Acuview User's Guide

March 31, 2014
Accuenergy Corporation

Contents

1. Welcome to Acuview

Developed by Accuenergy Corporation, Acuview software is designed for the Acuvim-X, Acuvim-L, Acuvim II, Acuvim and AcuDC 200 series power meters.

Acuview software provides user-friendly real-time monitoring and data logging features for energy saving and power quality analysis. The purpose of this software is to provide a tool for users to monitor multiple parameters continuously and it allows users to monitor and maintain the meter on a real-time basis.

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2. Copyright

3. Getting Started

3.1. New Connection

A connection is required before communicating with the meter. To add a new connection, do one of the following:

1) Click **Settings** > **Connection Manager**.

or

2) Click the icon  .

The Connection Manager is shown as Figure 3.1.

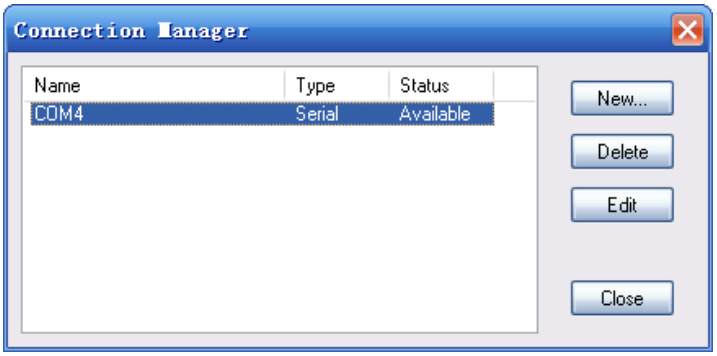

Figure 3.1. Connection Manager

- **New:** Add a new connection.
- **Delete:** Delete the selected connection.
- **Edit:** Edit the selected connection settings.
- **Close:** Close the window.
- **Status:** 'Available' means **Com Port** or **Ethernet** is active, and 'Not Available' means **Com Port** or **Ethernet** is inactive. If the status is blank, it means that **Com Port** or **Ethernet** has not been established.

3.2. Connection Settings

Set the connection parameters. The New Connection box is shown as Figure 3.2.

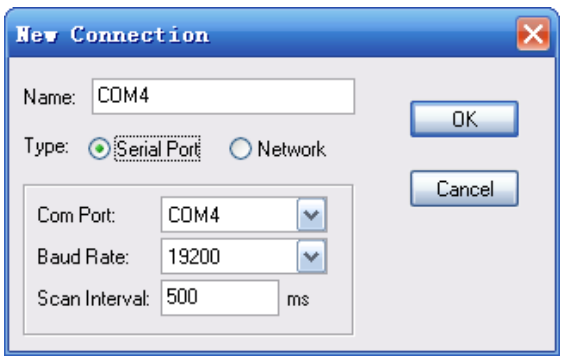

Figure 3.2. New Connection

- **Name:** Give connection a name.
- **Type:** Select Serial Port for RS485; Select Network for Modbus TCP gateway (for example, Acuvim II + AXM-NET).
- **Com Port:** Select the serial port that the RS485 connection is using.
- **Baud Rate:** Should match the baud rate in the meter settings.
- **Scan Interval:** Used to adjust the time interval between two messages (200ms or 500ms is recommended).

3.3. Add New Device

After performing steps 1 and 2, you need to add a device to communicate with. To add a new device, do one of the following:

1) Click **Operation** > **Add Device**.

or

2) Click the icon  .

The Add Device box is shown as Figure 3.3.

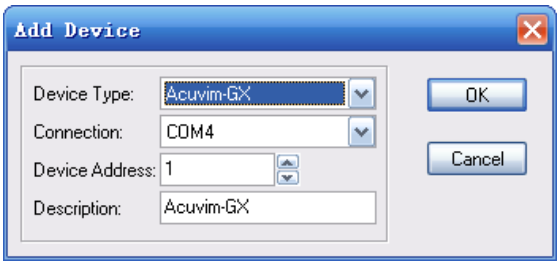

Figure 3.3. Add Device

- **Device Type:** The model of the device you are going to communicate with.
- **Connection:** Select a connection for the communication.
- **Device Address:** Should match the address in the meter settings.
- **Description:** Device description such as where the device is used, for example, *"Building 1".*

3.4. Connection

You can read all the measurement data after you successfully complete Step 3. To connect, do one of the following:

1) Click **Operation** > **Connect**.

or

2) Click the icon  .

or

3) Press F9 on keyboard.

Notice: If you cannot start communication normally, please make sure the physical connection of the device is correct and the communication setting parameters are properly configured.

3.5. Getting Help

For more information, do one of the following:

1) Click **Help** > **Help**.

or

2) Click the icon  .

4. User Interface

4.1. Main Window

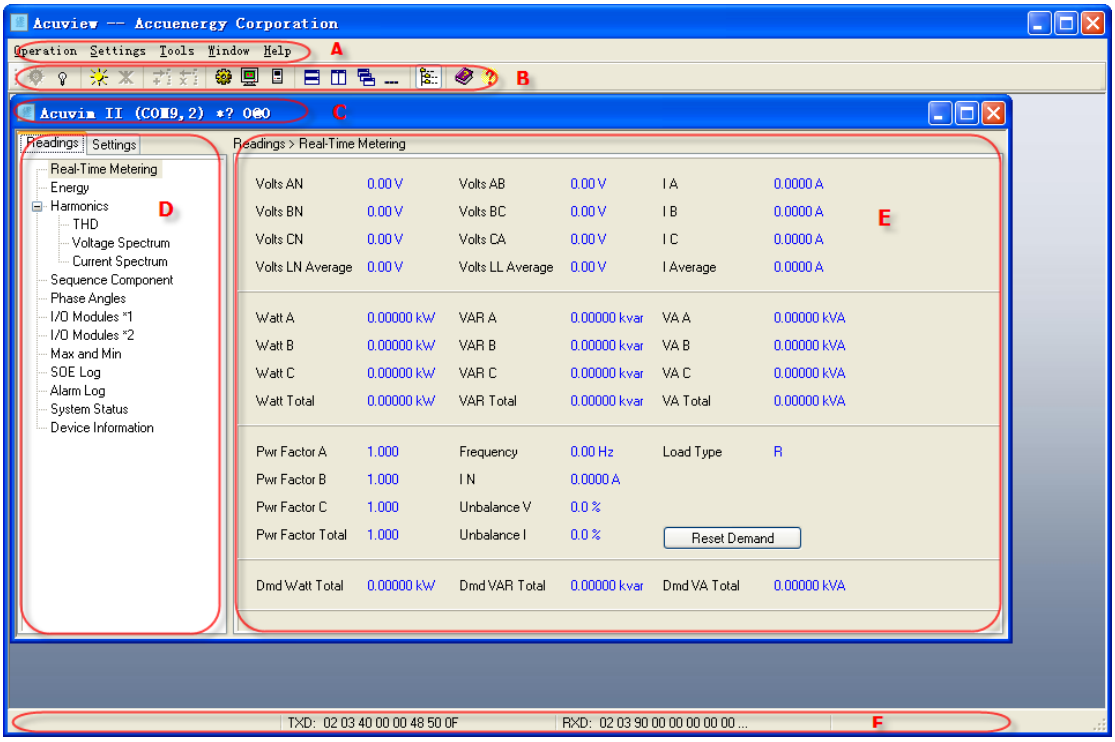

Figure 4.1. Main Window

The main window includes a menu bar, a toolbar, a workspace and a status bar. The workspace displays meter windows. The status bar displays messages. As shown in Figure 4.1, the following includes a description of all items:

A -- **Menu bar**

B -- **Toolbar**

C -- **Window title:** Displays connection, device address, device description, connection status, etc

D -- **Explorer bar:** Allows for quick browsing of the meter functions.

E -- **Data area:** Displays data related to meter functions or available operations for user to perform.

F -- **Communication:** Displays sent/received messages and indicates communication errors (which means the number of faulty devices) in the monitoring state.

4.2. Main Menu

The Main menu includes Operation, Settings, Tools, Window and Help.

4.2.1. Operation

Connect: Connect to the device, read data and allow write command.

Disconnect: Disconnect the device, stop data reading and disallow write command.

Start Data Logging: Record data at the set logging interval.

Stop Data Logging: Stop recording.

Add Device: Add a new device that is going to be connected.

Delete Current Device: Delete current active device. If multiple windows are tiled, it deletes the device of the top window.

Exit: Quit the application.

