



**PW6001 Power Analyzer
Driver Function
User's Manual
(Function Manual)**

Revision History

Edition	Contents	Reviser	Date
1.00	First Edition	HIOKI	2015/10/15
2.00	Revise the “Conf Triger.vi” Adding the argument for “Conf External Motor.vi” and “Conf Source.vi” Revise the input range of “Conf Scale.vi” Adding the “Measure Wave.vi”, “Wave State.vi”, “Measure FFT.vi” and “ScreenShot.vi”.	HIOKI	2017/10/30

Contents

1. Overview	6
2. Precondition	6
3. Driver Explanation.....	7
3.1 Driver Common Input & Output.....	7
3.1.1 Input Items.....	7
3.1.2 Output Items	7
3.2 Common Commands.....	8
3.2.1 HIOKI PW6001 Initialize RS-232C.vi.....	8
3.2.2 HIOKI PW6001 Initialize LAN.vi	9
3.2.3 HIOKI PW6001 Initialize GP-IB.vi.....	10
3.2.4 HIOKI PW6001 Close.vi	11
3.2.5 HIOKI PW6001 CLS.vi	12
3.2.6 HIOKI PW6001 ESR.vi.....	13
3.2.7 HIOKI PW6001 IDN.vi	15
3.2.8 HIOKI PW6001 OPC.vi	16
3.2.9 HIOKI PW6001 OPT.vi	17
3.2.10 HIOKI PW6001 RST.vi.....	18
3.2.11 HIOKI PW6001 TRG.vi.....	19
3.2.12 HIOKI PW6001 WAI.vi.....	20
3.2.13 HIOKI PW6001 Read_Write.vi	21
3.3 Device Specific Command.....	22
3.3.1 HIOKI PW6001 Conf Aout.vi	22
3.3.2 HIOKI PW6001 Conf AutoRange.vi.....	24
3.3.3 HIOKI PW6001 Conf Averaging.vi.....	25
3.3.4 HIOKI PW6001 Conf Calculate.vi.....	26
3.3.5 HIOKI PW6001 Conf Current.vi.....	28
3.3.6 HIOKI PW6001 Conf Deltay.vi.....	30
3.3.7 HIOKI PW6001 Demag.vi	31
3.3.8 HIOKI PW6001 Display Key.vi	32
3.3.9 HIOKI PW6001 Conf Display Page.vi	33
3.3.10 HIOKI PW6001 Conf ESE.vi	34
3.3.11 HIOKI PW6001 ESR0-3.vi.....	36
3.3.12 HIOKI PW6001 External Exist.vi	37
3.3.13 HIOKI PW6001 Conf External Freq.vi.....	38
3.3.14 HIOKI PW6001 Conf External Mode.vi.....	39
3.3.15 HIOKI PW6001 Conf External Pattern.vi	40
3.3.16 HIOKI PW6001 Conf External Scale Speed.vi	41
3.3.17 HIOKI PW6001 External Zero.vi.....	42
3.3.18 HIOKI PW6001 Conf External Motor.vi.....	43
3.3.19 HIOKI PW6001 Conf External A.vi.....	45
3.3.20 HIOKI PW6001 Conf External A Range.vi	46
3.3.21 HIOKI PW6001 Conf External B.vi.....	47
3.3.22 HIOKI PW6001 Conf External B Range.vi.....	48
3.3.23 HIOKI PW6001 Conf External C.vi	49
3.3.24 HIOKI PW6001 Conf External D.vi	50
3.3.25 HIOKI PW6001 Conf FFT.vi.....	51
3.3.26 HIOKI PW6001 Conf Frequency.vi	52
3.3.27 HIOKI PW6001 Conf Harmonic.vi	53

3.3.28	HIOKI PW6001 Hold.vi.....	54
3.3.29	HIOKI PW6001 Integrate Status.vi	55
3.3.30	HIOKI PW6001 Conf Integrate.vi.....	56
3.3.31	HIOKI PW6001 Integrate_Reset.vi	57
3.3.32	HIOKI PW6001 Integrate_Start.vi.....	58
3.3.33	HIOKI PW6001 Integrate_Stop.vi.....	59
3.3.34	HIOKI PW6001 Conf Interval.vi.....	60
3.3.35	HIOKI PW6001 Conf LPF.vi.....	61
3.3.36	HIOKI PW6001 Conf Measure Item AllClear.vi.....	62
3.3.37	HIOKI PW6001 Conf Measure Harmonic.vi.....	63
3.3.38	HIOKI PW6001 Conf Measure Item Eff.vi	64
3.3.39	HIOKI PW6001 Conf Measure Item I.vi.....	65
3.3.40	HIOKI PW6001 Conf Measure Item Integrate.vi.....	66
3.3.41	HIOKI PW6001 Conf Measure Item Normal.vi	67
3.3.42	HIOKI PW6001 Conf Measure Item P.vi	68
3.3.43	HIOKI PW6001 Conf Measure Item SUM.vi	69
3.3.44	HIOKI PW6001 Conf Measure Item U.vi	70
3.3.45	HIOKI PW6001 Conf Measure Item External.vi.....	71
3.3.46	HIOKI PW6001 Measure.vi.....	72
3.3.47	HIOKI PW6001 Measure 10ms.vi.....	73
3.3.48	HIOKI PW6001 Measure NoisePeak I.vi	74
3.3.49	HIOKI PW6001 Measure NoisePeak U.vi	75
3.3.50	HIOKI PW6001 Measure NoisePeak.vi.....	76
3.3.51	HIOKI PW6001 Measure NoisePeak CHA.vi	77
3.3.52	HIOKI PW6001 Measure NoisePeak CHB.vi	78
3.3.53	HIOKI PW6001 Measure Harmonic.vi.....	79
3.3.54	HIOKI PW6001 Measure FFT.vi.....	80
3.3.55	HIOKI PW6001 Measure Wave_CH.vi	81
3.3.56	HIOKI PW6001 Measure Wave_LOGIC.vi	82
3.3.57	HIOKI PW6001 Conf Mode.vi.....	83
3.3.58	HIOKI PW6001 Phase Zeroadjust.vi.....	84
3.3.59	HIOKI PW6001 ScreenShot.vi	85
3.3.60	HIOKI PW6001 Conf Source.vi.....	86
3.3.61	HIOKI PW6001 Conf Timer.vi	87
3.3.62	HIOKI PW6001 Conf Voltage.vi.....	88
3.3.63	HIOKI PW6001 Conf Trigger.vi	89
3.3.64	HIOKI PW6001 Conf Wave.vi.....	90
3.3.65	HIOKI PW6001 Conf Wave State.vi	91
3.3.66	HIOKI PW6001 Conf Wiring.vi	92
3.3.67	HIOKI PW6001 Conf ZeroSp.vi.....	93
3.3.68	HIOKI PW6001 Conf MATH.vi.....	94
3.3.69	HIOKI PW6001 Conf Rate.vi.....	95
3.3.70	HIOKI PW6001 Conf Scale.vi.....	96
3.3.71	HIOKI PW6001 Sync Status.vi.....	97
3.3.72	HIOKI PW6001 Conf Sync.vi	98

4. DATA Structure..... 99

4.1	Parameters for normal measurement items	99
4.2	List and Order of Direct Specification Items for HIOKI PW6001 Conf Measure.vi.....	100
4.3	Statuses for HIOKI PW6001 Conf Measure.vi.....	100
4.4	Channel Statuses (Status1, Status2, Status3, Status4, Status5, Status6).....	101

4.5	Motor statuses for channels A and B (StatusM1, StatusM2).....	102
4.6	Motor analysis status in independent input mode (StatusMInd)	103
4.7	List and Order of Direct Specification Items for HIOKI PW6001 Conf Measure Harmonic.vi.	104
4.8	Statuses for HIOKI PW6001 Conf Measure Harmonic.vi	105

1. Overview

This program can change the settings and query the power analyzer (hereinafter, measurement device) from the computer using the TCP/IP, RS232C and GPIB.

The program is divided into multiple Vi according to the functions.

2. Precondition





The following requirement needs to be met when using this program.

- Experience in program development using LabVIEW



3. Driver Explanation

3.1 Driver Common Input & Output

3.1.1 Input Items

Name	Data Type	Explanation
VISA Resource		TCP/IP, RS232C, GPIB Connection ID
Set/Query		Specify whether to set the program operating mode to the set mode for the device, or to query the settings of the device. Input Range: False (Set: Default), True (Query)
Error Out		After sending the driver command, send the *ESR Command automatically and acquires error information. When an error occurs, input to error out. Input Range: False (Off: Default), True (On)
error in		Please refer the LabVIEW online reference's section on error report for a detailed explanation on error input. Default Value: no error

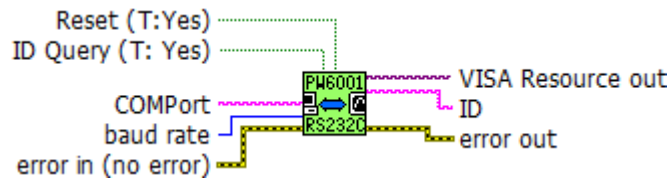
3.1.2 Output Items

Name	Data Type	Explanation
VISA Resource out		TCP/IP, RS232C, GPIB Connection ID
error out		Please refer the LabVIEW online reference's section on error report for a detailed explanation on error output. When PW6001 cannot be set properly, output error code (1300). Errors may be caused by <ul style="list-style-type: none"> Integration or HOLD/PEAK HOLD mode Restrictions imposed by wiring mode Restrictions imposed by the availability of options affected by other settings for others Please confirm with the PW6001 instruction manual.

3.2 Common Commands

3.2.1 HIOKI PW6001 Initialize RS-232C.vi

Starts the RS232C communication with the PW6001 device.



Input

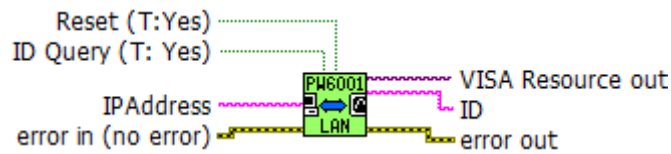
Name	Data Type	Explanation
ID Query (T:Yes)		Output the connection device's ID.
Reset (T:Yes)		Send the RST command to the connection device and reset the settings.
COMPort		Specify the COM Port number. The default setting is 1.
baud rate		Specify the communication baud rate.

Output

Name	Data Type	Explanation
ID		Return the device's ID. Valid when the ID Query is True.

3.2.2 HIOKI PW6001 Initialize LAN.vi

Starts the LAN communication with the PW6001 device.



Input

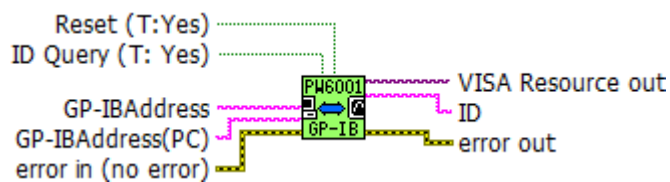
Name	Data Type	Explanation
ID Query (T:Yes)		Output the connection device's ID.
Reset (T:Yes)		Send the RST command to the connection device and reset the settings.
IPAddress		Specify the PW6001 IP Address. The default setting is 192.168.1.1.

Output

Name	Data Type	Explanation
ID		Return the device's ID. Valid when the ID Query is True.

3.2.3 HIOKI PW6001 Initialize GP-IB.vi

Starts the GPIB communication with the PW6001 device.



Input

Name	Data Type	Explanation
ID Query (T:Yes)		Output the connection device's ID.
Reset (T:Yes)		Send the RST command to the connection device and reset the settings.
GP-IBAddress		Specify the PW6001 GPIB Address. The default setting is 1.
GP-IBAddress (PC)		Specify the PC GPIB Address. The default setting is 0.

Output

Name	Data Type	Explanation
ID		Return the device's ID. Valid when the ID Query is True.

3.2.4 HIOKI PW6001 Close.vi

Disconnects the communication with the PW6001 device.



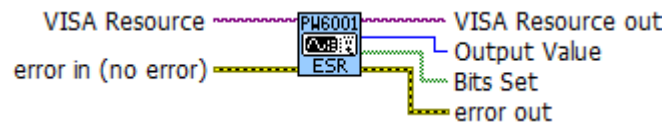
3.2.5 HIOKI PW6001 CLS.vi

Clears Standard Event Status Register (SESR) and Device-specific Event Status Registers (ESR0 through ESR3).




3.2.6 HIOKI PW6001 ESR.vi

Returns the content of SESER as a value and clears it.



Output

Name	Data Type	Explanation
Bits Set	{TF}	<p>Outputs the query results of the event register in Boolean Array.</p> <p>bit7(PON): Power-On Flag Set to "1" when the power is turned on, or upon recovery from an outage.</p> <p>bit6(URQ): User Request Unused</p> <p>bit5(CME): Command Error (The command to the message terminator is ignored.) This bit is set to "1" when a received command contains a syntactic or semantic error:</p> <ul style="list-style-type: none"> • Program header error • Incorrect number of data parameters • Invalid parameter format • Received a command not supported by the instrument <p>bit4(EXE): Execution Error This bit is set to "1" when a received command cannot be executed for some reason.</p> <ul style="list-style-type: none"> • The specified data value is outside of the set range. • The specified data cannot be set (e.g. optional setting with option unimplemented). • Execution is prevented by some other operation being performed. <p>bit3(DDE): Device-dependent Error This bit is set to "1" when a command cannot be executed due to some reason other than a command error, a query error or an execution error.</p> <ul style="list-style-type: none"> • Internal error <p>bit2(QYE): Query Error (the output queue is cleared) This bit is set to "1" when a query error is detected by the output queue control.</p> <ul style="list-style-type: none"> • When an attempt is made to read the output queue when the output queue is empty (GP-IB only). • When the data overflows the output queue. • When the next command is received while there is data in the output queue. <p>bit1(RQC): Control Request Unused</p>

		bit0(OPC): Operation Complete This bit is set to "1" in response to an *OPC command. It indicates the completion of operations of all messages up to the *OPC command.
Output Value		Outputs the query results of the event register as numerical values.

3.2.7 HIOKI PW6001 IDN.vi

Queries the Device ID.



Output

Name	Data Type	Explanation
IDN		Outputs the query results. Output Items: <HIOKI>, <Model name>, <Serial No.>, <Software version>

3.2.8 HIOKI PW6001 OPC.vi

After the command before *OPC command from the commands sent is completed, "1" is stored in the output queue.



Output


Name	Data Type	Explanation
OPC	U8	Returns 1.

3.2.9 HIOKI PW6001 OPT.vi

Queries the options available on the instrument.



Output

Name	Data Type	Explanation
OPT		Outputs the query results of the options. Output Items: <CH1 sensor>, <CH2 sensor>, <CH3 sensor>, <CH4 sensor>, <CH5 sensor>, <CH6 sensor>

3.2.10 HIOKI PW6001 RST.vi

Executes system reset to return to the instrument's factory setting.

- Language and communication settings are not initialized.



3.2.11 HIOKI PW6001 TRG.vi

Perform a one-time measurement in the hold state or the peak hold state.



3.2.12 HIOKI PW6001 WAI.vi

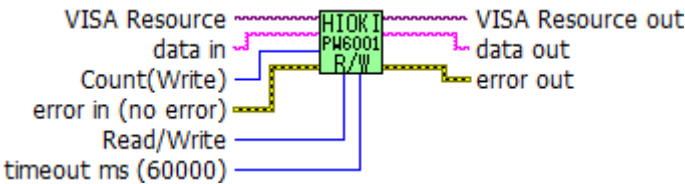
Waits until the next refresh is completed.



