePower_MIN.vi		Obtains the minimum values of the active power, apparent power, reactive power, and power factor data for normal measurement

Driver name	Icon	Description
HIOKI PW3335 MeasureDEG.vi		Obtains the phase angle data for normal measurement Can be selected from instantaneous, maximum and minimum values
HIOKI PW3335 MeasureFREQ.vi		Obtains the frequency data Can be selected from instantaneous, maximum and minimum values
HIOKI PW3335 MeasureEtc.vi		Obtains the voltage peak, current peak, voltage crest factor, current crest factor, voltage ripple rate, current ripple rate, total harmonic voltage distortion rate, total harmonic current distortion rate, and maximum current ratio
HIOKI PW3335 MeasureEtcMAX.vi		Obtains the maximum values of the voltage peak, current peak, voltage crest factor, current crest factor, voltage ripple rate, current ripple rate, total harmonic voltage distortion rate, total harmonic current distortion rate, and maximum current ratio
HIOKI PW3335 MeasureEtcMIN.vi		Obtains the minimum values of the voltage peak, current peak, voltage crest factor, current crest factor, voltage ripple rate, current ripple rate, total harmonic voltage distortion rate, total harmonic current distortion rate, and maximum current ratio
HIOKI PW3335 MeasureTav.vi		Obtains the time average data
HIOKI PW3335 MeasureIntegWP.vi		Obtains the active power integration value data
HIOKI PW3335 MeasureIntegIH.vi		Obtains the current integration value data
HIOKI PW3335 MeasureWrite.vi		Obtains the desired items for normal measurement
HIOKI PW3335 MeasureHRM Level.vi		Obtains the voltage, current, and active power harmonic level data
HIOKI PW3335 MeasureHRM LevelMAX.vi		Obtains the maximum values of the voltage, current, and active power harmonic level data
HIOKI PW3335 MeasureHRM LevelMIN.vi		Obtains the minimum values of the voltage, current, and active power harmonic level data
HIOKI PW3335 MeasureHRM Con.vi		Obtains the voltage, current, and active power harmonic content percentage data
HIOKI PW3335 MeasureHRM ConMAX.vi		Obtains the maximum values of the voltage, current, and active power harmonic content percentage data
HIOKI PW3335 MeasureHRM ConMIN.vi		Obtains the minimum values of the voltage, current, and active power harmonic content percentage data
HIOKI PW3335 MeasureHRM Phase.vi		Obtains the voltage, current, and active power harmonic phase data
HIOKI PW3335 MeasureHRM PhaseMAX.vi		Obtains the maximum values of the voltage, current, and active power harmonic phase data

Driver name	Icon	Description
HIOKI PW3335 MeasureHRM PhaseMIN.vi		Obtains the minimum values of the voltage, current, and active power harmonic phase data
HIOKI PW3335 RS232C.vi		Sets/queries the RS-232C communication speed Can be set via the GP-IB or LAN communication
HIOKI PW3335 LAN.vi		Sets/queries the IP address, subnet mask, and default gateway for the LAN Can be set via the RS-232C or GP-IB communication
HIOKI PW3335 GPIB.vi		Sets/queries the GP-IB address Can be set via the RS-232C or LAN communication
HIOKI PW333X Read_Write.vi		Sends the communication commands and receives data
HIOKI PW3335 Demo Measure.vi		Obtains the normal measurement data and displays a graph Examples of using the following programs HIOKI PW3335 Initialize.vi HIOKI PW3335 Close.vi HIOKI PW3335 OPT.vi HIOKI PW3335 ERROR.vi HIOKI PW3335 Conf Voltage.vi HIOKI PW3335 Conf Current.vi HIOKI PW3335 MeasureWrite.vi HIOKI PW3335 Integrate_Start.vi HIOKI PW3335 Integrate_Stop.vi HIOKI PW3335 Integrate_Reset.vi
HIOKI PW3335 Demo Measure_H.vi		Obtains the harmonic data and displays a bar graph Examples of using the following programs HIOKI PW3335 Initialize.vi HIOKI PW3335 Close.vi HIOKI PW3335 OPT.vi HIOKI PW3335 ERROR.vi HIOKI PW3335 Conf Voltage.vi HIOKI PW3335 Conf Current.vi HIOKI PW3335 MeasureHRM Level.vi HIOKI PW3335 MeasureHRM Con.vi HIOKI PW3335 MeasureHRM Phase.vi

Refer to the HELP window for a detailed description of each driver.

In the HELP window, in addition to the terminal name and description (notated in English), the used communication commands are also displayed.

The brackets [ ] written next to a communication command indicate a page number in the manual.

Refer to the manual for the features, restrictions, and setting range of each command.

**HIOKI PW3335 Conf Voltage.vi**

Set and read voltage setting. Please see below for commands used in this VI.  
Please refer to the communication command in the Instruction Manual. "?" mark is the Query message. [ ]: page

Terminal name	Description	Communication command	Page number in the manual
[Voltage range set]	Set and Query the Voltage Range Setting.	:VOLTage:RANGe(?)	[43]
[Voltage range out]			
[Voltage autorange set]	Set and Query the Voltage Auto Range setting.	:VOLTage:AUTO(?)	[42 or 43]
[Voltage autorange out]			
[VT ratio set]	Set and Query the VT Ratio Setting.	:SCALE:VT(?)	[55]
[VT ratio out]			
[RANGE SELECT]	Set and Query whether to select the voltage range.	:VOLTage:SElect:U6V(?) - U1000V(?)	[44 or 45]
[RANGE SELECT out]			
[FILTER LEVEL[%]]	Set and Query the voltage synchronization source detection	:SOURce:FILTer:LEVel:U6V(?) - U100V(?)	[53]
[FILTER LEVEL out[%]]			
[Response Header (F)]	Set Response Message Headers ON/OFF Status.	:HEADer(?)	[108 or 109]

For two page numbers in a pair of brackets, the former is of English manual; the latter, of Japanese manual.

Allows you to check the features, restrictions, and setting range of the command.

Among the input/output parameters, “**Connection settings in/out**” and “**error in/out**” are common parameters for all vi programs. If there are any additional parameters, the description will be included in the section of the relevant vi program.

The following are the descriptions of the “**Connection settings in/out**” and “**error in/out**” parameters, as well as the “**Query? (F)**”, “**Error Out (F)**”, “**Item (string)**” and “**String out**” parameters, which are the major common setting parameters.

#### ■ **Connection settings in/out**

This parameter is used to send/receive the connection information to/from the current communication line (LAN/RS-232C/GP-IB). The line type output from the HIOKI PW3335 Initialize.vi program is connected via the input/output line of each vi program.

#### ■ **error in/out**

This parameter is used to send/receive the error information. The following error codes contain the unique error information.

1223: When \*IDN is sent from the PW3335 Initialize.vi, this error information is output if an error occurs or the manufacturer/model name of the obtained device ID is anything other than “HIOKI”.

1300: When the error check function using “\*ESR?” is activated in each driver, this error information is output if data other than 0 is returned as a response to “\*ESR?”. The response to “\*ESR?” is displayed in the error source column as the “ESR Code”.

#### ■ **Query? (F)**

This is a Boolean query provided for the vi program that can be used to send both the setting commands and query commands. When F is set, this is used to send a setting command; when T is set, this is used to send a query command.

#### ■ **Error Out (F)**

This parameter determines whether or not to check errors using “\*ESR?”. When F is set, errors are not checked; when T is set, errors are checked.

#### ■ **Item (string)**

This is response message of the MEASure command.

#### ■ **String out**

This is response message of the command except the MEASure command.