4.2.2. Settings

Connection Manager: Manage connections and edit connection parameters.

Data Log Settings: Check and set data logging parameters of each device that is going to be monitored.

Options: Check and set some of the advanced options.

Device Manager: Show the detailed communication status.

Device Properties: Modify device description while connected; modify device address while disconnected.

Explorer Bar: Show or hide the explorer bar.

Text Size: Set text size of the data area.

4.2.3. Tools

Import Device Profile: Load the settings into the current active device window from an existing device profile.

Export Device Profile: The device profile of the current active device window can be saved as a file.

Import and Update Device: Load and send all settings in the current active device window to the meter.

Find Device: Search on-line for meters in LAN.

4.2.4. Window

Tile Horizontally: Rearrange all windows in the tile horizontally.

Tile Vertically: Rearrange all windows in the tile vertically.

Cascade: Rearrange all windows in a cascade.

Minimize All: Minimize all windows.

4.2.5. Help

Help: Display help document.

About: Display the software version and copyright information.

4.3. Toolbar

Connect: Connect device, read data and allow write command.

 **Disconnect:** Disconnect device, stop data reading and disallow write command.

 **Start Data Logging:** Record data at the set logging interval.

 **Stop Data Logging:** Stop recording.

 **Add Device:** Add a new device that is going to be connected.

 **Delete Current Device:** Delete current active device. If multiple windows are tiled, it deletes the device of the top window.

 **Connection Manager:** Manage connections and edit connection parameters.

 **Data log Settings:** Check and set data logging parameters of each device that is going to be monitored.

 **Options:** Check and set some of the advanced options.

 **Device Manager:** Show the detailed communication status.

 **Device Properties:** Modify device description while connected; modify device address while disconnected.

 **Text Size:** Set text size of data area.

 **Tile Horizontally:** Rearrange all windows in the tile horizontally.

 **Tile Vertically:** Rearrange all windows in the tile vertically.

 **Cascade:** Rearrange all windows in a cascade.

 Minimize All: Minimize all windows.

 **Explorer Bar:** Show or hide the explorer bar.

 **Help:** Display help document.

5. Functions

5.1. Basic Monitoring

5.1.1. Add new connection. Refer to the New Connection section.

5.1.2. Set connection parameters. Refer to the Connection Settings section.

5.1.3. Add device window. Refer to the Add New Device section.

5.1.4. Connect. Refer to the Connection section.

5.1.5. Click the node in menu tree on the left side to view the measured values. The content displayed in the device window may be different according to different device types.

5.1.6. Click **Disconnect** menu or icon to stop.

5.2. Device Management

5.2.1. Add a new device. Refer to the Add New Device section.

5.2.2. If there is an unused device window, select it and click **Device Properties** menu or icon to make the device status 'available'.

5.2.3. If a window is no longer needed, click **Delete Current Device** menu or icon.

5.2.4. Device Manager

1) Click **Settings** > **Device Manager.**

or

2) Click the icon  .

The Device Manager box is shown as Figure 5.3.

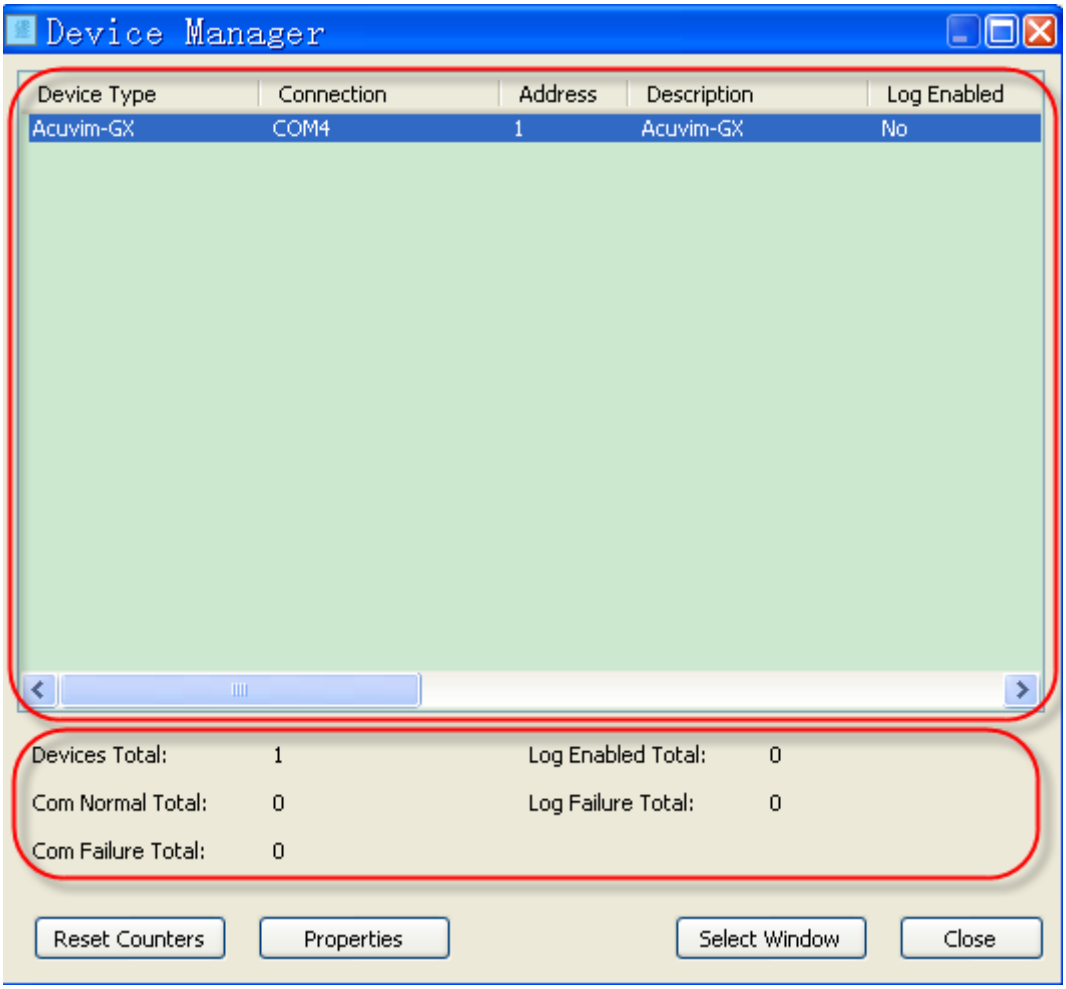

Figure 5.3. Device Manager

- **Device List:** Displays all available devices. Every listed item displays its detailed communication status.
- **Device Total:** The total number of devices.
- **Com Normal Total:** The total number of devices which communicate normally.
- **Com Failure Total:** The total number of devices which fail the communication.
- **Log Enabled Total:** The total number of devices whose real-time data logging state is enabled.
- **Log Failure Total:** The total number of devices whose real-time data logging state fail last time.
- **Reset Counters:** Reset the communication counter for all devices.
- **Properties:** Modify the properties of selected device in device list. Double-click the selected item can also modify device properties.
- **Select Window:** Activate the corresponding window of selected item in device list.
- **Close:** Close the dialog.

5.3. Data Logging

5.3.1. Data Logging Settings

You must set data log before you use this function. To set it, do one of the following:

1) Click **Settings** > **Data Log Settings**.

or

2) Click the icon .

The Data Log Settings box is shown as Figure 5.4.