3.2.13 HIOKI PW6001 Read_Write.vi

Sends and receives the command(Sets and reads the data) for PW6001.

No commands after *WAI are run until the next measurement data update completes.



Input

Name	Data Type	Explanation
timeout ms (60000)		Set the time of Communication timeout.
Read/Write (0: Read)		Set the Read/Write mode. Input Range: 0 (Read: Default), 1 (Write) Note: Read: Acquires data. Write: Writes in data.
Count (Write)		Set the data reading bytes of Read mode.
data in		Set the sending data to PW6001 of Write mode.

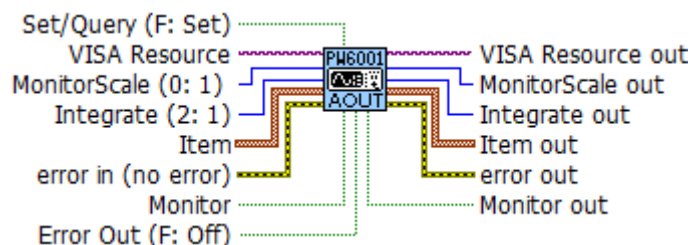
Output

Name	Data Type	Explanation
data out		Output the received data to PW6001 of Read mode.

3.3 Device Specific Command

3.3.1 HIOKI PW6001 Conf Aout.vi

Sets and reads the functions related to D/A Output.




Input

Name	Data Type	Explanation
MonitorScale (0: 1)		Sets full-scale D/A waveform output. Input Range: 0 (1: Default), 1 (2)
Integrate (2: 1)		Sets full-scale D/A output integration coefficient. Input Range: 0 (1/10), 1 (1/2), 2 (1: Default), 3 (5), 4 (10), 5 (50), 6 (100), 7 (500), 8 (1000), 9 (5000), 10 (10000)
Item		Sets the D/A Output Items (Item, CH). Specifies the output items between 1 and 20. Item Input Range: 0 (OFF), 1 (Urms: Default), 2 (Umn), 3 (Uac), 4 (Udc), 5 (Ufnd), 6 (Upk+), 7 (Upk-), 8 (Uthd), 9 (Urf), 10 (Uunb), 11 (Irms), 12 (Imn), 13 (Iac), 14 (Idc), 15 (Ifnd), 16 (Ipk+), 17 (Ipk-), 18 (Ithd), 19 (Irf), 20 (Iunb), 21 (P), 22 (Pfnd), 23 (S), 24 (Sfnd), 25 (Q), 26 (Qfnd), 27 (PF), 28 (PFfnd), 29 (DEG U), 30 (DEG I), 31 (DEG), 32 (f), 33 (lh+), 34 (lh-), 35 (lh), 36 (WP+), 37 (WP-), 38 (WP), 39 (EFF), 40 (Loss), 41 (Tq), 42 (Spd), 43 (Pm), 44 (Slip), 45 (CH) Ch Input Range: 0 (1: Default), 1 (2), 2 (3), 3 (4), 4(5), 5 (6), 6 (12), 7 (34), 8 (45), 9 (56), 10 (123), 11 (456), 12 (A), 13 (B), 14 (C), 15 (D)
Monitor		Sets the ON/OFF of the waveform output. Input Range: False (OFF), True (ON: Default)

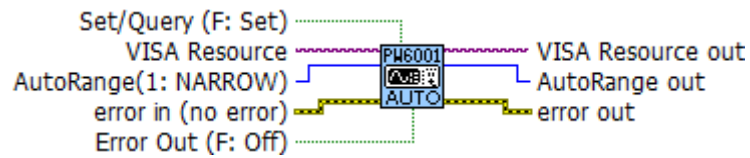
Output

Name	Data Type	Explanation
MonitorScale out		Outputs the query results of full-scale D/A waveform output. Output Value: 0 (1), 1 (2)
Integrate out		Outputs the query results of full-scale D/A output integration coefficient. Output Value: 0 (1/10), 1 (1/2), 2 (1), 3 (5), 4 (10), 5 (50), 6 (100), 7 (500), 8 (1000), 9 (5000), 10 (10000)
Item out		Outputs the query results of the D/A Output Items. Item Output Value: 0 (OFF), 1 (Urms), 2 (Umn), 3 (Uac), 4 (Udc), 5 (Ufnd), 6 (Upk+), 7 (Upk-), 8 (Uthd), 9 (Urf), 10 (Uunb), 11 (Irms), 12 (Imn), 13 (Iac), 14 (Idc), 15 (Ifnd), 16 (Ipk+), 17 (Ipk-), 18 (Ithd), 19 (Irf), 20 (Iunb), 21 (P), 22 (Pfnd), 23 (S), 24 (Sfnd), 25 (Q), 26 (Qfnd), 27 (PF), 28 (PFfnd), 29 (DEG U),

		30 (DEG I), 31 (DEG), 32 (f), 33 (lh+), 34 (lh-), 35 (lh), 36 (WP+), 37 (WP-), 38 (WP), 39 (EFF), 40 (Loss), 41 (Tq), 42 (Spd), 43 (Pm), 44 (Slip), 45 (CH) Ch Output Value: 0 (1), 1 (2), 2 (3), 3 (4), 4(5), 5 (6), 6 (12), 7 (34), 8 (45), 9 (56), 10 (123), 11 (456), 12 (A), 13 (B), 14 (C), 15 (D)
Monitor out		Outputs the query results of the waveform output. Output Value: False (OFF), True (ON)

3.3.2 HIOKI PW6001 Conf AutoRange.vi

Sets and reads the AutoRange.



Input

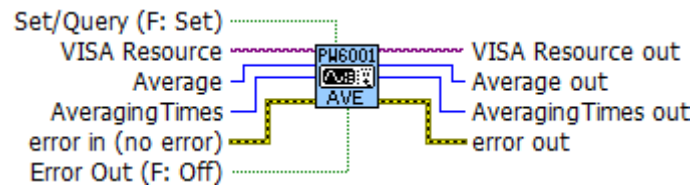
Name	Data Type	Explanation
AutoRange (1: NARROW)		Sets the AutoRange. Input Range: 0 (WIDE), 1 (NARROW: Default)

Output

Name	Data Type	Explanation
AutoRange out		Outputs the query results of the AutoRange.

3.3.3 HIOKI PW6001 Conf Averaging.vi

Sets and reads the average.



Input

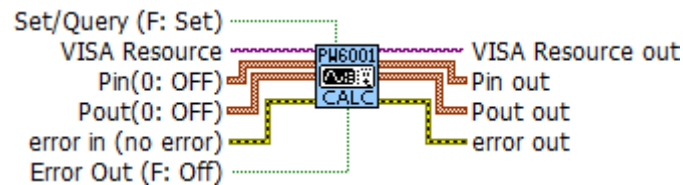
Name	Data Type	Explanation
Average		Sets the average. Input Range: 0 (OFF: Default), 1 (ADD), 2 (FAST), 3 (MID), 4 (SLOW) Note: The averaging process will start again when the average setting is changed.
AveragingTimes		Sets number of averaging times for simple average. Input Range: 0 (5), 1 (10: Default), 2 (20), 3 (50), 4 (100)

Output

Name	Data Type	Explanation
Average out		Outputs the query results of the average.
AveragingTimes out		Outputs the averaging times for simple average in a numeric value. Output Value: 0 (5), 1 (10), 2 (20), 3 (50), 4 (100)

3.3.4 HIOKI PW6001 Conf Calculate.vi

Sets and reads the efficiency and loss formulas.



Input

Name	Data Type	Explanation
Pin (0: OFF)		<p>Sets Pin items for efficiency and loss formulas for CH1 - CH4 in array.</p> <p>Input Range: 0 (OFF), 1 (P1: Default), 2 (P2), 3 (P3), 4 (P4), 5 (P5), 6 (P6), 7 (P12), 8 (P34), 9 (P45), 10 (P56), 11 (P123), 12 (P456), 13 (Pfnd1), 14 (Pfnd2), 15 (Pfnd3), 16 (Pfnd4), 17 (Pfnd5), 18 (Pfnd6), 19 (Pfnd12), 20 (Pfnd34), 21 (Pfnd45), 22 (Pfnd56), 23 (Pfnd123), 24 (Pfnd456), 25 (Pm1), 26 (Pm2), 27 (P1slv), 28 (P2slv), 29 (P3slv), 30 (P4slv), 31 (P5slv), 32 (P6slv), 33 (P12slv), 34 (P34slv), 35 (P45slv), 36 (P56slv), 37 (P123slv), 38 (P456slv), 39 (Pfnd1slv), 40 (Pfnd2slv), 41 (Pfnd3slv), 42 (Pfnd4slv), 43 (Pfnd5slv), 44 (Pfnd6slv), 45 (Pfnd12slv), 46 (Pfnd34slv), 47 (Pfnd45slv), 48 (Pfnd56slv), 49 (Pfnd123slv), 50 (Pfnd456slv), 51 (Pm1slv), 52 (Pm2slv)</p>
Pout (0: OFF)		<p>Sets Pout items for efficiency and loss formulas for CH1 - CH4 in array.</p> <p>Input Range: 0 (OFF: Default), 1 (P1), 2 (P2), 3 (P3), 4 (P4), 5 (P5), 6 (P6), 7 (P12), 8 (P34), 9 (P45), 10 (P56), 11 (P123), 12 (P456), 13 (Pfnd1), 14 (Pfnd2), 15 (Pfnd3), 16 (Pfnd4), 17 (Pfnd5), 18 (Pfnd6), 19 (Pfnd12), 20 (Pfnd34), 21 (Pfnd45), 22 (Pfnd56), 23 (Pfnd123), 24 (Pfnd456), 25 (Pm1), 26 (Pm2), 27 (P1slv), 28 (P2slv), 29 (P3slv), 30 (P4slv), 31 (P5slv), 32 (P6slv), 33 (P12slv), 34 (P34slv), 35 (P45slv), 36 (P56slv), 37 (P123slv), 38 (P456slv), 39 (Pfnd1slv), 40 (Pfnd2slv), 41 (Pfnd3slv), 42 (Pfnd4slv), 43 (Pfnd5slv), 44 (Pfnd6slv), 45 (Pfnd12slv), 46 (Pfnd34slv), 47 (Pfnd45slv), 48 (Pfnd56slv), 49 (Pfnd123slv), 50 (Pfnd456slv), 51 (Pm1slv), 52 (Pm2slv)</p>

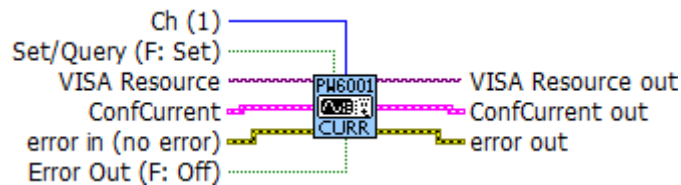
Output

Name	Data Type	Explanation
Pin out		<p>Outputs the query results of Pin items for efficiency and loss formulas for CH1 - CH4 in array.</p> <p>Output Value: 0 (OFF), 1 (P1), 2 (P2), 3 (P3), 4 (P4), 5 (P5), 6 (P6), 7 (P12), 8 (P34), 9 (P45), 10 (P56), 11 (P123), 12 (P456), 13 (Pfnd1), 14 (Pfnd2), 15 (Pfnd3), 16 (Pfnd4), 17 (Pfnd5), 18 (Pfnd6), 19 (Pfnd12), 20 (Pfnd34), 21 (Pfnd45), 22 (Pfnd56), 23 (Pfnd123), 24 (Pfnd456), 25 (Pm1), 26 (Pm2), 27 (P1slv), 28 (P2slv), 29 (P3slv), 30 (P4slv), 31 (P5slv), 32 (P6slv), 33 (P12slv), 34 (P34slv), 35 (P45slv), 36 (P56slv), 37 (P123slv), 38 (P456slv), 39 (Pfnd1slv), 40 (Pfnd2slv), 41 (Pfnd3slv), 42 (Pfnd4slv), 43 (Pfnd5slv), 44 (Pfnd6slv), 45 (Pfnd12slv), 46 (Pfnd34slv), 47 (Pfnd45slv), 48 (Pfnd56slv), 49 (Pfnd123slv), 50 (Pfnd456slv), 51 (Pm1slv), 52 (Pm2slv)</p>
Pout out		<p>Outputs the query results of Pout items for efficiency and loss formulas for CH1 - CH4 in array.</p>

		Output Value: 0 (OFF), 1 (P1), 2 (P2), 3 (P3), 4 (P4), 5 (P5), 6 (P6), 7 (P12), 8 (P34), 9 (P45), 10 (P56), 11 (P123), 12 (P456), 13 (Pfnd1), 14 (Pfnd2), 15 (Pfnd3), 16 (Pfnd4), 17 (Pfnd5), 18 (Pfnd6), 19 (Pfnd12), 20 (Pfnd34), 21 (Pfnd45), 22 (Pfnd56), 23 (Pfnd123), 24 (Pfnd456), 25 (Pm1), 26 (Pm2), 27 (P1slv), 28 (P2slv), 29 (P3slv), 30 (P4slv), 31 (P5slv), 32 (P6slv), 33 (P12slv), 34 (P34slv), 35 (P45slv), 36 (P56slv), 37 (P123slv), 38 (P456slv), 39 (Pfnd1slv), 40 (Pfnd2slv), 41 (Pfnd3slv), 42 (Pfnd4slv), 43 (Pfnd5slv), 44 (Pfnd6slv), 45 (Pfnd12slv), 46 (Pfnd34slv), 47 (Pfnd45slv), 48 (Pfnd56slv), 49 (Pfnd123slv), 50 (Pfnd456slv), 51 (Pm1slv), 52 (Pm2slv)
--	--	--

3.3.5 HIOKI PW6001 Conf Current.vi

Sets and reads the functions related to current.



Input

Name	Data Type	Explanation
Ch (1)	I32	Sets the Input unit. Input Range: 1 (Default) to 6
ConfCurrent	Cluster	<p>Sets the each function related to current.</p> <p>Auto (F: OFF), Correct (F: OFF), Degree (0.0), Frequency (300.0), Input (0: Probe1) Mean (F: OFF) Range (0: 0.04) RATE (0: 100uV/A)</p> <p>Auto Sets the ON/OFF of current auto-range. Input Range: False (OFF: Default), True (ON)</p> <p>Correct Sets phase correction formulas for current sensors. Input Range: False (OFF: Default), True (ON)</p> <p>Degree Sets phase correction angle for current sensors. Input Range: -90.0 to 90.0 (0.0: Default)</p> <p>Frequency Sets phase correction frequency for current sensors. Input Range: 0.1 to 999.9 (300.0: Default)</p> <p>Input Sets type of current sensor terminal. Input Range: 0 (Probe1: Default), 1 (Probe2)</p> <p>Mean Sets the current rectification method to MEAN. Input Range: False (OFF: Default), True (ON)</p> <p>Range Sets a current range. (The unit is [A].) Input Range: 0 (0.04), 1 (0.08), 2 (0.10), 3 (0.20), 4 (0.40), 5 (0.50), 6 (0.80), 7 (1), 8 (2), 9 (4), 10 (5), 11 (8), 12 (10), 13 (20), 14 (40), 15 (50: Default), 16 (80), 17 (100), 18 (200), 19 (400), 20 (500), 21 (800), 22 (1000), 23 (2000), 24 (5000), 25 (10000), 26 (20000), 27 (50000)</p> <p>Note:</p>

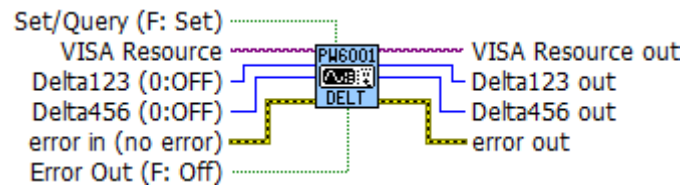
		<p>The range allowed depends on the current sensor type. If a range is set, the auto-range for specified channel becomes OFF. Depending on the combination of lines to be measured, current auto-range settings for other channels combined will be changed.</p> <p>RATE Sets a current sensor Plobe2 rating. Input Range : 0 (100uV/A), 1 (1mV/A), 2 (10mV/A), 3 (100mV/A: Defalut), 4 (1V/A), 5 (3273), 6 (3274), 7 (3275), 8 (3276), 9 (CT6700), 10 (CT6701)</p>
--	--	--

Output

Name	Data Type	Explanation
ConfCurrent out	Cluster	<p>Outputs the query results of the each function related to current.</p> <p>Auto out Outputs the query results of AutoRange. Output Value: False (OFF), True (ON)</p> <p>Correct out Outputs the query results of phase correction formulas for current sensors. Output Value: False (OFF), True (ON)</p> <p>Degree out Outputs the query results of phase correction angle for current sensors. Output Value: -90.0 to 90.0</p> <p>Frequency out Outputs the query results of phase correction frequency for current sensors. Output Value: 0.1 to 999.9</p> <p>Input out Outputs the query results of type of current sensor terminal. Output Value: 0 (Probe1), 1 (Probe2)</p> <p>Mean out Outputs the query results of the Rectification Method (MEAN). Output Value: False (OFF), True (ON)</p> <p>Range out Outputs the query results of the range. Output Value: 0 (0.04), 1 (0.08), 2 (0.10), 3 (0.20), 4 (0.40), 5 (0.50), 6 (0.80), 7 (1), 8 (2), 9 (4), 10 (5), 11 (8), 12 (10), 13 (20), 14 (40), 15 (50), 16 (80), 17 (100), 18 (200), 19 (400), 20 (500), 21 (800), 22 (1000), 23 (2000), 24 (5000), 25 (10000), 26 (20000), 27 (50000)</p> <p>RATE out Outputs the query results of the current sensor Plobe2 rating. Output Range: 0 (100uV/A), 1 (1mV/A), 2 (10mV/A), 3 (100mV/A), 4 (1V/A), 5 (3273), 6 (3274), 7 (3275), 8 (3276), 9 (CT6700), 10 (CT6701)</p>

3.3.6 HIOKI PW6001 Conf Deltay.vi

Sets and reads Δ - Y calculation.



Input

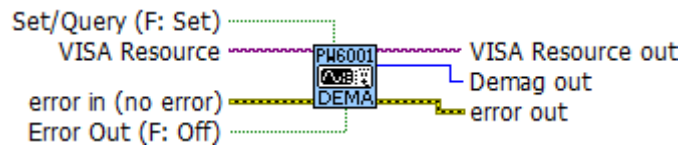
Name	Data Type	Explanation
Delta123 (0: OFF)		Sets for Δ - Y calculation (CH1, 2, 3). Input Range: 0 (OFF: Default), 1 (ON)
Delta456 (0: OFF)		Sets for Δ - Y calculation (CH4, 5, 6). Input Range: 0 (OFF: Default), 1 (ON)

Output

Name	Data Type	Explanation
Delta123 out		Outputs the query results of Δ - Y calculation (CH1, 2, 3). Output Range: 0 (OFF), 1 (ON)
Delta456 out		Outputs the query results of Δ - Y calculation (CH4, 5, 6). Output Range: 0 (OFF), 1 (ON)

3.3.7 HIOKI PW6001 Demag.vi

Executes zero adjustment.

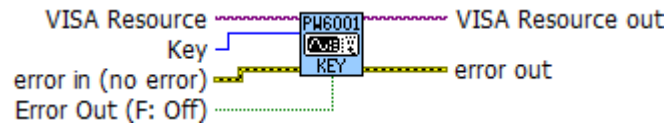


Output

Name	Data Type	Explanation
Demag out		<p>Outputs the query results of the zero adjust.</p> <p>Output Range:</p> <p>OK (0) : Normal complete</p> <p>BUSY (1) : Demagnetization being executed</p> <p>YET (2) : Not executed yet before start</p> <p>ERROR (3) : Zero adjustment failure</p> <p>Note:</p> <p>The zero adjust takes more than 30 seconds to execute and in that period, you may get an execution command. Make a combination with "HIOKI PW6001 OPC.vi" so as to send the next command after an response to the OPC is returned. The response to the OPC shows that the zero adjust has been completed.</p>

3.3.8 HIOKI PW6001 Display Key.vi

Executes the same operations with the ones by the instrument.

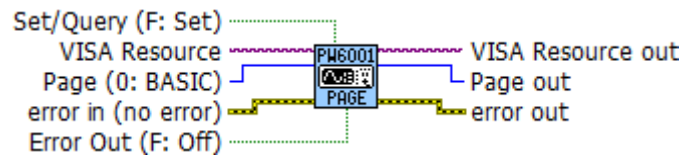


Input

Name	Data Type	Explanation
Key		<p>Sets the Key.</p> <p>Input Range: RUN / SINGLE / MANUAL / KNOBR / KNOBL / PHOLD / START / DRESET / HOLD / IRA / IRM / IRP / URA / URM / URP / COPY / SAVE / 0ADJ / CHR / CHL / FILE / SYSTEM / INPUT / MEAS</p> <p>Note:</p> <ul style="list-style-type: none"> RUN: Waveform storage RUN/STOP SINGLE: Single trigger MANUAL: Manual trigger KNOBR: Press right knob KNOBL: Press left knob PHOLD: Peak hold START: Integration START/STOP DRESET: Data reset HOLD: Hold key IRA: Current auto-range IRM: Current range - IRP: Current range + URA: Voltage auto-range URM: Voltage range - URP: Voltage range + COPY: Screen hardcopy SAVE: Data save 0ADJ: Zero adjustment CHR: Right channel key CHL: Left channel key FILE : FILE Key SYSTEM: SYSTEM key INPUT: INPUT key MEAS: MEAS key

3.3.9 HIOKI PW6001 Conf Display Page.vi

Switches the screen.



Input

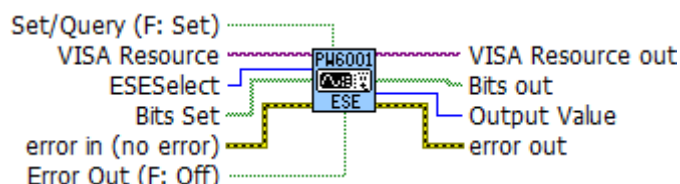
Name	Data Type	Explanation
Page (0: BASIC)		Switches the screen. Input Range: BASIC / CUSTOM / WAVE / WAVEVALUE / WAVEZOOM / WAVEFFT / VECTOR1 / VECTOR2 / LIST / BAR / WIRING / CH / COMMON / EFF / MOTOR / UDF / CONFIG / TIME / DATA / COM / OUTPUT / FILE

Output

Name	Data Type	Explanation
Page out		Outputs the query results of current screen name. Output Value: BASIC / CUSTOM / WAVE / WAVEVALUE / WAVEZOOM / WAVEFFT / VECTOR1 / VECTOR2 / LIST / BAR / WIRING / CH / COMMON / EFF / MOTOR / UDF / CONFIG / TIME / DATA / COM / OUTPUT / FILE

3.3.10 HIOKI PW6001 Conf ESE.vi

Sets enable setting of Device-specific "Event Status Register 0 through 3 (ESR0 through 3) " to "ESER0 through 3" .





Input

Name	Data Type	Explanation
ESESelect		Sets Event Status Register. Input Range: 0 (ESE0: Default), 1 (ESE1), 2 (ESE2), 3 (ESE3)
Bits Set	Array	<p>Sets enable setting of Event Status Register. Input Range: ESE0</p> <ul style="list-style-type: none"> Bit 7: DS : Data update Bit 6: UCU : Calculation unavailable (Measured data is invalid as immediately after range change). Bit 5: ZP : Power calculation (synchronized source) with forced zero-cross Bit 4: ZI : Current frequency with forced zero-cross Bit 3: ZU : Voltage frequency with forced zero-cross Bit 2: DP : Power calculation (synchronized source) without data update Bit 1: DI : Current frequency without data update Bit 0: DU : Voltage frequency without data update <p>ESE1</p> <ul style="list-style-type: none"> Bit 7: - : Unused Bit 6: - : Unused Bit 5: PU6 : CH6 voltage peak exceeded Bit 4: PU5 : CH5 Voltage peak exceeded Bit 3: PU4 : CH4 voltage peak exceeded Bit 2: PU3 : CH3 voltage peak exceeded Bit 1: PU2 : CH2 voltage peak exceeded Bit 0: PU1 : CH1 voltage peak exceeded <p>ESE2</p> <ul style="list-style-type: none"> Bit 7: - : Unused Bit 6: - : Unused Bit 5: PI6 : CH6 current peak exceeded Bit 4: PI5 : CH5 current peak exceeded Bit 3: PI4 : CH4 current peak exceeded Bit 2: PI3 : CH3 current peak exceeded Bit 1: PI2 : CH2 current peak exceeded Bit 0: PI1 : CH1 current peak exceeded <p>ESE3</p> <ul style="list-style-type: none"> Bit 7: - : Unused Bit 6: - : Unused Bit 5: - : Unused Bit 4: - : Unused Bit 3: - : Unused

		Bit 2: - : Unused Bit 1: RB : CHB range exceeded Bit 0: RA : CHA range exceeded
--	--	---

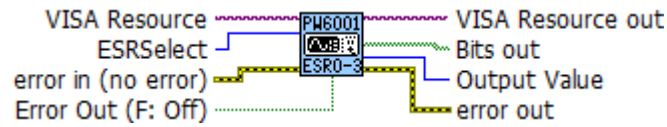
Output

Name	Data Type	Explanation
Bits out		Outputs the query results of setting of Event Status Register in boolean array.
Output Value		Outputs the query results of setting of Event Status Register as numerical values.


3.3.11 HIOKI PW6001 ESR0-3.vi

Reads the content of Device-specific Event Status Register in a value.



- When "HIOKI PW6001 ESR0-3.vi" is executed, the content of the specified Device-specific Event Status Register is cleared.



Input

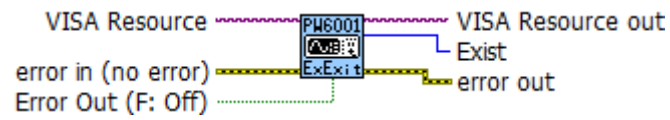
Name	Data Type	Explanation
ESRSelect		Sets Event Status Register. Intpu Range: 0 (ESE0: Default), 1 (ESE1), 2 (ESE2), 3 (ESE3)

Output


Name	Data Type	Explanation
Bits out		Outputs the query results of setting of Device-specific Event Status Register in boolean array.
Output Value		Outputs the query results of Device-specific Event Status Register as numerical values.

3.3.12 HIOKI PW6001 External Exist.vi

Reads availability of the motor analysis options.

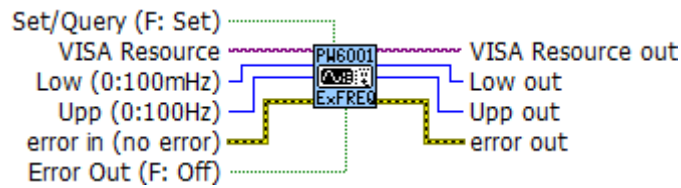


Output

Name	Data Type	Explanation
Exist		Outputs the query results of availability of the motor options. Output Value: 0 (Y), 1 (N) Note: Y : Option available N : Option unavailable

3.3.13 HIOKI PW6001 Conf External Freq.vi

Sets and reads the function related to the Motor Analysis Option's Frequency for Motor.



Input

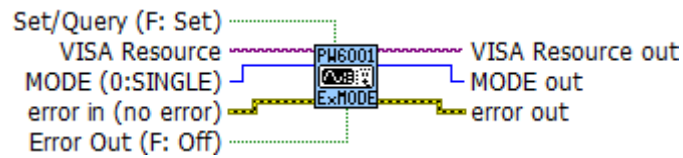
Name	Data Type	Explanation
Low (2: 10Hz)		Sets a lower limit frequency for the motor. Input Range: 0 (100mHz), 1 (1Hz), 2 (10Hz: Default), 3 (100Hz)
Upp (8: 2MHz)		Sets an upper limit frequency for the motor. Input Range: 0 (100Hz), 1 (500Hz), 2 (1kHz), 3 (5kHz), 4 (10kHz), 5 (50kHz), 6 (100kHz), 7 (500kHz), 8 (2MHz: Default)

Output

Name	Data Type	Explanation
Low out		Outputs the query results of the lower limit frequency for the motor. Output Value: 0 (100mHz), 1 (1Hz), 2 (10Hz), 3 (100Hz)
Upp out		Outputs the query results of the upper limit frequency for the motor. Output Value: 0 (100Hz), 1 (500Hz), 2 (1kHz), 3 (5kHz), 4 (10kHz), 5 (50kHz), 6 (100kHz), 7 (500kHz), 8 (2MHz)

3.3.14 HIOKI PW6001 Conf External Mode.vi

Sets and reads the Motor Analysis Option's Operation Mode.



Input

Name	Data Type	Explanation
MODE (0: SINGLE)		Sets operation mode for motor options. Input Range: 0 (SINGLE: Default), 1 (DUAL), 2 (IND) Note: SINGLE : Single DUAL : Dual IND : Independent input

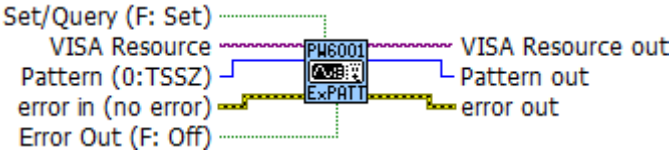
Output

Name	Data Type	Explanation
MODE out		Outputs the query results of operation mode for motor options. Output Value: 0 (SINGLE), 1 (DUAL), 2 (IND)


3.3.15 HIOKI PW6001 Conf External Pattern.vi

Sets and reads the function related to the Motor Analysis Option's Single Operation Mode.

- The setting is valid only if the operation mode is in single.



Input

Name	Data Type	Explanation																									
Pattern (3: TSOO)		<p>Sets a pattern for measurement items of CHA, CHB, CHC and CHD.</p> <p>Input Range: 0 (TSSZ), 1 (TSSO), 2 (TSOZ), 3 (TSOO: Default)</p> <table><tr><th></th><th>CHA</th><th>CHB</th><th>CHC</th><th>CHD</th></tr><tr><td>TSSZ</td><td>Torque</td><td>Speed</td><td>Direction</td><td>Origin</td></tr><tr><td>TSSO</td><td>Torque</td><td>Speed</td><td>Direction</td><td>OFF</td></tr><tr><td>TSOZ</td><td>Torque</td><td>Speed</td><td>OFF</td><td>Origin</td></tr><tr><td>TSOO</td><td>Torque</td><td>Speed</td><td>OFF</td><td>OFF</td></tr></table>		CHA	CHB	CHC	CHD	TSSZ	Torque	Speed	Direction	Origin	TSSO	Torque	Speed	Direction	OFF	TSOZ	Torque	Speed	OFF	Origin	TSOO	Torque	Speed	OFF	OFF
	CHA	CHB	CHC	CHD																							
TSSZ	Torque	Speed	Direction	Origin																							
TSSO	Torque	Speed	Direction	OFF																							
TSOZ	Torque	Speed	OFF	Origin																							
TSOO	Torque	Speed	OFF	OFF																							

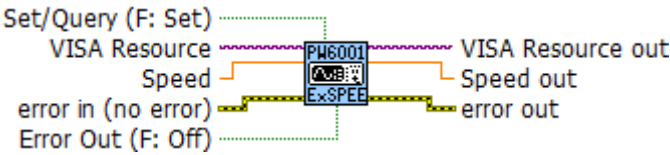
Output

Name	Data Type	Explanation
Pattern out		<p>Outputs the query results of the pattern for measurement items of CHA, CHB, CHC and CHD.</p> <p>Output Value: 0 (TSSZ), 1 (TSSO), 2 (TSOZ), 3 (TSOO)</p>


3.3.16 HIOKI PW6001 Conf External Scale Speed.vi

Sets and reads the Motor Analysis Option's RPM scaling.