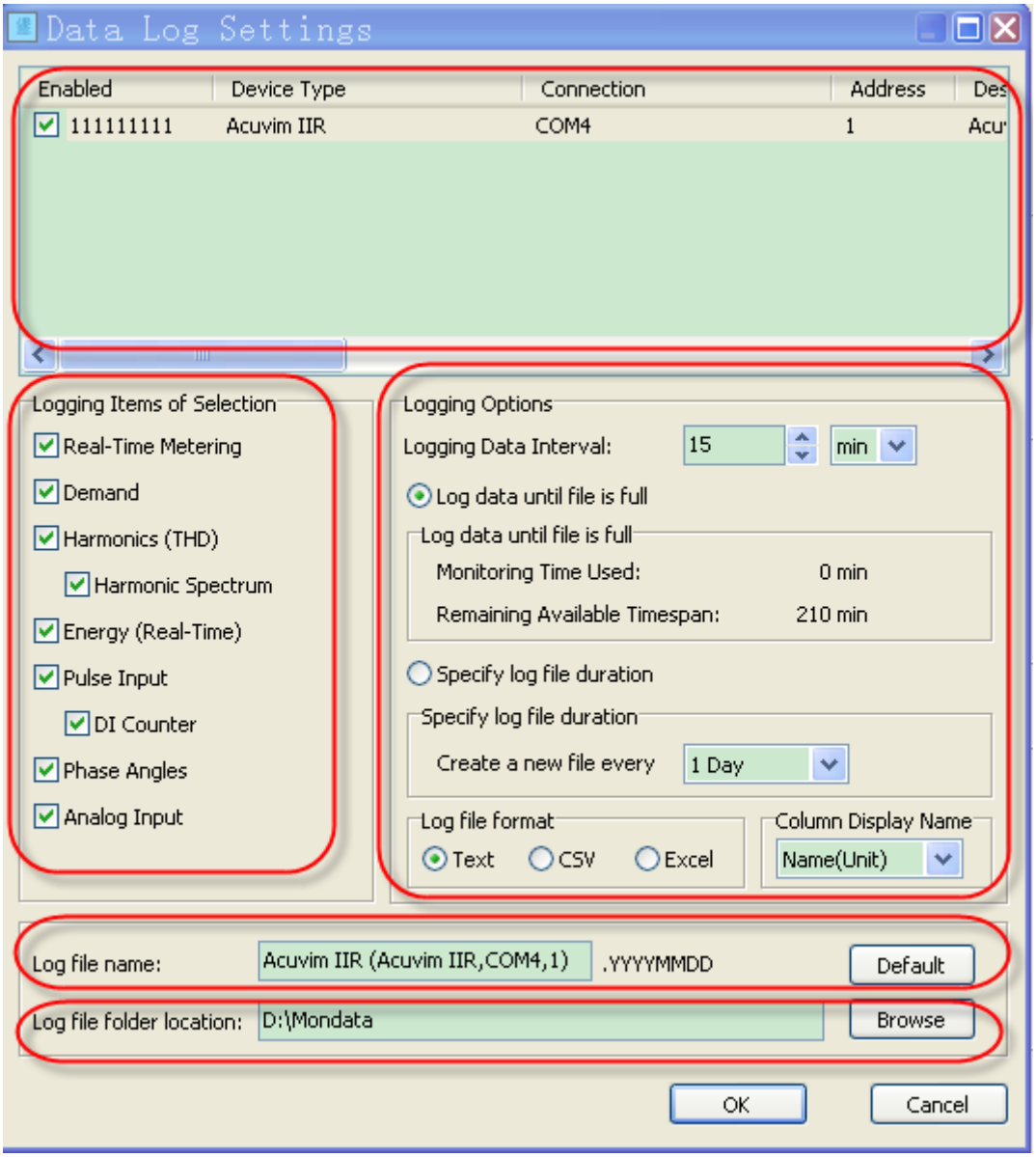

Figure 5.4. Data Log Settings

- **Device List:** Displays all available devices which are working in data logging mode. It also can enable or disable data logging of any device. Every listed item displays the monitoring parameters of corresponding device.
- **Logging Items of Selection:** You can select one or more valid logging items.
- **Logging Options:** Select a listed item and then set monitoring parameters. This option includes 5 aspects about the data logging, which are introduced as the following:

1) **Logging Data Interval:** Setting the data logging interval indicates how often the software will store monitoring results. It contains two formats, which are minutes and seconds.
2) **Log data until file full:** The maximum row number of data logging per log file is 64800. When the maximum number of records is reached, a new log file will be created.
3) **Specify log file duration**：Set time for when to create a new log file. When the time is reached, a new log file will be created.
4) **Log file format**：Set the format of a log file. It can be .txt or .csv or .xls. *(Text file format is recommended.)*
5) **Column Display Name**：Set the name of column when monitoring the Pulse Input and the Analog Input items in the data log file. It can be name or name(unit).

- **Log file name:** For users to set name of a log file. If the name of Log file is blank, the default file name will be used. Click [Default] button to use the default file name.
- **Log file folder location:** For users to set the file storage Path. If the file folder location is blank, the default file folder location will be used. Click [Browse] button to set a file storage path.

Special Attention:

1) **Device List** -> Enabled
2) **Logging Items of Selection**
3) **Logging Options**
4) **Log file name**
5) **Log file folder location**

If there are multiple devices in the list, you must set all of the above monitoring parameters for **each monitoring device** in the device list.

5.3.2. Now connect and pause for 5 seconds. Then click menu **Operation -> Start Data Logging** or the icon to enable this function.

5.3.3. Click menu **Operation -> Stop Data Logging** menu or the icon to stop this function if necessary.

5.3.4. View and analyze data

Find the data log files in the specified folder location. There is a folder named MonData in the Acuview installation directory where all the data log files are stored by default. By default, each file name consists of the device description, device type, port (Serial mode) or IP address (Ethernet mode), device address and data logging starting time whose format is YYYYMMDD (Year, Month, Day).

Make sure to follow the following rules before you open any Excel file:

Special Attention:

Never double click any EXCEL files (including data log files) on your computer when data logging is active, otherwise it may cause the software to become unstable and potentially produce inaccurate results (such as out-of-order and loss of data etc.).

The correct options to open the excel files are:

1) Click **Start** > **Program** > **Microsoft Office** > **Microsoft Office Excel** to open the Excel application. When the main window of Excel is open, click **File** > **Open** and choose the desired files in the dialog box.

or

2) Copy the desired files to another computer and open them on that computer.

5.3.5. Data Log file

After you open a data log file of excel format, you can see the following items:

Real-Time: Real-Time Metering
Demand: Demand
Energy: Real-Time Energy
Energy(TOU): Current Month TOU
PulseInput: Actual value of Pulse Input
Counter: Digital Input Pulse Counter
AnalogInput: Actual value of Analog Input
THD: THD
VHS: Voltage Spectrum 2nd to 31st order
IHS: Current Spectrum 2nd to 31st order
VHS32: Voltage Spectrum 32nd to 63rd order
IHS32: Current Spectrum 32nd to 63rd order
PhaseAngle: Phase Angles

When the data is saved as .txt and .csv, the file content is the same as the excel file, but there is a difference. Each sheet of Excel will be saved as a separate text or CSV document. The parmeters of the PulseInput and the AnalogInput are uncertain, according to the settings page to display. All parameters in the table are shown as following:

● **Real-Time**					
FREQ	Frequency	PA	Watt A	U_UNBL	Unbalance V
UA	Volts AN	PB	Watt B	I_UNBL	Unbalance I
UB	Volts BN	PC	Watt C		
UC	Volts CN	P	Watt Total		
ULN	Volts LN Average	QA	VAR A		
UAB	Volts AB	QB	VAR B		

UBC	Volts BC	QC	VAR C		
UCA	Volts CA	Q	VAR Total		
ULL	Volts LL Average	SA	VA A		
IA	I A	SB	VA B		
IB	I B	SC	VA C		
IC	I C	S	VA Total		
I	I Average	PFA	Pwr Factor A		
IN	I N	PFB	Pwr Factor B		
		PFC	Pwr Factor C		
		PF	Pwr Factor Total		

● **Demand**			
PA_IMP	Delivered Watt A	P_IMP	Delivered Watt Total
PB_IMP	Delivered Watt B	P_EXP	Received Watt Total
PC_IMP	Delivered Watt C	Q_IMP	Delivered VAR Total
PA_EXP	Received Watt A	Q_EXP	Received VAR Total
PB_EXP	Received Watt B	S	VA Total
PC_EXP	Received Watt C	IA	I A
QA_IMP	Delivered VAR A	IB	I B
QB_IMP	Delivered VAR B	IC	I C
QC_IMP	Delivered VAR C	I	I Average
QA_EXP	Received VAR A	P_IMP_PRED	Pred. Del. Watt Total
QB_EXP	Received VAR B	P_EXP_PRED	Pred. Rec. Watt Total
QC_EXP	Received VAR C	Q_IMP_PRED	Pred. Del. VAR Total
		Q_EXP_PRED	Pred. Rec. VAR Total
		S_PRED	Pred. VA Total

● **Energy**					
EP_IMP	Ep_imp	EP_IMP_A	Ep_imp_a	EQ_IMP_A	EQ_imp_a
EP_EXP	Ep_exp	EP_IMP_B	Ep_imp_b	EQ_IMP_B	EQ_imp_b
EQ_IMP	Eq_imp	EP_IMP_C	Ep_imp_c	EQ_IMP_C	EQ_imp_c
EQ_EXP	Eq_exp	EP_EXP_A	Ep_exp_a	EQ_EXP_A	EQ_exp_a
ES	Es	EP_EXP_B	Ep_exp_b	EQ_EXP_B	EQ_exp_b
EP_TOTAL	Ep_total	EP_EXP_C	Ep_exp_c	EQ_EXP_C	EQ_exp_c
EP_net	Ep_net			ES_A	Es_a
EQ_TOTAL	Eq_total			ES_B	Es_b
EQ_net	Eq_net			ES_C	Es_c

● **Energy(TOU)**			
EP_IMP_SHARP	Ep_imp Sharp	EP_IMP_ PEAK	Ep_imp Peak
EP_EXP_SHARP	Ep_exp Sharp	EP_EXP_ PEAK	Ep_exp Peak
EQ_IMP_SHARP	Eq_imp Sharp	EQ_IMP_ PEAK	Eq_imp Peak
EQ_EXP_SHARP	Eq_exp Sharp	EQ_EXP_ PEAK	Eq_exp Peak

ES_SHARP	Es Sharp	ES_ PEAK	Es Peak
EP_IMP_VALLEY	Ep_imp Valley	EP_IMP_ NORMAL	Ep_imp Normal
EP_EXP_VALLEY	Ep_exp Valley	EP_EXP_ NORMAL	Ep_exp Normal
EQ_IMP_VALLY	Eq_imp Valley	EQ_IMP_ NORMAL	Eq_imp Normal
EQ_EXP_VALLY	Eq_exp Valley	EQ_EXP_ NORMAL	Eq_exp Normal
ES_VALLEY	Es Valley	ES_ NORMAL	Es Normal
EP_IMP_TOTAL	Ep_imp Total		
EP_EXP_ TOTAL	Ep_exp Total		
EQ_IMP_ TOTAL	Eq_imp Total		
EQ_EXP_ TOTAL	Eq_exp Total		
ES_ TOTAL	Es Total		

● **PulseInput**					

● **Counter**					
DI_111	AXM-IO11 DI1	DI_211	AXM-IO21 DI1	DI_311	AXM-IO31 DI1
DI_112	AXM-IO11 DI2	DI_212	AXM-IO21 DI2	DI_312	AXM-IO31 DI2
DI_113	AXM-IO11 DI3	DI_213	AXM-IO21 DI3	DI_313	AXM-IO31 DI3
DI_114	AXM-IO11 DI4	DI_214	AXM-IO21 DI4	DI_314	AXM-IO31 DI4
DI_115	AXM-IO11 DI5				
DI_116	AXM-IO11 DI6				
DI_121	AXM-IO12 DI1	DI_221	AXM-IO22 DI1	DI_321	AXM-IO32 DI1
DI_122	AXM-IO12 DI2	DI_222	AXM-IO22 DI2	DI_322	AXM-IO32 DI2
DI_123	AXM-IO12 DI3	DI_223	AXM-IO22 DI3	DI_323	AXM-IO32 DI3
DI_124	AXM-IO12 DI4	DI_224	AXM-IO22 DI4	DI_324	AXM-IO32 DI4
DI_125	AXM-IO12 DI5				
DI_126	AXM-IO12DI6				

● **AnalogInput**					

● **THD**			
UA_THD	THD Volts AN/AB	IA_THD	THD I A
UB_THD	THD Volts BN/CA	IB_THD	THD I B
UC_THD	THD Volts CN/BC	IC_THD	THD I C
U_THD	THD Volts Average	I_THD	THD I Average

UA_OTHD	Odd THD V A	IA_OTHD	Odd THD I A
UA_ETHD	Even THD V A	IA_ETHD	Even THD I A
UA_CF	Crest Factor V A	IA_KF	K Factor I A
UA_THFF	THFF V A	IB_OTHD	Odd THD I B
UB_OTHD	Odd THD V B	IB_ETHD	Even THD I B
UB_ETHD	Even THD V B	IB_KF	K Factor I B
UB_CF	Crest Factor V B	IC_OTHD	Odd THD I C
UB_THFF	THFF V B	IC_ETHD	Even THD I C
UC_OTHD	Odd THD V C	IC_KF	K Factor I C
UC_ETHD	Even THD V C		
UC_CF	Crest Factor V C		
UC_THFF	THFF V C		

● **VHS**					
UA_H2 UA_H3 UA_H4 ... UA_H31	2^{nd}~31^{st} Harmonic V A	UB_H2 UB_H3 UB_H4 ... UB_H31	2^{nd}~31^{st} Harmonic V B	UC_H2 UC_H3 UC_H4 ... UC_H31	2^{nd}~31^{st} Harmonic V C

● **HIS**					
IA_H2 IA_H3 IA_H4 ... IA_H31	2^{nd}~31^{st} Harmonic I A	IB_H2 IB_H3 IB_H4 ... IB_H31	2^{nd}~31^{st} Harmonic I B	IC_H2 IC_H3 IC_H4 ... IC_H31	2^{nd}~31^{st} Harmonic I C

● **PhageAngle**					
UA	Ph Angle VAN	UB	Ph Angle VBN	UC	Ph Angle VCN
IA_UA	Ph Angle IA(VAN)	IB_UA	Ph Angle IB(VAN)	IC_UA	Ph Angle IC(VAN)
UAB	Ph Angle VAB	UBC	Ph Angle VBC	IA_UAB	Ph Angle IA(VAB)
IB_UAB	Ph Angle IB(VAB)	IC_UAB	Ph Angle IC(VAB)		

Table 5.3. Data Log Parameters

5.4. Import/Export Device Profile

5.4.1. A device profile can be imported into the current active device window. To check the content of the imported profile, be sure to disconnect first so that the meter's current settings will not be updated. To send the imported profile to device, follow these steps:

1) Connect first.
2) Click **Tools** > **Import and Update Device**, select the desired file.

5.4.2. Save the settings of the current window to a file via **Export Device Profile**.

5.5. Acuvim-X Series

Acuvim-X series includes Acuvim-DX (TOU), Acuvim-EX (PQ), Acuvim-FX (Alarm), Acuvim-GX (All).

A Comparison of Acuvim-X series is shown in Table 5.5.

Functions			**DX**	**EX**	**FX**	**GX**
Real-Time Metering			√	√	√	√
Digital I/O			√	√	√	√
Demand			√	√	√	√
Harmonics	THD	*Total*		√	√	√
		Phases		√		√
	Voltage Spectrum			√		√
	Current Spectrum			√		√
Sequence Component				√	√	√
Phase Angles				√	√	√
Energy	Real-Time		√	√	√	√
	Current Month TOU		√			√
	Prior Month TOU		√			√
	Cumulative TOU		√			√
	Frozen	Real-Time	√			√
		Current Month TOU	√			√
		Cumulative TOU	√			√
Max and Min	Current			√	√	√
	Prior			√	√	√
Voltage Eligibility Ratio	Daily			√		√
	Monthly			√		√
	Yearly			√		√
	Cumulative			√		√
	Frozen			√		√
SOE Log					√	√
Alarm Log				√	√	√
Waveform Log					√	√
Trending Log					√	√
System Status	*Alarm*			√	√	√
	SOE, Waveform, Trending				√	√
	TOU Schedules Settings		√			√
	Device Run-Time		√	√	√	√
Device Information			√	√	√	√
General Settings			√	√	√	√
Digital I/O Settings			√	√	√	√

Demand Settings		√	√	√	√
Energy Settings		√			√
TOU Schedules Settings		√			√
Alarm Settings	*Alarm Settings*		√	√	√
	Waveform Settings			√	√
Voltage Eligibility Ratio Settings			√		√
Other Settings	*Max and Min Recording Mode*		√	√	√
	Trending Settings			√	√

Table 5.5. Comparison of Acuvim-X series

Acuvim-GX (All) is used as the example to introduce the software functions. In order to fully understand the abilities of the software, please ***thoroughly*** read the Acuvim-X User's Manual.

5.5.1. Readings

5.5.1.1. Digital I/O

To control the relay, please click the related [Control] button.

5.5.1.2. Demand

If you want to synchronize demand calculation of all the devices on the bus, please click Synchronize Demand button.

5.5.1.3. Voltage Spectrum, Current Spectrum

Section A in Figure 5.5.1 means there's no display when harmonics are 0%.