- The setting is valid only if the operation mode is in single and CHB is set to an analog input.



Input

Name	Data Type	Explanation
Speed (1.00)		Sets a RPM scaling. Input Range: 0.01 to 9999.99 (1.00: Default)

Output

Name	Data Type	Explanation
Speed out		Outputs the query results of the RPM scaling. Output Value: 0.01 to 9999.99

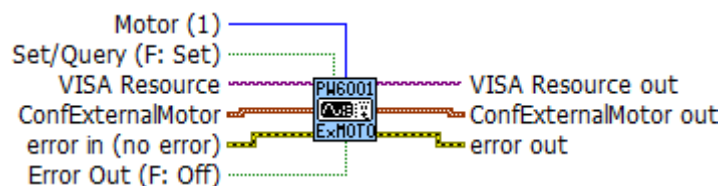
3.3.17 HIOKI PW6001 External Zero.vi

Executes zero compensation of the motor option.





3.3.18 HIOKI PW6001 Conf External Motor.vi

Sets and reads the function related to the Motor Analysis Option.




Input

Name	Data Type	Explanation
Motor (1)		Specifies operation mode for motor options. Set [MOTOR] to "1" when the operation mode is single and "1" or "2" for dual. (1: Default)
ConfExternalMotor		Set the motor analysis option. MedFreq, FreqRange Sets a center frequency and a frequency range for input frequency range. (The unit is [Hz].) Input Range: MedFreq : 2000 to 499000 (60000: Default) FreqRange : 1000 to 249500 (30000: Default) Note: You must set (MedFreq + FreqRange) ≤ 500 kHz and (MedFreq - FreqRange) ≥ 1 kHz. Motorpoles Sets a pole number of the motor. Input Range: Any even value from 2 to 98 (4: Default) Note: If an odd number is set, an even number less than the value is set. PulseNumber Set a pulse number. Input Range: 1 to 60000 (2: Default) Note: By setting a multiple of 1/2 of motor poles value, Ext can be selected by the Sync source. ScaleTorque Sets a torque scaling. Input Range: 0.01 to 9999.99 (1.0: Default) Slip Sets an input frequency source for slip calculation. Input Range: 0 (f1: default), 1 (f2), 2 (f3), 3 (f4), 4 (f5), 5 (f6) Source Sets a synchronization source for the motor. Input Range: 0 (U1), 1 (U2), 2 (U3), 3 (U4), 4 (U5), 5 (U6), 6 (I1), 7 (I2), 8 (I3), 9 (I4), 10 (I5), 11 (I6), 12 (DC: Default), 13 (Ext1), 14 (Ext2), 15 (Zph), 16 (CHC), 17 (CHD)

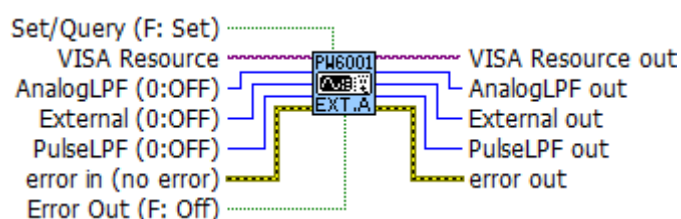
		<p>Note:</p> <p>Ext can be set only when there is the motor option, the RPM input must be set to pulse input setting and the pulse number is multiple of 1/2 of the motor pole number.</p> <p>Zph (Z phase) can be set only when there is the motor option, the operating mode is Single and the CH D measuring item is Origin.</p> <p>CH C and CH D can be set only when the operating mode is Indiv.</p> <p>Unit</p> <p>Sets a unit.</p> <p>Input Range: 0 (mNm), 1 (Nm: Default), 2 (kNm)</p>
--	--	--

Output

Name	Data Type	Explanation
ConfExternalMotor out		Outputs the query results of the motor analysis option.

3.3.19 HIOKI PW6001 Conf External A.vi

Sets and reads the Motor Analysis Option's Input for Channel A.



Input

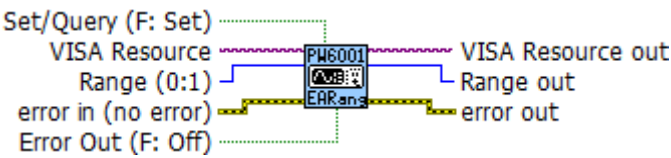
Name	Data Type	Explanation
AnalogLPF (0: OFF)		Sets an analog lowpass filter for channel A. Input Range: 0 (OFF: Default), 1 (ON)
External (0: OFF)		Sets an input for channel A. Input Range: 0 (OFF: Default), 1 (ON) Note: OFF: Analog DC input ON : Freauency input
PulseLPF (0: OFF)		Sets a pulse filter for channel A of the motor. Input Range: 0 (OFF: Default), 1 (WEAK), 2 (STRONG)

Output

Name	Data Type	Explanation
AnalogLPF out		Outputs the query results of the analog lowpass filter for channel A. Output Value: 0 (OFF), 1 (ON)
External out		Outputs the query results of the input for channel A. Output Value: 0 (OFF), 1 (ON)
PulseLPF out		Outputs the query results of the pulse filter for channel A of the motor. Output Value: 0 (OFF: Default), 1 (WEAK), 2 (STRONG)

3.3.20 HIOKI PW6001 Conf External A Range.vi

Sets and reads the Motor Analysis Option's Voltage for Channel A.



Input

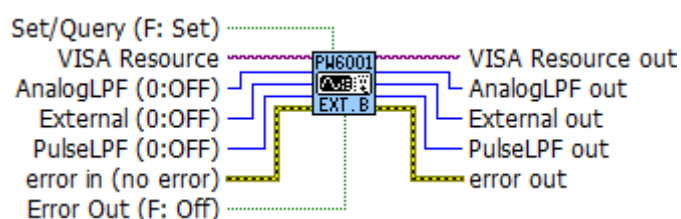
Name	Data Type	Explanation
Range (1: 5)		Sets a voltage range for channel A. Input Range: 0 (1), 1 (5: Default), 2 (10)

Output

Name	Data Type	Explanation
Range out		Outputs the query results of the voltage range for channel A. Output Value: 0 (1), 1 (5), 2 (10)

3.3.21 HIOKI PW6001 Conf External B.vi

Sets and reads the Motor Analysis Option's Input for Channel B.



Input

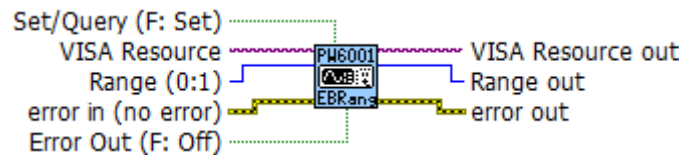
Name	Data Type	Explanation
AnalogLPF (0: OFF)		Sets an analog lowpass filter for channel B. Input Range: 0 (OFF: Default), 1 (ON)
External (1: ON)		Sets an input for channel B. Input Range: 0 (OFF), 1 (ON: Default) Note: OFF : Analog DC input ON : Pulse input
PulseLPF (0: OFF)		Sets a pulse filter for channel B of the motor. Input Range: 0 (OFF: Default), 1 (WEAK), 2 (STRONG)

Output

Name	Data Type	Explanation
AnalogLPF out		Outputs the query results of the analog lowpass filter for channel B. Output Value: 0 (OFF), 1 (ON)
External out		Outputs the query results of the input for channel B. Output Value: 0 (OFF), 1 (ON)
PulseLPF out		Outputs the query results of the pulse filter for channel B of the motor. Output Value: 0 (OFF: Default), 1 (WEAK), 2 (STRONG)

3.3.22 HIOKI PW6001 Conf External B Range.vi

Sets and reads the Motor Analysis Option's Voltage for Channel B.



Input

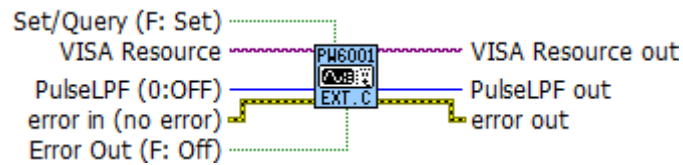
Name	Data Type	Explanation
Range (1: 5)		Sets a voltage range for channel B. Input Range: 0 (1), 1 (5: Default), 2 (10)

Output

Name	Data Type	Explanation
Range out		Outputs the query results of the voltage range for channel A. Output Value: 0 (1), 1 (5), 2 (10)

3.3.23 HIOKI PW6001 Conf External C.vi

Sets and reads the Motor Analysis Option's Input for Channel C.



Input

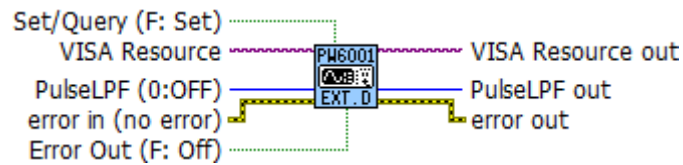
Name	Data Type	Explanation
PulseLPF (0: OFF)		Sets a pulse filter for channel C of the motor. Input Range: 0 (OFF: Default), 1 (WEAK), 2 (STRONG)

Output

Name	Data Type	Explanation
PulseLPF out		Outputs the query results of the pulse filter for channel C of the motor. Output Value: 0 (OFF: Default), 1 (WEAK), 2 (STRONG)

3.3.24 HIOKI PW6001 Conf External D.vi

Sets and reads the Motor Analysis Option's Input for Channel D.



Input

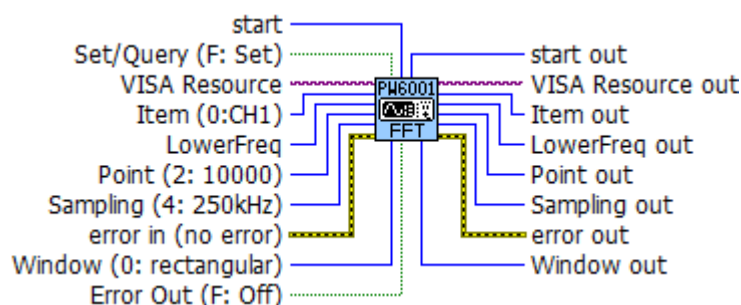
Name	Data Type	Explanation
PulseLPF (0: OFF)		Sets a pulse filter for channel D of the motor. Input Range: 0 (OFF: Default), 1 (WEAK), 2 (STRONG)

Output

Name	Data Type	Explanation
PulseLPF out		Outputs the query results of the pulse filter for channel D of the motor. Output Value: 0 (OFF: Default), 1 (WEAK), 2 (STRONG)

3.3.25 HIOKI PW6001 Conf FFT.vi

Sets and reads functions related to Noise Analysis.



Input

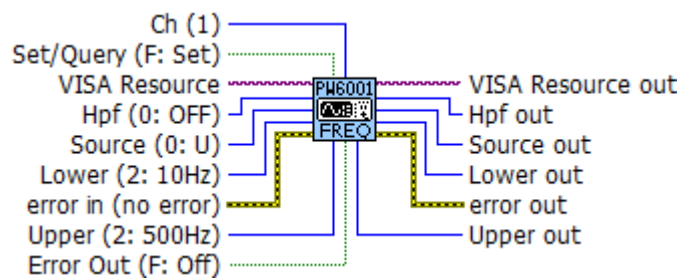
Name	Data Type	Explanation
Item (0: CH1)		Sets a measurement channel used for noise analysis. Input Range: 0 (CH1: Default), 1 (CH2), 2 (CH3), 3 (CH4), 4 (CH5), 5 (CH6), 6 (MOTOR)
LowerFreq (50)		Sets noise lower frequency limit. (The unit is [kHz].) Input Range: 0 to 2000 (1: Default)
Point (2: 10000)		Sets number of points used for noise analysis. Input Range: 0 (1000), 1 (5000), 2 (10000: Default), 3 (50000)
Sampling (4: 250kHz)		Sets a sampling speed used for noise analysis. Input Range: 0 (10kHz), 1 (25kHz), 2 (50kHz), 3 (100kHz), 4 (250kHz), 5 (500kHz: Default), 6 (1MHz), 7 (2.5MHz), 8 (5MHz)
Window (0: rectangular)		Sets a window function used for noise analysis. Input Range: 0 (rectangular: Default), 1 (hanning), 2 (flat top)
start (0)		Sets the starting point used for noise analysis. Input Range: 0 (Default) to 499

Output

Name	Data Type	Explanation
start out		Outputs the query results of the starting point used for noise analysis.
Window out		Outputs the query results of the window function used for noise analysis. Output Value: 0 (rectangular), 1 (hanning), 2 (flat top)
Item out		Outputs the query results of the measurement channel used for noise analysis. Output Value: 0 (CH1), 1 (CH2), 2 (CH3), 3 (CH4), 4 (CH5), 5 (CH6), 6 (MOTOR)
LowerFreq out		Outputs the query results of noise lower frequency limit.
Point out		Outputs the query results of the starting point used for noise analysis.
Sampling out		Outputs the query results of the sampling speed used for noise analysis. Output Value: 0 (10kHz), 1 (25kHz), 2 (50kHz), 3 (100kHz), 4 (250kHz), 5 (500kHz), 6 (1MHz), 7 (2.5MHz), 8 (5MHz)

3.3.26 HIOKI PW6001 Conf Frequency.vi

Sets and reads the functions related to frequency measurement.



Input

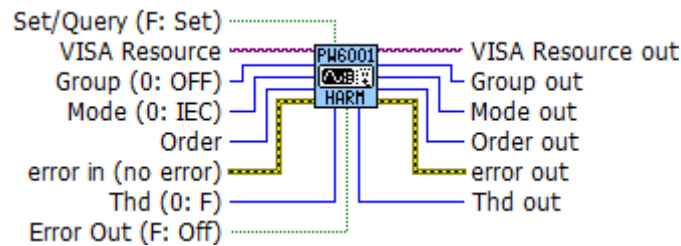
Name	Data Type	Explanation
Ch (1)		Specifies the channel. Input Range: 1 (Default) to 6
Hpf (0: OFF)		Sets a frequency (HPF) for zero-cross filter. Input Range: 0 (OFF), 1 (ON: Default) Note: The OFF setting is valid only when the frequency lower limit is less than 1 Hz.
Source (0: U)		Sets a frequency measurement source for the specified channel. Input Range: 0 (U: Default), 1 (I)
Lower (2: 10Hz)		Set a lower measurement frequency limit. Input Range: 0 (100mHz), 1 (1Hz), 2 (10Hz: Default), 3 (100Hz), 4 (1kHz), 5 (10kHz), 6 (100kHz)
Upper (8: 2MHz)		Set an upper measurement frequency limit. Input Range: 0 (100Hz), 1 (500Hz), 2 (1kHz), 3 (5kHz), 4 (10kHz), 5 (50kHz), 6 (100kHz), 7 (500kHz), 8 (2MHz: Default)

Output

Name	Data Type	Explanation
Hpf out		Outputs the query results of the frequency (HPF) for zero-cross filter.
Source out		Outputs the query results of the frequency measurement source for the specified channel.
Lower out		Outputs the query results of the lower measurement frequency limit.
Upper out		Outputs the query results of the upper measurement frequency limit.