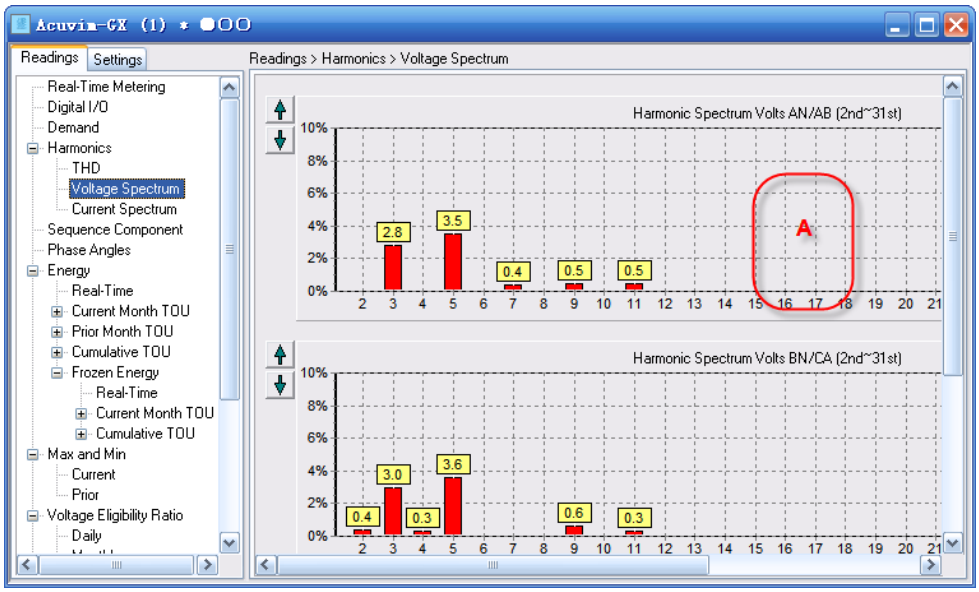

Figure 5.5.1. Voltage Spectrum

5.5.1.4. Sequence Component

Φuaia is the angle between I A and V A. The broken-line circle on the outside indicates 100% of full range.

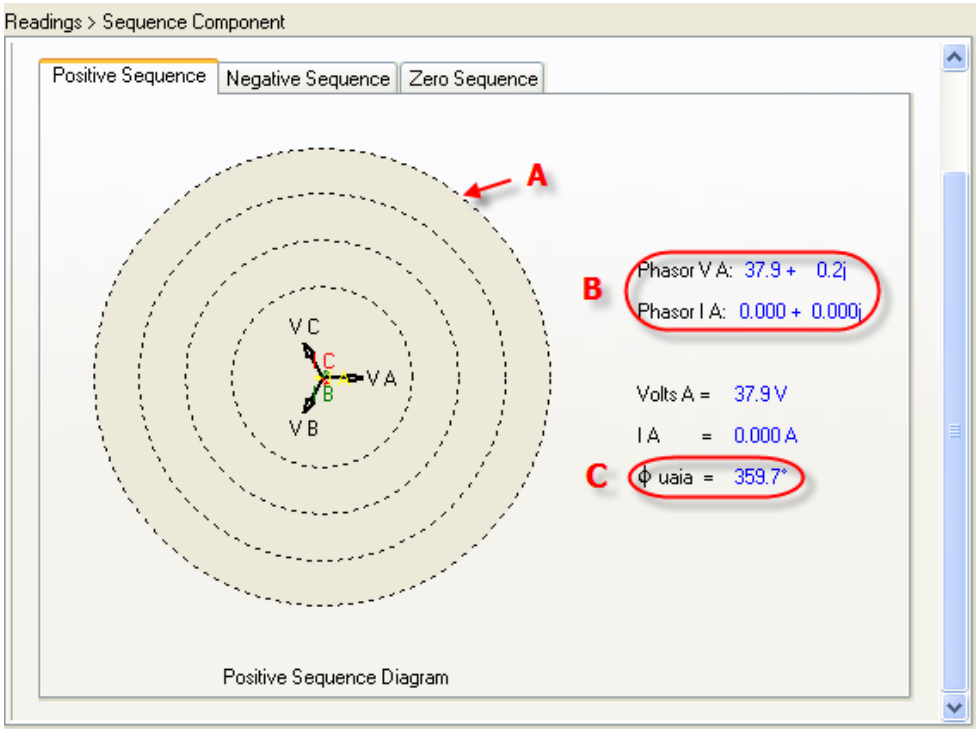

Figure 5.5.2. Positive Sequence

As shown in Figure 5.5.2, the following includes a description of all items:

A -- Full range indicator

B -- Vector expression

C -- Angle between I A and V A

5.5.1.5. Real-Time Energy, Current Month TOU, Cumulative TOU

You can modify the value of energy by clicking underlined figures.

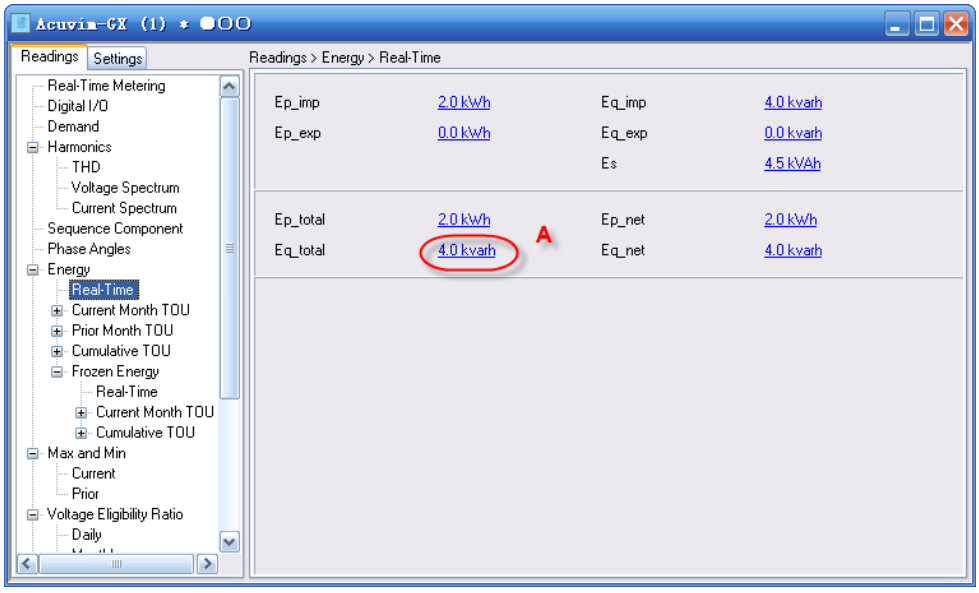

Figure 5.5.3. Real-Time Energy

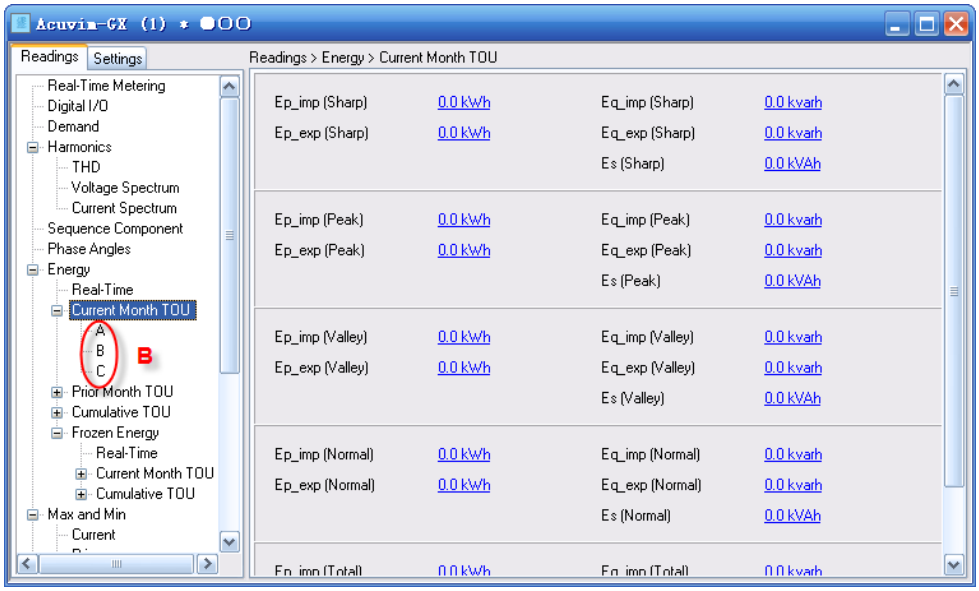

Figure 5.5.4. Current Month TOU

As shown in Figure 5.5.3 and Figure 5.5.4, the following includes a description of all items:

A -- Modify energy value by clicking figures.