3.3.27 HIOKI PW6001 Conf Harmonic.vi

Sets and reads the functions related to the Harmonic Synchronization.



Input

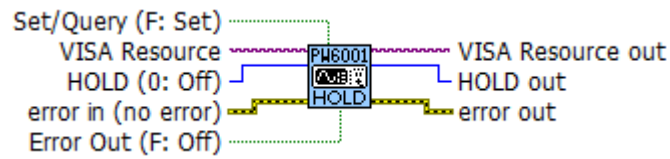
Name	Data Type	Explanation
Group (1: TYPE1)		Sets a grouping for harmonics measurement. Input Range: 0 (OFF), 1 (TYPE1: Default), 2 (TYPE2)
Mode (1: WIDE)		Sets a mode for harmonics measurement. Input Range: 0 (IEC), 1 (WIDE: Default) Note: IEC : IEC standard mode WIDE : Wideband mode
Order (100)		Sets a maximum analysis order for harmonics measurement. Input Range: 2 to 100 (Default)
THD (0: F)		Sets a THD calculation for harmonics measurement. Input Range: 0 (F: Default), 1 (R) Note: F : THD-F (Reference fundamental wave) R : THD-R (Total reference harmonics)

Output

Name	Data Type	Explanation
Group out		Outputs the query results of the grouping for harmonics measurement. Output Value: 0 (OFF), 1 (TYPE1), 2 (TYPE2)
Mode out		Outputs the query results of the mode for harmonics measurement. Output Value: 0 (IEC), 1 (WIDE)
Order out		Outputs the query results of the maximum analysis order for harmonics measurement.
THD out		Outputs the query results of the THD calculation for harmonics measurement. Output Value: 0 (F), 1 (R)

3.3.28 HIOKI PW6001 Hold.vi

Sets and reads the Hold Status.



Input

Name	Data Type	Explanation
HOLD (0: Off)		Sets hold state. Input Range: 0 (OFF: Default), 1 (ON), 2 (PEAK) Note Use "HIOKI PW6001 TRG.vi" in the hold state or the peak hold state to update the data.

Output

Name	Data Type	Explanation
HOLD out		Outputs the query results of hold state. Output Value: 0 (OFF), 1 (ON), 2 (PEAK)

3.3.29 HIOKI PW6001 Integrate Status.vi

Reads the integration (time control) status.

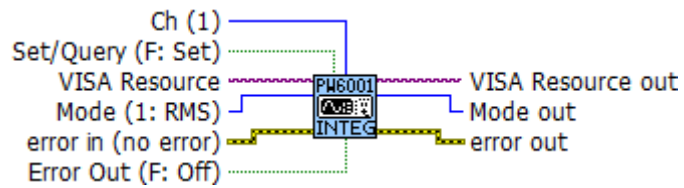


Output

Name	Data Type	Explanation
Status out		<p>Outputs the query results of integration state of the instrument. Output Value: 0 (RESET), 1 (STOP), 2 (WAIT), 3 (RUN), 4 (OTHER), 5 (0ADJ)</p> <p>Note:</p> <p>RESET : Integration is in reset STOP : Integration is in stop WAIT : Integration is in standby RUN : Integration is in process OTHER : States other than the above 0ADJ : Zero adjustment is in process</p>

3.3.30 HIOKI PW6001 Conf Integrate.vi

Sets and reads the functions related to the Integration Mode.



Input

Name	Data Type	Explanation
Ch (1)		Specifies the channel. Input Range: 1 (Default) to 6
Mode (1: RMS)		Sets integration mode. Input Range: 0 (DC), 1 (RMS: Default) Note: Integration DC mode can be set only in 1P2W connection.

Output

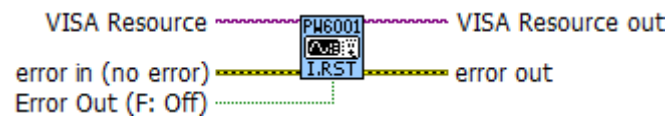
Name	Data Type	Explanation
Mode out		Outputs the query results of integration mode. Output Value: 0 (DC), 1 (RMS)

3.3.31 HIOKI PW6001 Integrate_Reset.vi

Resets integrated data.

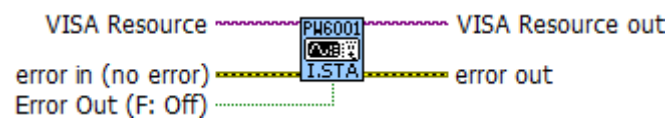
Note:

This action is the same with the one by the DATA RESET key of the instrument.
This command is valid only when integration state is in STOP.



3.3.32 HIOKI PW6001 Integrate_Start.vi

Starts integration (time control).

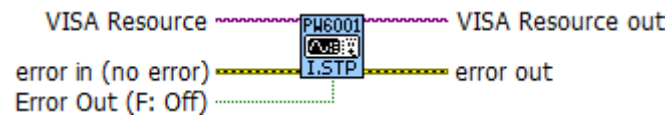


3.3.33 HIOKI PW6001 Integrate_Stop.vi

Stops integration (time control).

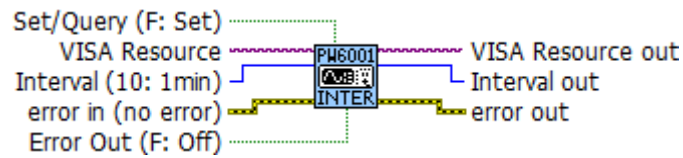
Note:

This command is valid only when integration state is in RUN/WAIT.



3.3.34 HIOKI PW6001 Conf Interval.vi

Sets and reads interval functions.



Input

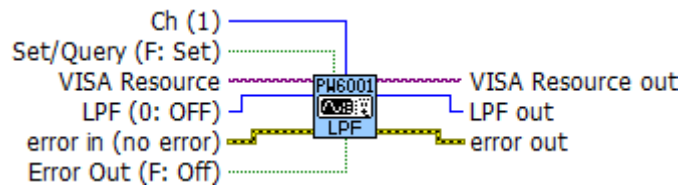
Name	Data Type	Explanation
Interval (10: 1min)		<p>Sets an interval time.</p> <p>Input Range: 0 (OFF), 1 (10ms), 2 (50ms), 3 (200ms), 4 (500ms), 5 (1s), 6 (5s), 7 (10s), 8 (15s), 9 (30s), 10 (1min: Default), 11 (5min), 12 (10min), 13 (15min), 14 (30min), 15 (60min)</p> <p>Note: Any setting less than the data update rate is not allowed.</p>

Output

Name	Data Type	Explanation
Interval out		<p>Outputs the query results of the interval time.</p> <p>Output Value: 0 (OFF), 1 (10ms), 2 (50ms), 3 (200ms), 4 (500ms), 5 (1s), 6 (5s), 7 (10s), 8 (15s), 9 (30s), 10 (1min), 11 (5min), 12 (10min), 13 (15min), 14 (30min), 15 (60min)</p>

3.3.35 HIOKI PW6001 Conf LPF.vi

Sets and reads the Low Pulse Filter (LPF).



Input

Name	Data Type	Explanation
Ch (1)		Specifies the channel. Input Range: 1 (Default) to 6
LPF (0: OFF)		Sets a cutoff frequency for lowpass filter (LPF). Input Range: 0 (OFF: Default), 1 (500Hz), 2 (1kHz), 3 (5kHz), 4 (10kHz), 5 (50kHz), 6 (100kHz), 7 (500kHz) Note: Depending on the combination of lines to be measured, lowpass filter (LPF) settings for other channels combined will be changed.

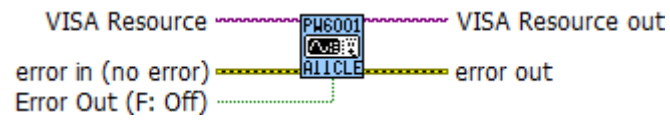
Output

Name	Data Type	Explanation
LPF out		Outputs the query results of the cutoff frequency for lowpass filter (LPF). Output Value: 0 (OFF), 1 (500Hz), 2 (1kHz), 3 (5kHz), 4 (10kHz), 5 (50kHz), 6 (100kHz), 7 (500kHz)

3.3.36 HIOKI PW6001 Conf Measure Item AllClear.vi

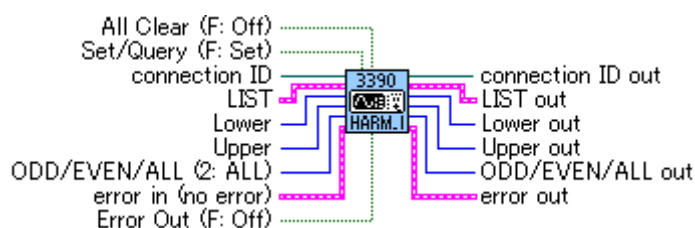
Initializes communication output data Items.

All the communication output data Items will be turned OFF.



3.3.37 HIOKI PW6001 Conf Measure Harmonic.vi

Sets and reads the functions related to the Harmonic Measurement Data.



Input

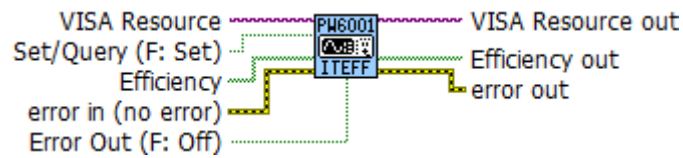
Name	Data Type	Explanation
List		Sets transmission items of data responded by " HIOKI PW6001 Measure Harmonic.vi " to Boolean's ON/OFF. Specifies a harmonics list (level, content percentage, phase angle).
Lower (0)		Sets the lower limit order. Input Range: 0 (Default) to 100
Upper (0)		Sets the upper limit order. Input Range: 0 (Default) to 100
ODD/EVEN/ALL (2: ALL)		Sets the output order. Input Range: 0 (ODD), 1 (EVEN), 2 (ALL: Default) Note: ODD : Odd order only EVEN : Even order only ALL : All orders
All Clear		Initializes communication output data items for harmonics. All the communication output data items for harmonics will be turned OFF.

Output

Name	Data Type	Explanation
List out		Outputs the query results of transmission items of data.
Lower out		Outputs the query results of the lower limit order.
Upper out		Outputs the query results of the upper limit order.
ODD/EVEN/ALL out		Outputs the query results of the output order. Output Value: 0 (ODD), 1 (EVEN), 2 (ALL)

3.3.38 HIOKI PW6001 Conf Measure Item Eff.vi

Sets and reads communication output items of calculated efficiency and loss values.



Input

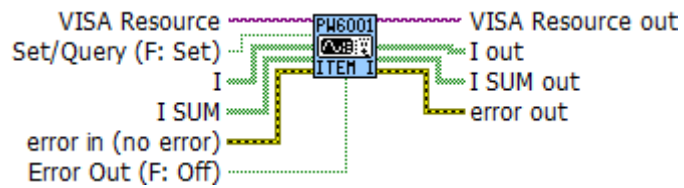
Name	Data Type	Explanation
Efficiency	[TF]	Sets communication output items of calculated efficiency and loss values.

Output

Name	Data Type	Explanation
Efficiency out	[TF]	Outputs the query results of communication output items of calculated efficiency and loss values.

3.3.39 HIOKI PW6001 Conf Measure Item I.vi

Sets and reads communication output items of current data and total current data.



Input

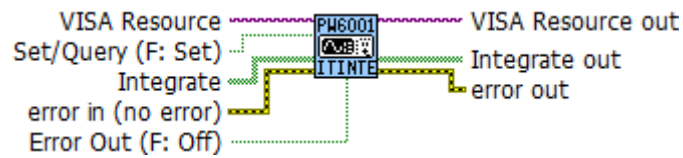
Name	Data Type	Explanation
I	[TF]	Sets communication output items of current data.
I SUM	[TF]	Sets communication output items of total current data.

Output

Name	Data Type	Explanation
I out	[TF]	Outputs the query results of communication output items of current data.
I SUM out	[TF]	Outputs the query results of communication output items of total current data.

3.3.40 HIOKI PW6001 Conf Measure Item Integrate.vi

Sets and reads communication output items of integration data.



Input

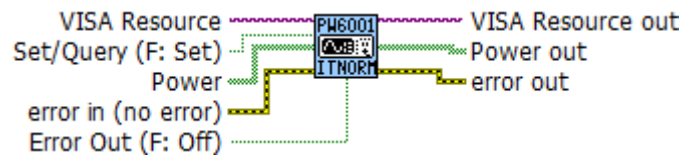
Name	Data Type	Explanation
Integrate	[TF]	Sets communication output items of integration data.

Output

Name	Data Type	Explanation
Integrate out	[TF]	Outputs the query results of communication output items of integration data.

3.3.41 HIOKI PW6001 Conf Measure Item Normal.vi

Sets and reads communication output items of normal measured values of channels.



Input

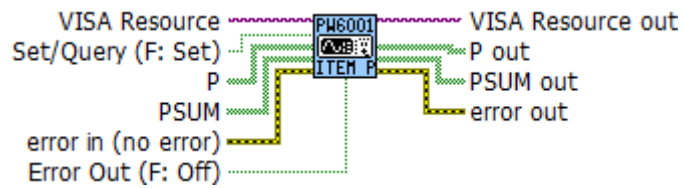
Name	Data Type	Explanation
Power	[TF]	Sets communication output items of normal measured values of channels.

Output

Name	Data Type	Explanation
Power out	[TF]	Outputs the query results of communication output items of normal measured values of channels.

3.3.42 HIOKI PW6001 Conf Measure Item P.vi

Sets and reads communication output items of power data and total power data.



Input

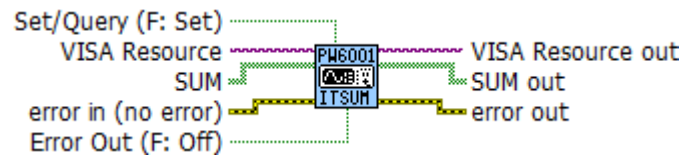
Name	Data Type	Explanation
P	[TF]	Sets communication output items of power data.
PSUM	[TF]	Sets communication output items of total power data.

Output

Name	Data Type	Explanation
P out	[TF]	Outputs the query results of communication output items of power data.
PSUM out	[TF]	Outputs the query results of communication output items of total power data.

3.3.43 HIOKI PW6001 Conf Measure Item SUM.vi

Sets and reads communication output items of normal measured values for SUM.



Input

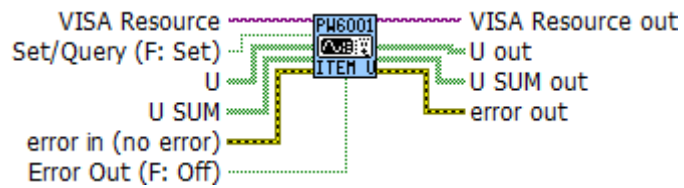
Name	Data Type	Explanation
SUM	[TF]	Sets communication output items of normal measured values for SUM.

Output

Name	Data Type	Explanation
SUM out	[TF]	Outputs the query results of communication output items of normal measured values for SUM.

3.3.44 HIOKI PW6001 Conf Measure Item U.vi

Sets and reads communication output items of voltage data and total voltage data.



Input

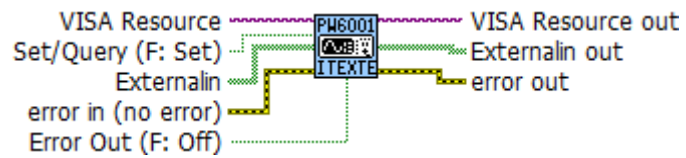
Name	Data Type	Explanation
U	[TF]	Sets communication output items of voltage data.
U SUM	[TF]	Sets communication output items of total voltage data.