B -- Check current month TOU of all phases by clicking characters.

5.5.1.6. Prior Month TOU

As shown in Figure 5.5.5, Section A points out the billing time of prior month on the Prior Month TOU node in the menu tree.

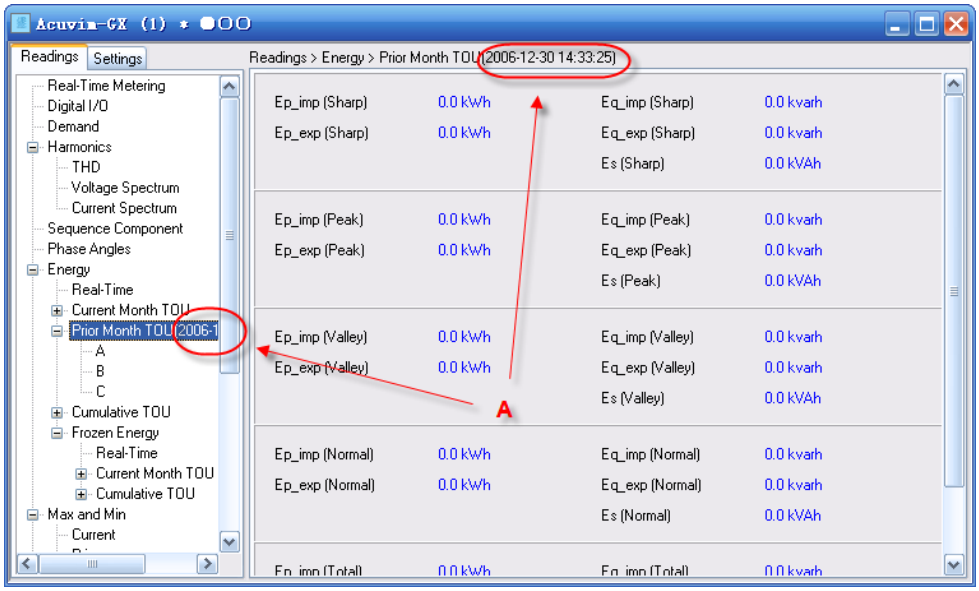

Figure 5.5.5. Prior Month TOU

5.5.1.7. Frozen Energy

As shown in Figure 5.5.6, the time displayed on the Frozen Energy node in the menu tree is the time of freezing real-time energy, current month TOU and accumulative TOU.

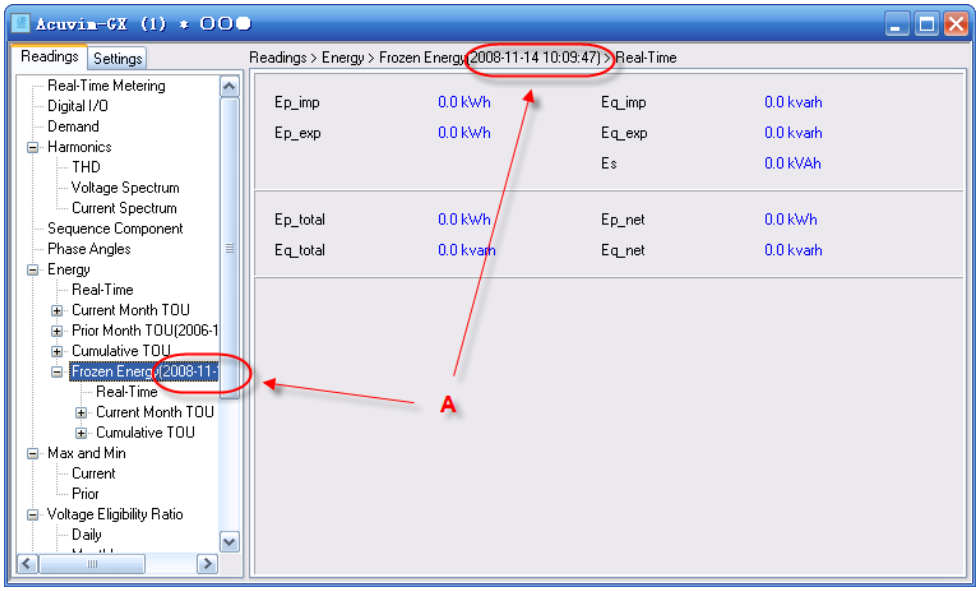

Figure 5.5.6. Frozen Energy

5.5.1.8. Prior Max and Min

As shown in Figure 5.5.7, the date and time displayed on the Prior node in the menu tree is the time of recorded Prior Max and Min.

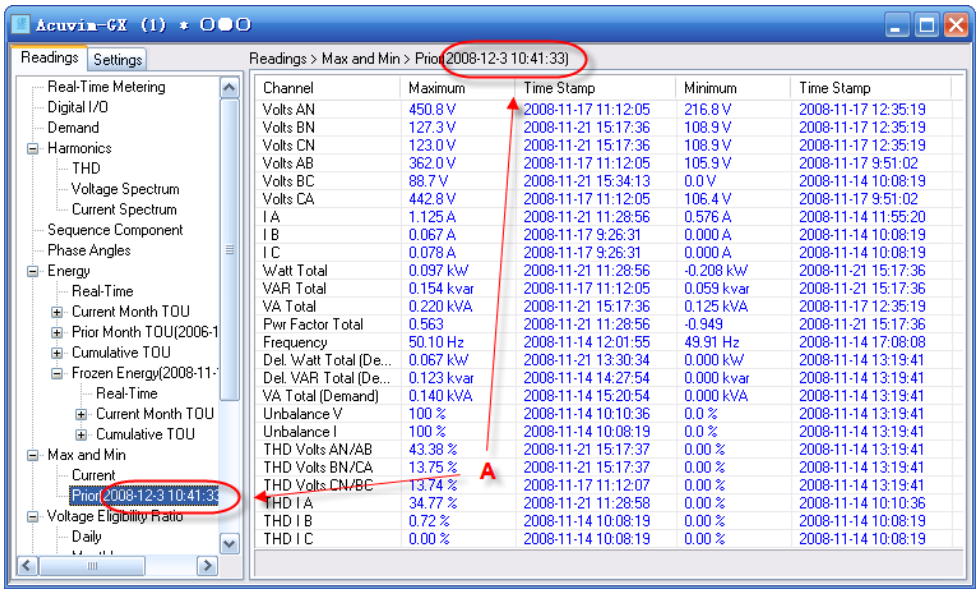

Figure 5.5.7. Prior Max and Min

5.5.1.9. Frozen Voltage Eligibility Ratio

As shown in Figure 5.5.8, the time displayed on the Frozen node in the menu tree is the time of frozen voltage eligibility ratio.

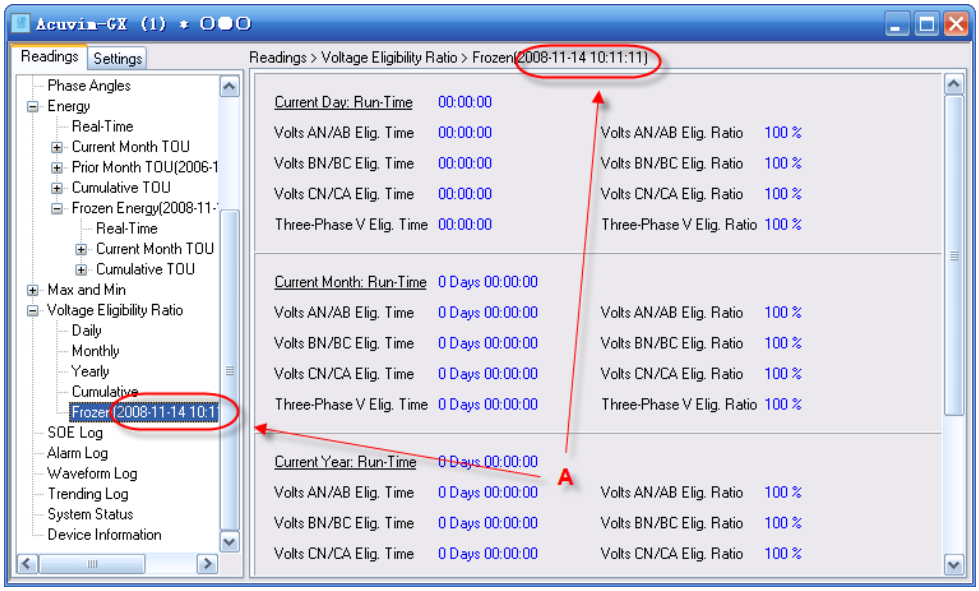

Figure 5.5.8. Frozen Voltage Eligibility Ratio

5.5.1.10. Waveform Log

There are two functions in waveform log:

1) Click Retrieve Waveform button to read the data corresponding to the selected item, and the Data column will remain after reading. It will then draw a waveform graph automatically.