Output

Name	Data Type	Explanation
U out	[TF]	Outputs the query results of communication output items of voltage data.
U SUM out	[TF]	Outputs the query results of communication output items of total voltage data.

3.3.45 HIOKI PW6001 Conf Measure Item External.vi

Sets and reads communication output items of motor.



Input

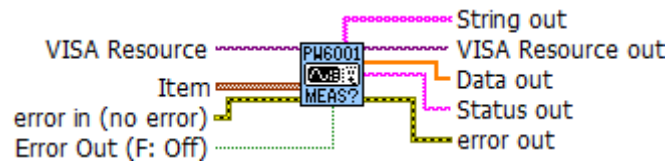
Name	Data Type	Explanation
Externalin	[TF]	Sets communication output items of motor.

Output


Name	Data Type	Explanation
Externalin out	[TF]	Outputs the query results of communication output items of motor.

3.3.46 HIOKI PW6001 Measure.vi




Reads the measurement data.



Input

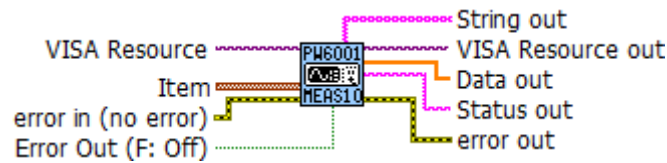
Name	Data Type	Explanation
Item		<p>Creates measurement data specified by the <Item>. Number of maximum items is 32.</p> <p>The data is created in the order as specified by the <Item>.</p> <p>Creates measurement data for the item specified by "HIOKI PW6001 Conf Measure.vi" when all <Item> is turned off.</p> <p>The order for this measurement data is fixed.</p> <p>(See 4.3 List and Order of Direct Specification Items for "HIOKI PW6001 Conf Measure.vi").</p> <p>Status data is always attached to the top of the data.</p>

Output

Name	Data Type	Explanation
String out		Outputs the query results of measurement data in a string.
Data out		Outputs the query results of measurement data.
Status out		Outputs the query results of status data.

3.3.47 HIOKI PW6001 Measure 10ms.vi

Reads the measurement data. (Interval: 10 ms)



Input

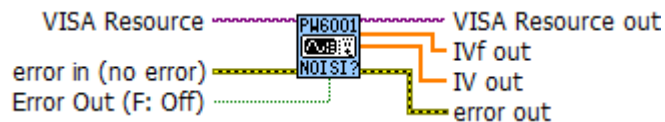
Name	Data Type	Explanation
Item	Array	<p>Creates measurement data specified by the <Item>. Number of maximum items is 32.</p> <p>The data is created in the order as specified by the <Item>.</p> <p>Responds 5 times of measurement data per 10 ms in a single result.</p> <p>Creates measurement data for the item specified by "HIOKI PW6001 Conf Measure.vi" when all <Item> is turned off.</p> <p>The order for this measurement data is fixed.</p> <p>(See 4.3 List and Order of Direct Specification Items for "HIOKI PW6001 Conf Measure.vi".</p> <p>Status data is always attached to the top of the data.</p>

Output



Name	Data Type	Explanation
String out	String	Outputs the query results of measurement data in a string.
Data out	Double	Outputs the query results of measurement data.
Status out	String	Outputs the query results of status data.

3.3.48 HIOKI PW6001 Measure NoisePeak I.vi

Reads frequencies and values of top 10 current values from measured noise data.
The order for this measurement data is fixed.

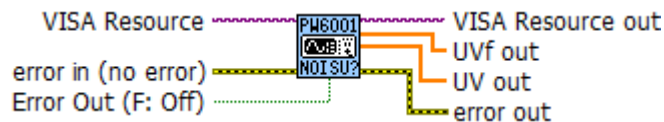


Output

Name	Data Type	Explanation
IVf out		Outputs the query results of frequencies of top 10 current values from measured noise data.
IV out		Outputs the query results of values of top 10 current values from measured noise data.

3.3.49 HIOKI PW6001 Measure NoisePeak U.vi

Reads frequencies and values of top 10 voltage values from measured noise data.
The order for this measurement data is fixed.

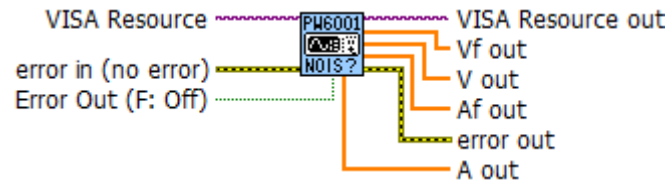


Output





Name	Data Type	Explanation
UVf out	DBL	Outputs the query results of frequencies of top 10 voltage values from measured noise data.
UV out	DBL	Outputs the query results of values of top 10 voltage values from measured noise data.

3.3.50 HIOKI PW6001 Measure NoisePeak.vi

Reads frequencies and values of top 10 voltage and current values from measured noise data.
The order for this measurement data is fixed.

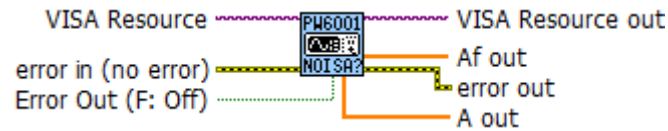


Output



Name	Data Type	Explanation
Vf out		Outputs the query results of frequencies of top 10 voltage values from measured noise data.
V out		Outputs the query results of values of top 10 voltage values from measured noise data.
Af out		Outputs the query results of frequencies of top 10 current values from measured noise data.
A out		Outputs the query results of values of top 10 current values from measured noise data.

3.3.51 HIOKI PW6001 Measure NoisePeak CHA.vi

Reads top 10 frequencies and values from measured noise data for motor CHA (analog DC).
The order for this measurement data is fixed.

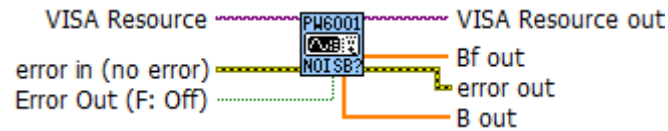


Output



Name	Data Type	Explanation
Af out		Outputs the query results of top 10 frequencies from measured noise data for motor CHA (analog DC).
A out		Outputs the query results of top 10 values from measured noise data for motor CHA (analog DC).

3.3.52 HIOKI PW6001 Measure NoisePeak CHB.vi

Reads top 10 frequencies and values from measured noise data for motor CHB (analog DC).
The order for this measurement data is fixed.

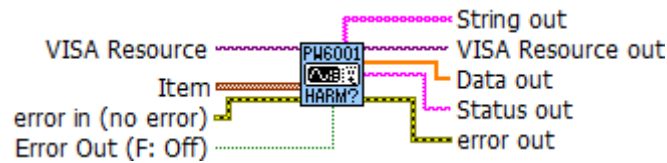


Output


Name	Data Type	Explanation
Bf out		Outputs the query results of top 10 frequencies from measured noise data for motor CHB (analog DC).
B out		Outputs the query results of top 10 values from measured noise data for motor CHB (analog DC).

3.3.53 HIOKI PW6001 Measure Harmonic.vi




Reads the harmonic measurement data.



Input

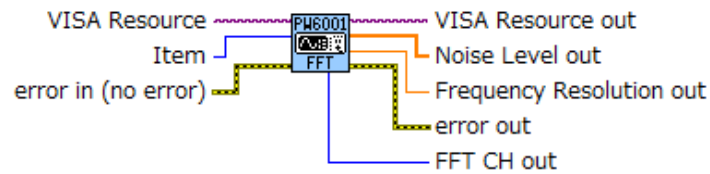
Name	Data Type	Explanation
Item		<p>Creates measurement data specified by the <Item>. Number of maximum items is 32. The data is created in the order as specified by the <Item>.</p> <p>Creates measurement data for the item specified by "HIOKI PW6001 Conf Measure Harmonic.vi" when all <Item> is turned off. The order for this measurement data is fixed. (See 4.7 List and Order of Direct Specification Items for "HIOKI PW6001 Conf Measure Harmonic.vi". Status data is always attached to the top of the data.</p>

Output


Name	Data Type	Explanation
String out		Outputs the query results of measurement data in a string.
Data out		Outputs the query results of measurement data.
Status out		Outputs the query results of status data.

3.3.54 HIOKI PW6001 Measure FFT.vi




Reads the FFT analysis data. This VI is valid only when connected to LAN.



Input

Name	Data Type	Explanation
Item		Creates FFT analysis data specified by the <Item>. In case that FFT analysis CH is CH1 – CH6, U and I are selectable. In case that FFT analysis CH is Motor, CHA and CHB are selectable. Motor waveforms (A, B) can only be acquired with products with motor analysis option.

Output

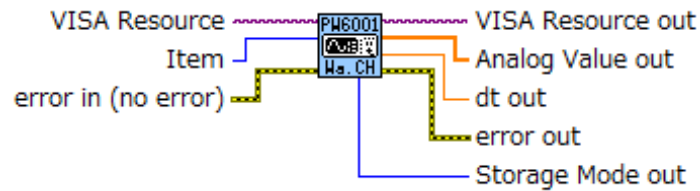
Name	Data Type	Explanation
Noise Level out		Outputs the query results of FFT analysis data.
Frequency Resolution out		Outputs the query results of frequency resolution data.
FFT CH out		Outputs the query results of FFT analysis CH data.

Note:

This VI uses the communication command not described in the instruction manual. Therefore, if this VI is changed, it may not work properly.

3.3.55 HIOKI PW6001 Measure Wave_CH.vi

Reads the analog wave data. This VI is valid only when connected to LAN. This VI is selectable from "HIOKI PW6001 Measure Wave.vi".



Input

Name	Data Type	Explanation
Item		Creates analog wave data specified by the <Item>. Input Range: 0 (U1), 1 (U2), 2 (U3), 3 (U4), 4 (U5), 5 (U6), 6 (I1), 7 (I2), 8 (I3), 9 (I4), 10 (I5), 11 (I6), 12 (A), 13 (B) Motor waveforms (A, B) can only be acquired with products with motor analysis option. Motor waveforms can not be acquired when the input setting is Pulse.

Output

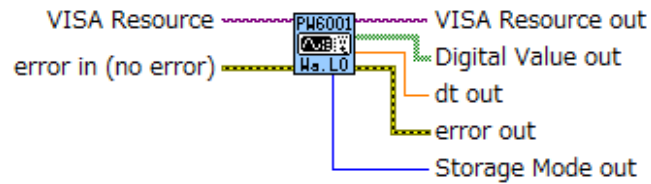
Name	Data Type	Explanation
Analog Value out		Outputs the query results of wave data.
dt out		Outputs the query results of time resolution data.
Storage Mode out		Outputs the query results of storage mode data. Output Range: 0 (P-P), 1 (DECI)

Note:

This VI uses the communication command not described in the instruction manual. Therefore, if this VI is changed, it may not work properly.

3.3.56 HIOKI PW6001 Measure Wave_LOGIC.vi

Reads the Logic waveform data from Motor CHA to CHD. This VI is valid only when connected to LAN. This VI is selectable from "HIOKI PW6001 Measure Wave.vi".



Output

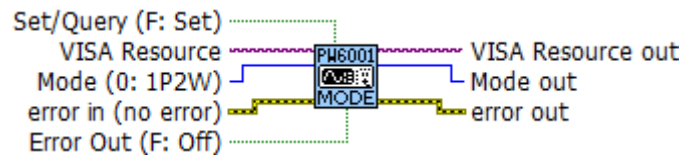
Name	Data Type	Explanation
Digital Value out		Outputs the query results of Logic waveform data from Motor CHA to CHD.
dt out		Outputs the query results of time resolution data.
Storage Mode out		Outputs the query results of storage mode data. Output Range: 0 (P-P), 1 (DECI)

Note:

This VI uses the communication command not described in the instruction manual. Therefore, if this VI is changed, it may not work properly.

3.3.57 HIOKI PW6001 Conf Mode.vi

Sets and reads connection mode.



Input

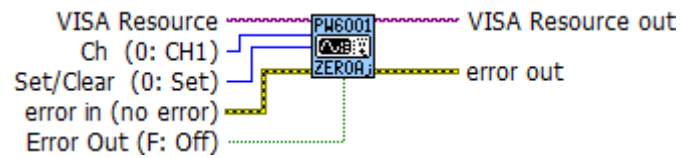
Name	Data Type	Explanation
Mode (0: 1P2W)		<p>Sets connection mode.</p> <p>Input Range:</p> <ul style="list-style-type: none"> 0 (1P2W, 1P2W, 1P2W, 1P2W, 1P2W, 1P2W: Default), 1 (1P3W/3P3W2M, 1P2W, 1P2W, 1P2W, 1P2W), 2 (1P3W/3P3W2M, 1P2W, 1P3W/3P3W2M, 1P2W), 3 (1P3W/3P3W2M, 1P3W/3P3W2M, 1P3W/3P3W2M), 4 (3P3W3M/3V3A/3P4W, 1P2W, 1P2W, 1P2W), 5 (3P3W3M/3V3A/3P4W, 1P3W/3P3W2M, 1P2W), 6 (3P3W3M/3V3A/3P4W, 3P3W3M/3V3A/3P4W) <p>Note:</p> <p>Connection mode setting influences many of settings. Set this mode in early setting process.</p> <p>After this command, use "HIOKI PW6001 Conf Wiring.vi" to set detailed connection.</p> <p>In order to set a mode combined with more than one channel, their current sensors used for the combination must be the same.</p>

Output

Name	Data Type	Explanation
Mode out		Outputs the query results of connection mode.

3.3.58 HIOKI PW6001 Phase Zeroadjust.vi

Executes phase zero adjustment or clears phase zero compensation value.



Input


Name	Data Type	Explanation
Ch (0: CH1)		Specifies the channel. Input Range: 0 (CH1: Default), 1 (CH2), 2 (CH3), 3 (CH4), 4 (CH5), 5 (CH6)
Set/Clear (0: Set)		Executes phase zero adjustment or clears phase zero compensation value. Input Range: 0 (Set: Default), 1 (Clear) Note: This action is the same with the Adjust/Reset of VECTOR1. These operations are valid only if the setting for [Synchronization Source] is set to [Ext1] or [Ext2]. Specify the first channel of the connection.

3.3.59 HIOKI PW6001 ScreenShot.vi

The screen data displayed in PW6001 is acquired. This VI is valid only when connected to LAN.

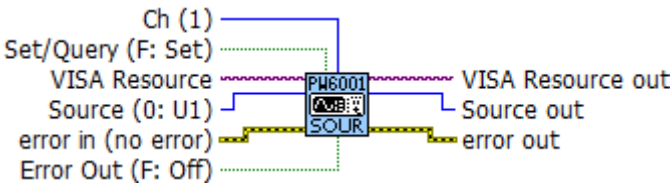


Input

Name	Data Type	Explanation
File Name		Inputs the file name for screen data.

3.3.60 HIOKI PW6001 Conf Source.vi

Sets and reads a synchronization source.



Input

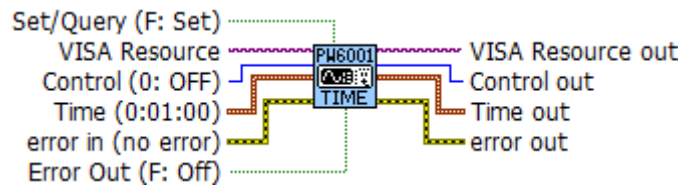
Name	Data Type	Explanation
Ch (1)		Specifies the channel. Input Range: 1 (Default) to 6
Source (0: U1)		Sets a synchronization source for the specified channel. Input Range: 0 (U1: Default), 1 (U2), 2 (U3), 3 (U4), 4 (U5), 5 (U6), 6 (I1), 7 (I2), 8 (I3), 9 (I4), 10 (I5), 11 (I6), 12 (DC), 13 (Ext1), 14 (Ext2), 15 (Zph), 16 (CHC), 17 (CHD) Note: Setting for other channel combined with measurement line will be changed. Ext can be set only when there is the motor option, the RPM input must be set to pulse input setting and the pulse number is multiple of 1/2 of the motor pole number. Zph (Z phase) can be set only when there is the motor option, the operating mode is Single and the CH D measuring item is Origin. CH C and CH D can be set only when the operating mode is Indiv.

Output



Name	Data Type	Explanation
Source out		Outputs the query results of the synchronization source for the specified channel. Output Value: 0 (U1), 1 (U2), 2 (U3), 3 (U4), 4 (U5), 5 (U6), 6 (I1), 7 (I2), 8 (I3), 9 (I4), 10 (I5), 11 (I6), 12 (DC), 13 (Ext1), 14 (Ext2), 15 (Zph), 16 (CHC), 17 (CHD)

3.3.61 HIOKI PW6001 Conf Timer.vi



Sets and reads the functions related to the timer control.



Input

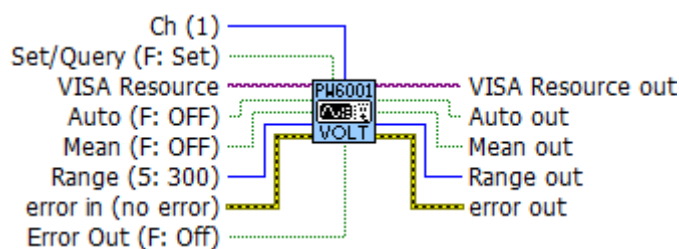
Name	Data Type	Explanation
Control (0: OFF)		Sets the ON/OFF of the timer control. Input Range: 0 (OFF: Default), 1 (ON)
Time (0:01:00)		Sets time for timer. Input Range: Hour : 0 to 9999 (Default: 0) Minute : 0 to 59 (Default: 1) Second : 0 to 59 (Default: 0) Note: Range of setting allowed for time of the time is from 10 seconds to 9999 hours, 59 minutes and 59 seconds.

Output

Name	Data Type	Explanation
Control out		Outputs the query results of the timer control as ON/OFF.
Time out		Outputs the query results of the timer control as hours, minutes and seconds.

3.3.62 HIOKI PW6001 Conf Voltage.vi

Sets and reads the functions related to voltage.



Input

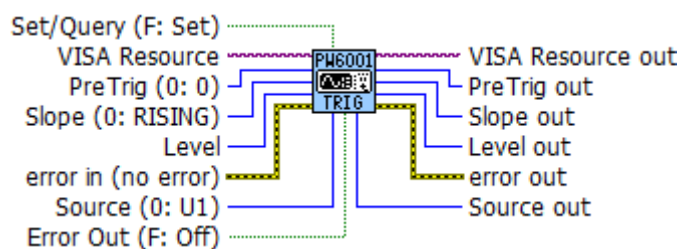
Name	Data Type	Explanation
Ch (1)		Specifies the channel. Input Range: 1 (Default) to 6
Auto (F: OFF)		Sets for voltage auto range. Input Range: False (OFF: Default), True (ON) Note: If a range is set with "Range" input, the auto-range for specified channel becomes OFF. Depending on the combination of lines to be measured, voltage auto-range settings for other channels combined will be changed.
Mean (F: OFF)		Sets a voltage rectification method. Input Range: False (RMS: Default), True (MEAN) Note: Setting for voltage rectification method for other channel combined will be changed depending on the pair of measurement lines.
Range (5: 300)		Changes a voltage range. (The unit is [V].) Input Range: 0 (6), 1 (15), 2 (30), 3 (60), 4 (150), 5 (300), 6 (600: Default), 7 (1500) Note: After you change the range, wait a few moments until the internal circuitry stabilizes before you read any measured values. If a range is specified, the auto-range specified is turned OFF. Depending on the combination of lines to be measured, voltage range settings for other channels combined will be changed.

Output

Name	Data Type	Explanation
Auto out		Outputs the query results of setting for voltage auto range.
Mean out		Outputs the query results of voltage rectification method.
Range out		Outputs the query results of the voltage range.

3.3.63 HIOKI PW6001 Conf Trigger.vi

Sets and reads Pre-trigger, Trigger Slope, Trigger Level and Trigger Source.



Input

Name	Data Type	Explanation
PreTrig (0: 0)		Sets pre-trigger. Input Range: 0 (0: Default), 1 (10), 2 (20), 3 (30), 4 (40), 5 (50), 6 (60), 7 (70), 8 (80), 9 (90), 10 (100)
Slope (0: RISING)		Sets a trigger slope. Input Range: 0 (RISING edge: Default), 1 (FALLING edge)
Level (0.0)		Sets a trigger level. Input Range: -300.0 to 300.0 (0.0: Default) Note: This setting allows 0.1% step.
Source (0: U1)		Sets a trigger source. Input Range: 0 (U1: Default), 1 (U2), 2 (U3), 3 (U4), 4 (U5), 6 (U6), 7 (I1), 8 (I2), 9 (I3), 10 (I4), 11 (I5), 12 (I6), 13 (U1FILT), 14 (U2FILT), 15 (U3FILT), 16 (U4FILT), 17 (U5FILT), 18 (U6FILT), 19 (I1FILT), 20 (I2FILT), 21 (I3FILT), 22 (I4FILT), 23 (I5FILT), 24 (I6FILT), 25 (TQ1), 26 (SPD1), 27 (TQ2), 28 (EXT1), 29 (EXT2), 30 (CHA), 31 (CHB), 32 (CHC), 33 (CHD)

Output

Name	Data Type	Explanation
PreTrig out		Outputs the query results of pre-trigger. Output Value: 0 (0), 1 (10), 2 (20), 3 (30), 4 (40), 5 (50), 6 (60), 7 (70), 8 (80), 9 (90), 10 (100)
Slope out		Outputs the query results of the trigger slope. Output Value: 0 (RISING), 1 (FALLING)
Level out		Outputs the query results of the trigger level.
Source out		Outputs the query results of the trigger source. Output Value: 0 (U1), 1 (U2), 2 (U3), 3 (U4), 4 (U5), 6 (U6), 7 (I1), 8 (I2), 9 (I3), 10 (I4), 11 (I5), 12 (I6), 13 (U1FILT), 14 (U2FILT), 15 (U3FILT), 16 (U4FILT), 17 (U5FILT), 18 (U6FILT), 19 (I1FILT), 20 (I2FILT), 21 (I3FILT), 22 (I4FILT), 23 (I5FILT), 24 (I6FILT), 25 (TQ1), 26 (SPD1), 27 (TQ2), 28 (EXT1), 29 (EXT2), 30 (CHA), 31 (CHB), 32 (CHC), 33 (CHD)

Note:

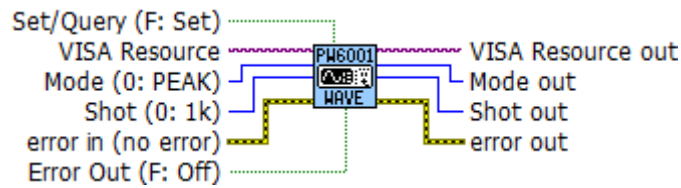
This VI name was revised from "Conf Triger.vi" to "Conf Trigger.vi".

"Level" and "Level out" were revised to use a decimal.

Please be careful that previous version VI is not found.

3.3.64 HIOKI PW6001 Conf Wave.vi

Sets and reads a storage mode for waveform recording and a recording length for a waveform.



Input

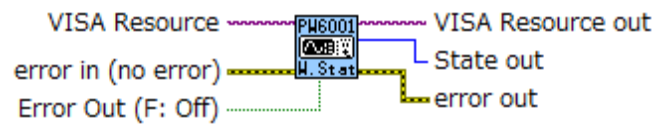
Name	Data Type	Explanation
Mode (0: PEAK)		Sets a storage mode for waveform recording. Input Range: 0 (PEAK: Default), 1 (DECI) Note: PEAK : Peak-Peak compression DECI : Decimation in frequency
Shot (2: 10k)		Sets a recording length for a waveform. The unit is word. Input Range: 0 (1k), 1 (5k), 2 (10k: Default), 3 (50k), 4 (100k), 5 (500k), 6 (1M)

Output


Name	Data Type	Explanation
Mode out		Outputs the query results of storage mode for waveform recording. Output Value: 0 (PEAK), 1 (DECI)
Shot out		Outputs the query results of recording length for a waveform. Output Value: 0 (1k), 1 (5k), 2 (10k: Default), 3 (50k), 4 (100k), 5 (500k), 6 (1M)

3.3.65 HIOKI PW6001 Conf Wave State.vi

Reads the waveform acquisition status.

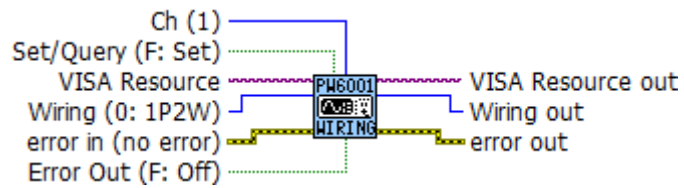


Output

Name	Data Type	Explanation
Status out		Outputs the query results of the waveform acquisition status. Output Value: 0 (STOP), 1 (WAIT_AUTO), 2 (WAIT_SINGLE), 3 (PRE_TRG), 4 (STORAGE), 5 (PROCESSING), 6 (ABORT)

3.3.66 HIOKI PW6001 Conf Wiring.vi

Sets and reads a connection per channel.



Input

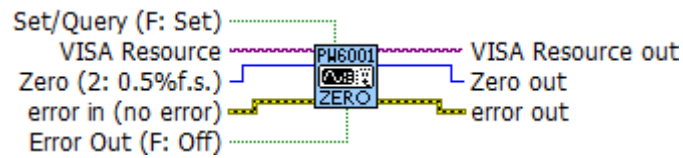
Name	Data Type	Explanation
Ch (1)		Specifies the channel. Input Range: 1 (Default) to 6
Wiring (0: 1P2W)		Sets a connection per channel. Input Range: 0 (1P2W: Default), 1 (1P3W), 2 (3P3W2M), 3 (3P3W3M), 4 (3V3A), 5 (3P4W) Note: Use this command or query after a connection mode is set with " HIOKI PW6001 Conf Mode.vi " If no change is available depending on the combination of connection data of the channel, it becomes a command execution error.

Output

Name	Data Type	Explanation
Wiring out		Outputs the query results of connection per channel. Output Value: 0 (1P2W), 1 (1P3W), 2 (3P3W2M), 3 (3P3W3M), 4 (3V3A), 5 (3P4W)

3.3.67 HIOKI PW6001 Conf ZeroSp.vi

Sets and reads zero suppression mode.



Input

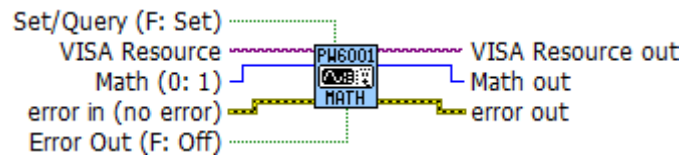
Name	Data Type	Explanation
Zero (2: 0.5%f.s.)		Sets zero suppression mode. Input Range: 0 (OFF), 1 (0.1%f.s.), 2 (0.5%f.s.: Default)

Output

Name	Data Type	Explanation
Zero out		Outputs the query results of the zero suppression.

3.3.68 HIOKI PW6001 Conf MATH.vi

Sets and reads formulas for apparent power, reactive power and power factor of three-phase power.



Input

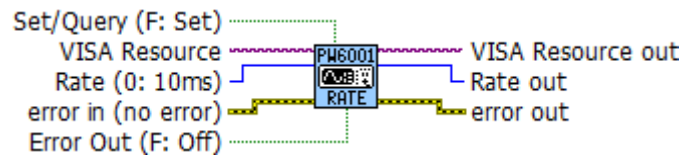
Name	Data Type	Explanation
Math (0: 1)		<p>Sets formulas for apparent power, reactive power and power factor of three-phase power.</p> <p>Input Range: 0 (1: Default), 1 (2), 2 (3)</p> <p>Note:</p> <ul style="list-style-type: none"> 1 TYPE1 : Compatible with 3193 and 3390 TYPE1 2 TYPE2 : Compatible with 3192 and 3193 TYPE2 3 TYPE3 : Sign of power factor for TYPE1 is used as a sign for active power.

Output

Name	Data Type	Explanation
Math out		<p>Outputs the query results of formulas for apparent power, reactive power and power factor of three-phase power.</p> <p>Output Value: 0 (1), 1 (2), 2 (3)</p>

3.3.69 HIOKI PW6001 Conf Rate.vi

Sets and reads a data update rate.



Input

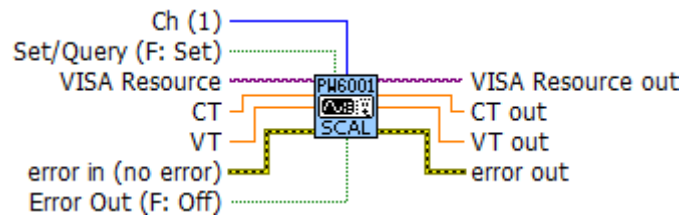
Name	Data Type	Explanation
Rate (1: 50ms)		Sets a data update rate. Input Range: 0 (10ms), 1 (50ms: Default), 2 (200ms)

Output

Name	Data Type	Explanation
Rate out		Outputs the query results of data update rate. Output Value: 0 (10ms), 1 (50ms), 2 (200ms)

3.3.70 HIOKI PW6001 Conf Scale.vi

Sets and reads the CT, VT.



Input

Name	Data Type	Explanation
Ch (1)	I32	Specifies the channel. Input Range: 1 (Default) to 6
CT	DBL	Sets a CT ratio for a specified channel. Input Range: 0.00001 to 9999.99 (1.00: Default) Note: The OFF setting for CT ratio is 1.0. The query response to OFF is 0001.00. Setting for other channel combined with measurement line will be changed. VT x CT must not exceed 1.0E+06.
VT	DBL	Sets a VT ratio for a specified channel. Input Range: 0.00001 to 9999.99 (1.00: Default) Note: The OFF setting for VT ratio is 1.0. The query response to OFF is 0001.00. Setting for other channel combined with measurement line will be changed. Setting for other channel combined with measurement line will be changed.

Output

Name	Data Type	Explanation
CT out	DBL	Outputs the query results of the CT ratio for specified channel.
VT out	DBL	Outputs the query results of the VT ratio for specified channel.

3.3.71 HIOKI PW6001 Sync Status.vi

Reads synchronous control state.

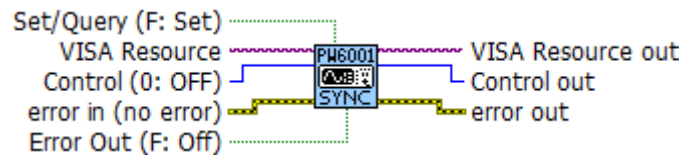


Output

Name	Data Type	Explanation
status out	U16	Outputs the query results of synchronous control state. Output Value: 0 (Y), 1 (N) Note: Y : Synchronized state or synchronization control OFF N : Asynchronous state with synchronous control ON

3.3.72 HIOKI PW6001 Conf Sync.vi

Sets and reads the functions related to the synchronization control.