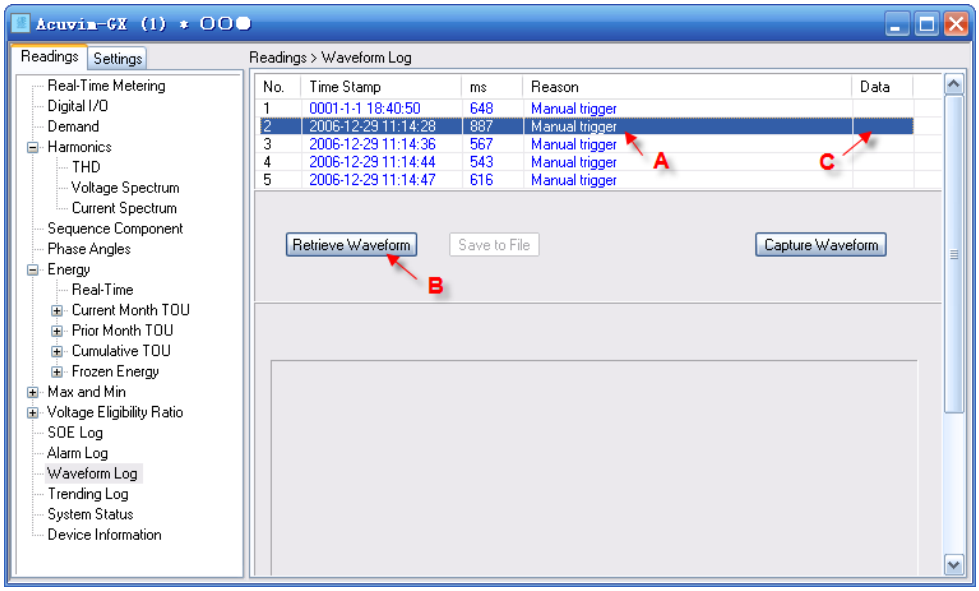

Figure 5.5.9. Waveform Log (1)

As shown in Figure 5.5.9, the following includes a description of all items:

A -- Step 1: Select an item to read.

B -- Step 2: Click Retrieve Waveform button.

C -- The Data column will remain after reading.

2) An item whose data field is not empty may be selected. Its waveform will be displayed as shown in Figure 5.5.10. Section A means to click an item with data.

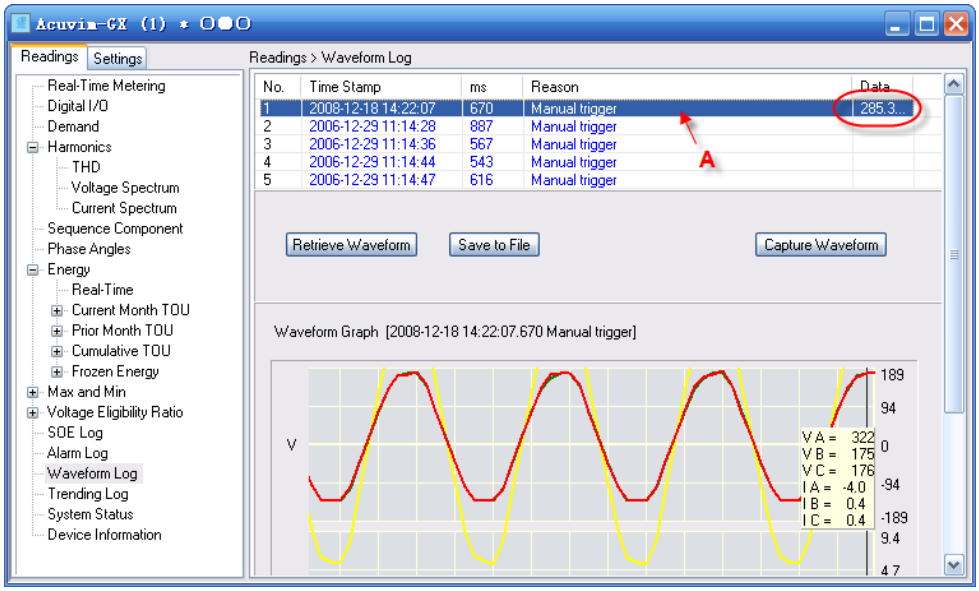

Figure 5.5.10. Waveform Log (2)

Click the Save to File button, then you can save the data of selected items as a txt/csv/xls file for future analysis.

In typical waveform as is shown in Figure 5.5.11, the following includes a description of all items:

A -- Capture time and reason

B -- Capture time when capturing condition is satisfied

C -- Values on current time stamp

D -- Movable time label

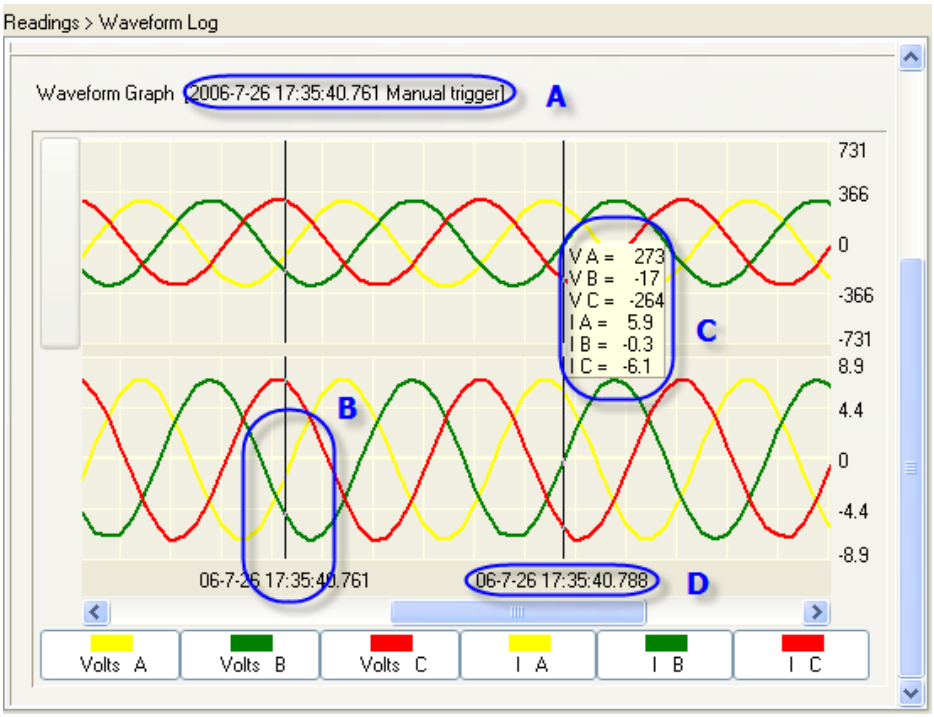

Figure 5.5.11. Waveform Graph

5.5.1.11. Trending Log

Read current trending data by clicking Retrieve Trending button. It will draw a trending graph automatically. Then click the Save to File button, and the data will be saved in a txt/csv/xls file for later analysis.