Input

Name	Data Type	Explanation
Control (0: OFF)		Sets master/slave for synchronization control. Input Range: 0 (OFF: Default), 1 (MASTERWAVE), 2 (MASTERMEAS), 3 (SLAVEWAVE), 4 (SLAVEMEAS)

Output

Name	Data Type	Explanation
Control out		Outputs the query results of master/slave for synchronization control. Output Value: 0 (OFF), 1 (MASTERWAVE), 2 (MASTERMEAS), 3 (SLAVEWAVE), 4 (SLAVEMEAS)

4. DATA Structure

4.1 Parameters for normal measurement items

Measurement item	Instru- ment's notation	Measurement item
Voltage RMS value	Urms	Urms1/Urms2/Urms3/Urms4/Urms5/Urms6/ Urms12/Urms34/Urms45/Urms56/Urms123/Urms456
Voltage average value rectification RMS equivalent	Umn	Umn1/Umn2/Umn3/Umn4/Umn5/Umn6/ Umn12/Umn34/Umn45/Umn56/Umn123/Umn456
Voltage AC component	Uac	Uac1/Uac2/Uac3/Uac4/Uac5/Uac6
Voltage simple average	Udc	Udc1/Udc2/Udc3/Udc4/Udc5/Udc6
Voltage fundamental wave component	Ufnd	Ufnd1/Ufnd2/Ufnd3/Ufnd4/Ufnd5/Ufnd6/
Voltage waveform peak +	Upk+	PUpk1/PUpk2/PUpk3/PUpk4/PUpk5/PUpk6
Voltage waveform peak -	Upk-	MUpk1/MUpk2/MUpk3/MUpk4/MUpk5/MUpk6
Total voltage harmonic distortion	Uthd	Uthd1/Uthd2/Uthd3/Uthd4/Uthd5/Uthd6
Voltage ripple factor	Urf	Urf1/Urf2/Urf3/Urf4/Urf5/Urf6
Voltage unbalance rate	Uunb	Uunb123/Uunb456
Current RMS value	Irms	Irms1/Irms2/Irms3/Irms4/Irms5/Irms6/ Irms12/Irms34/Irms45/Irms56/Irms123/Irms456
Current average value rectification RMS equivalent	Imn	Imn1/Imn2/Imn3/Imn4/Imn5/Imn6/ Imn12/Imn34/Imn45/Imn56/Imn123/Imn456
Current AC component	Iac	Iac1/Iac2/Iac3/Iac4/Iac5/Iac6
Current simple average	Idc	Idc1/Idc2/Idc3/Idc4/Idc5/Idc6
Current fundamental wave component	Ifnd	Ifnd1/Ifnd2/Ifnd3/Ifnd4/Ifnd5/Ifnd6/
Current waveform peak +	Ipk+	PIpk1/PIpk2/PIpk3/PIpk4/PIpk5/PIpk6
Current waveform peak -	Ipk-	Mlpk1/Mlpk2/Mlpk3/Mlpk4/Mlpk5/Mlpk6
Total current harmonic distortion	Ithd	Ithd1/Ithd2/Ithd3/Ithd4/Ithd5/Ithd6
Current ripple factor	Irf	Irf1/Irf2/Irf3/Irf4/Irf5/Irf6
Current unbalance rate	Iunb	Iunb123/Iunb456
Active power	P	P1/P2/P3/P4/P5/P6/P12/P34/P45/P56/P123/P456
Fundamental wave active power	Pfnd	Pfnd1/Pfnd2/Pfnd3/Pfnd4/Pfnd5/Pfnd6/ Pfnd12/Pfnd34/Pfnd45/Pfnd56/Pfnd123/Pfnd456
Apparent power	S	S1/S2/S3/S4/S5/S6/S12/S34/S45/S56/S123/S456
Fundamental wave apparent power	Sfnd	Sfnd1/Sfnd2/Sfnd3/Sfnd4/Sfnd5/Sfnd6/ Sfnd12/Sfnd34/Sfnd45/Sfnd56/Sfnd123/Sfnd456
Reactive power	Q	Q1/Q2/Q3/Q4/Q5/Q6/Q12/Q34/Q45/Q56/Q123/Q456
Fundamental wave power power	Qfnd	Qfnd1/Qfnd2/Qfnd3/Qfnd4/Qfnd5/Qfnd6/ Qfnd12/Qfnd34/Qfnd45/Qfnd56/Qfnd123/Qfnd456
Power factor	λ	PF1/PF2/PF3/PF4/PF5/PF6/PF12/PF34/PF45/PF56/PF123/ PF456
Fundamental wave power power	λ fnd	PFfnd1/PFfnd2/PFfnd3/PFfnd4/PFfnd5/PFfnd6/ PFfnd12/PFfnd34/PFfnd45/PFfnd56/PFfnd123/PFfnd456

Measurement item	Instru- ment's notation	Measurement item
Voltage phase angle	θ_U	Udeg1/Udeg2/Udeg3/Udeg4/Udeg5/Udeg6
Current phase angle	θ_I	Ideg1/Ideg2/Ideg3/Ideg4/Ideg5/Ideg6
Power phase angle	φ	DEG1/DEG2/DEG3/DEG4/DEG5/DEG6/ DEG12/DEG34/DEG45/DEG56/DEG123/DEG456
Frequency	f	FREQ1/FREQ2/FREQ3/FREQ4/FREQ5/FREQ6
Positive integration current	Ih+	PIH1/PIH2/PIH3/PIH4/PIH5/PIH6
Negative integration current	Ih-	MIH1/MIH2/MIH3/MIH4/MIH5/MIH6
Positive and negative integration current sum	Ih	IH1/IH2/IH3/IH4/IH5/IH6
Positive integration power sum	WP+	PWP1/PWP2/PWP3/PWP4/PWP5/PWP6 PWP12/PWP34/PWP45/PWP56/PWP123/PWP456
Negative integration power	WP-	MWP1/MWP2/MWP3/MWP4/MWP5/MWP6 MWP12/MWP34/MWP45/MWP56/MWP123/MWP456
Positive and negative integration power sum	WP	WP1/WP2/WP3/WP4/WP5/WP6 WP12/WP34/WP45/WP56/WP123/WP456
Efficiency	η	Eff1/Eff2/Eff3/Eff4
Loss	Loss	Loss1/Loss2/Loss3/Loss4
Torque	Tq	Tq1/Tq2
RPM	Spd	Spd1/Spd2
Motor power	Pm	Pm1/Pm2
Slip	Slip	Slip1/Slip2
Free input in independent input mode	CH	CHA/CHB/CHC/CHD
User Dified Function	UDF	UDF1/UDF2/UDF3/UDF4/UDF5/UDF6/UDF7/UDF8/UDF9/ UDF10/UDF11/UDF12/UDF13/UDF14/UDF15/UDF16

4.2 List and Order of Direct Specification Items for HIOKI PW6001 Conf Measure.vi

Measurement item	Parameter list and order
Status	Status/Status1/Status2/Status3/Status4/Status5/Status6/ StatusM1/StatusM2/StatusMInd
Parameters for normal measurement items	This items shows the output in the item name and order same with the parameters for normal measurement items. See 4.1 Parameters for normal measurement items for details.
Elapsed time	Etime
Elapsed time in ms	Etime(ms)

4.3 Statuses for HIOKI PW6001 Conf Measure.vi

Status shows the status for saved measurement data in a 32 bits-hexadecimal value.

The status is a logical sum of Status1 through Status6 and StatusM1 and StatusM2 and StatusMInd.

For example, if bit 11 (ZU) of Status2 is set to ON and bit 17 (ZM) of StatusM1 is set to ON, both bits 11 and 17 of Status are set to ON.

4.4 Channel Statuses (Status1, Status2, Status3, Status4, Status5, Status6)

Statuses for channels are Status1 through Status6. (e.g The status of channel 3 is Status3.)

Assignment of the 32 bits is as follows:

bit 31	bit 30	bit 29	bit 28	bit 27	bit 26	bit 25	bit 24
----	----	----	----	----	----	----	----
bit 23	bit 22	bit 21	bit 20	bit 19	bit 18	bit 17	bit 16
----	----	----	----	----	----	----	----
bit 15	bit 14	bit 13	bit 12	bit 11	bit 10	bit 9	bit 8
----	UCU	ZP	ZI	ZU	DP	DI	DU
bit 7	bit 6	bit 5	bit 4	bit 3	bit 2	bit 1	bit 0
----	----	----	----	RI	RU	PI	PU

Bit	Abbreviation	Detail
Bit 14	UCU	Calculation unavailable (measured data is immediately after change resulting in invalid)
Bit 13	ZP	Power calculation (synchronized source) with forced zero-cross
Bit 12	ZI	Current frequency with forced zero-cross
Bit 11	ZU	Voltage frequency with forced zero-cross
Bit 10	DP	Power calculation (synchronized source) without data update
Bit 9	DI	Current frequency without data update
Bit 8	DU	Voltage frequency without data update
Bit 3	RI	Current range exceeded
Bit 2	RU	Voltage range exceeded
Bit 1	PI	Current peak exceeded
Bit 0	PU	Voltage peak exceeded

4.5 Motor statuses for channels A and B (StatusM1, StatusM2)

Motor statuses for channels A and B are StatusM1 and StatusM2.

Assignment of the 32 bits is as follows:

bit 31	bit 30	bit 29	bit 28	bit 27	bit 26	bit 25	bit 24
----	----	----	----	----	----	----	----
bit 23	bit 22	bit 21	bit 20	bit 19	bit 18	bit 17	bit 16
----	----	UCUB	ZMB	RMB	UCUA	ZMA	RMA
bit 15	bit 14	bit 13	bit 12	bit 11	bit 10	bit 9	bit 8
----	----	----	----	----	----	----	----
bit 7	bit 6	bit 5	bit 4	bit 3	bit 2	bit 1	bit 0
----	----	----	----	----	----	----	----

Bit	Abbreviation	Detail
Bit 21	UCUB	CHB calculation unavailable (measured data is immediately after change resulting in invalid)
Bit 20	ZMB	CHB motor synchronization source with forced zero-cross
Bit 19	RMB	CHB range exceeded when input is set to analog
Bit 18	UCUA	CHA calculation unavailable (measured data is immediately after change resulting in invalid)
Bit 17	ZMA	CHA motor synchronization source with forced zero-cross
Bit 16	RMA	CHA range exceeded when input is set to analog

4.6 Motor analysis status in independent input mode (StatusMInd)

Motor analysis status in independent input mode is StatusMInd.

Assignment of the 32 bits is as follows:

bit 31	bit 30	bit 29	bit 28	bit 27	bit 26	bit 25	bit 24
----	UCU	ZD	ZC	ZB	ZA	RB	RA
bit 23	bit 22	bit 21	bit 20	bit 19	bit 18	bit 17	bit 16
----	----	----	----	----	----	----	----
bit 15	bit 14	bit 13	bit 12	bit 11	bit 10	bit 9	bit 8
----	----	----	----	----	----	----	----
bit 7	bit 6	bit 5	bit 4	bit 3	bit 2	bit 1	bit 0
----	----	----	----	----	----	----	----

Bit	Abbreviation	Detail
Bit 30	UCU	Calculation unavailable (measured data is immediately after change resulting in invalid)
Bit 29	ZD	CHD with forced zero-cross
Bit 28	ZC	CHC with forced zero-cross
Bit 27	ZB	CHB with forced zero-cross
Bit 26	ZA	CHA with forced zero-cross
Bit 25	RB	CHB range exceeded
Bit 24	RA	CHA range exceeded

4.7 List and Order of Direct Specification Items for HIOKI PW6001 Conf Measure Harmonic.vi

Harmonic measurement item		
Status		Status
RMS value	Voltage Zero-order	HU1L000/HU2L000/HU3L000/HU4L000/HU5L000/HU6L000
	Current Zero-order	HI1L000/HI2L000/HI3L000/HI4L000/HI5L000/HI6L000
	Power Zero-order	HP1L000/HP2L000/HP3L000/HP4L000/HP5L000/HP6L000/ HP12L000/HP34L000/HP45L000/HP56L000/HP123L000/HP456L000
Content percentage	Voltage Zero-order	HU1D000/HU2D000/HU3D000/HU4D000/HU5D000/HU6D000
	Current Zero-order	HI1D000/HI2D000/HI3D000/HI4D000/HI5D000/HI6D000
	Power Zero-order	HP1D000/HP2D000/HP3D000/HP4D000/HP5D000/HP6D000/ HP12D000/HP34D000/HP45D000/HP56D000/HP123D000/HP456D000
Phase angle	Voltage Zero-order	HU1P000/HU2P000/HU3P000/HU4P000/HU5P000/HU6P000
	Current Zero-order	HI1P000/HI2P000/HI3P000/HI4P000/HI5P000/HI6P000
	Power Zero-order	HP1P000/HP2P000/HP3P000/HP4P000/HP5P000/HP6P000/ HP12P000/HP34P000/HP45P000/HP56P000/HP123P000/HP456P000
...	n-th	The suffix in 3 digits shows the order "n".
RMS value	Voltage 100th-order	HU1L100/HU2L100/HU3L100/HU4L100/HU5L100/HU6L100
	Current 100th-order	HI1L100/HI2L100/HI3L100/HI4L100/HI5L100/HI6L100
	Power 100th-order	HP1L100/HP2L100/HP3L100/HP4L100/HP5L100/HP6L100/ HP12L100/HP34L100/HP45L100/HP56L100/HP123L100/HP456L100
Content percentage	Voltage 100th-order	HU1D100/HU2D100/HU3D100/HU4D100/HU5D100/HU6D100
	Current 100th-order	HI1D100/HI2D100/HI3D100/HI4D100/HI5D100/HI6D100
	Power 100th-order	HP1D100/HP2D100/HP3D100/HP4D100/HP5D100/HP6D100/ HP12D100/HP34D100/HP45D100/HP56D100/HP123D100/HP456D100
Phase angle	Voltage 100th-order	HU1P100/HU2P100/HU3P100/HU4P100/HU5P100/HU6P100
	Current 100th-order	HI1P100/HI2P100/HI3P100/HI4P100/HI5P100/HI6P100
	Power 100th-order	HP1P100/HP2P100/HP3P100/HP4P100/HP5P100/HP6P100/ HP12P100/HP34P100/HP45P100/HP56P100/HP123P100/HP456P100

4.8 Statuses for HIOKI PW6001 Conf Measure Harmonic.vi

Status shows the status for saved measurement data in a 32 bits-hexadecimal value.

The status of measured harmonics data is one of the Statuses.

Assignment of the 32 bits is as follows: (The numbers 1 through 6 after abbreviation show channel number.)

bit 31	bit 30	bit 29	bit 28	bit 27	bit 26	bit 25	bit 24
----	----	----	----	----	----	----	----
bit 23	bit 22	bit 21	bit 20	bit 19	bit 18	bit 17	bit 16
----	----	UCU6	UCU5	UCU4	UCU3	UCU2	UCU1
bit 15	bit 14	bit 13	bit 12	bit 11	bit 10	bit 9	bit 8
----	----	ZH6	ZH5	ZH4	ZH3	ZH2	ZH1
bit 7	bit 6	bit 5	bit 4	bit 3	bit 2	bit 1	bit 0
----	----	RF6	RF5	RF4	RF3	RF2	RF1

Bit	Abbreviation	Detail
16 to 21	UCU	Calculation unavailable (If data measured immediately after frequency fluctuation of a synchronization source is invalid.)
8 to 13	ZH	Harmonics waveform with forced zero-cross
0 to 5	RF	Frequency range exceeded