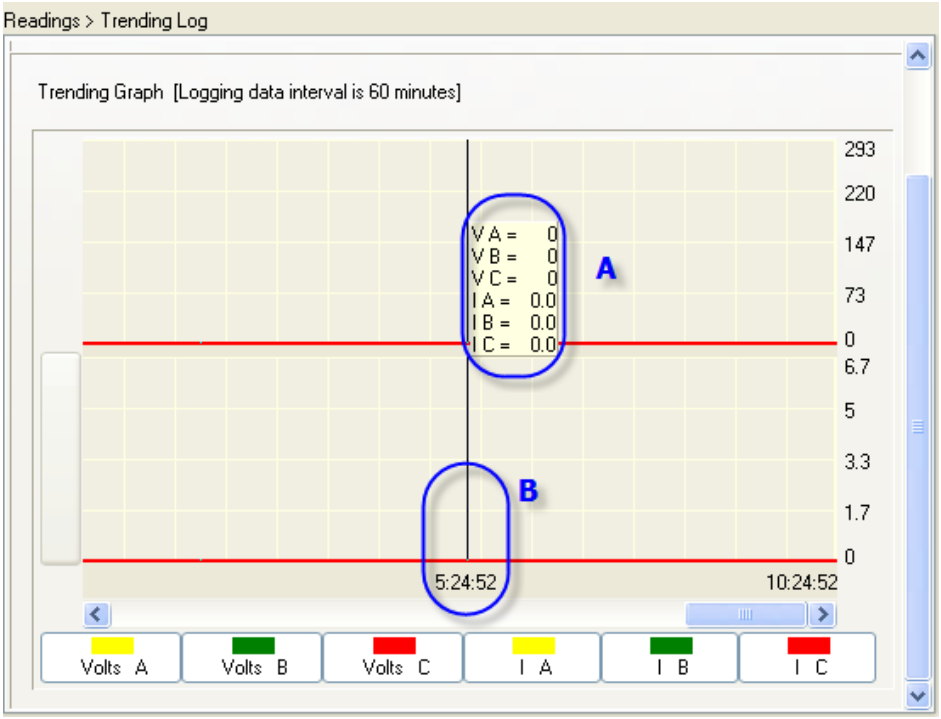

Figure 5.5.12. Trending Graph

In typical trending as shown in Figure 5.5.12, the following includes a description of all items:

A -- Logging data interval

B -- Movable time label

C -- Values on current time stamp

5.5.1.12. System Status

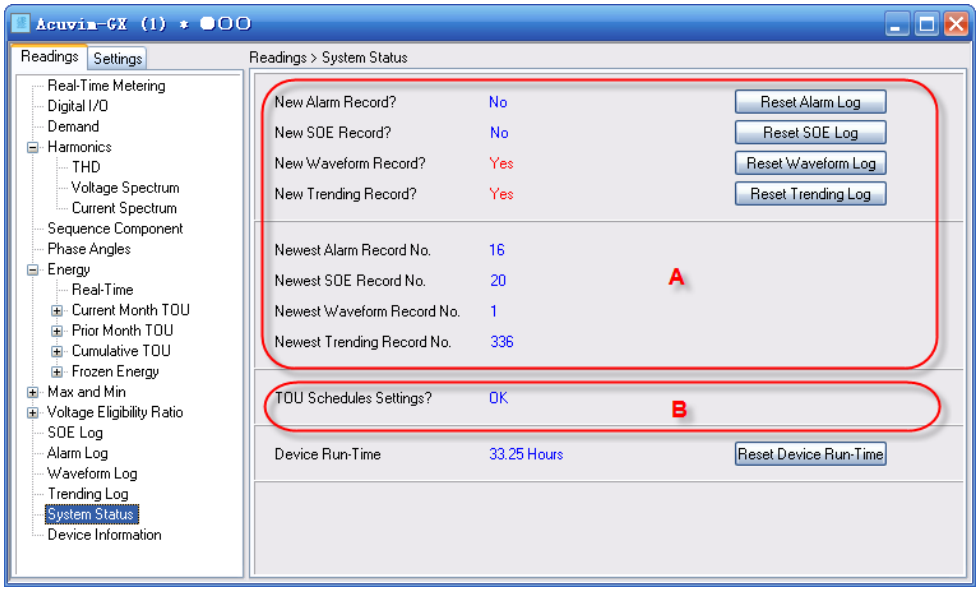

Figure 5.5.13. System Status

As shown in Figure 5.5.13, the following includes a description of all items:

A -- Important parameters used in reading data automatically

B -- Important feedback information used in TOU settings

5.5.2. Settings

5.5.2.1. Digital I/O

Users need to select the type of RO or DO when it is used as alarm output.

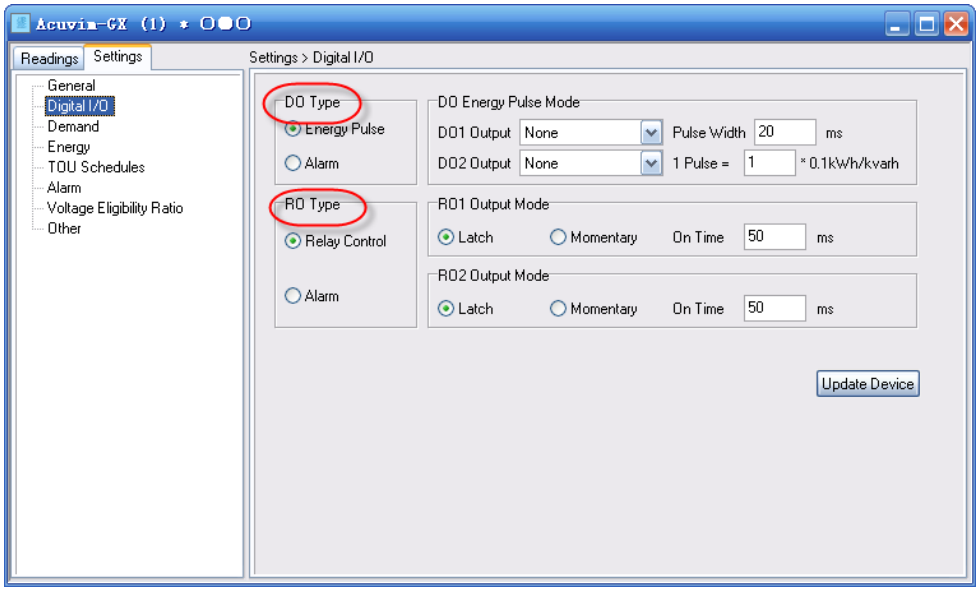

Figure 5.5.14. Digital I/O Settings

5.5.2.2. Energy

Notice: When **Reset Real-Time Energy**, **Start Resetting TOU**, **Start Freezing** and **Restore TOU Schedules to Defaults** buttons are clicked, it will take effect at once without having to click the **Update Device** button.

5.5.2.3. Alarm

Notice: When setting the Setpoint of alarm limit, there are no units for them. All units are displayed in Alarm Channel.

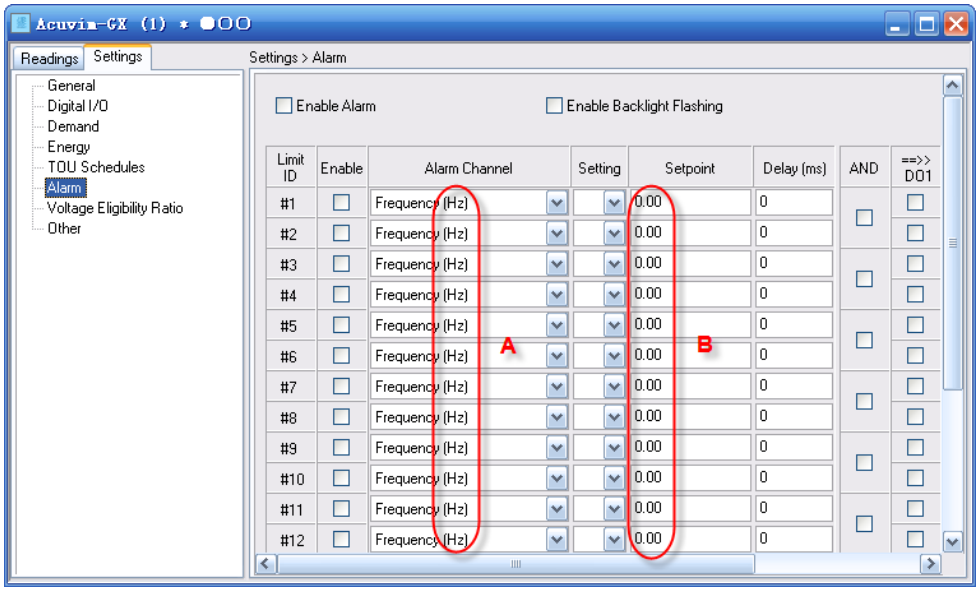

Figure 5.5.15. Alarm Settings

As shown in Figure 5.5.15, the following includes a description of all items:

A -- Unit of Alarm Channel

B -- Value without unit

5.5.2.4. Voltage Eligibility Ratio

Notice: When clicking **Start Resetting TPVER** and **Start Freezing TPVER** button, it will take effective at once without having to click the **Update Device** button.

5.6. Acuvim-L Series

This chapter introduces some of the functions of Acuvim-CL and Acuvim-EL. In order to understand the software abilities, please ***thoroughly*** read Acuvim-L User's Manual.

5.6.1. Readings

5.6.1.1. Voltage Spectrum, Current Spectrum (Acuvim-CL)

The A in Figure 5.6.1 means there is no display when harmonics are 0%.

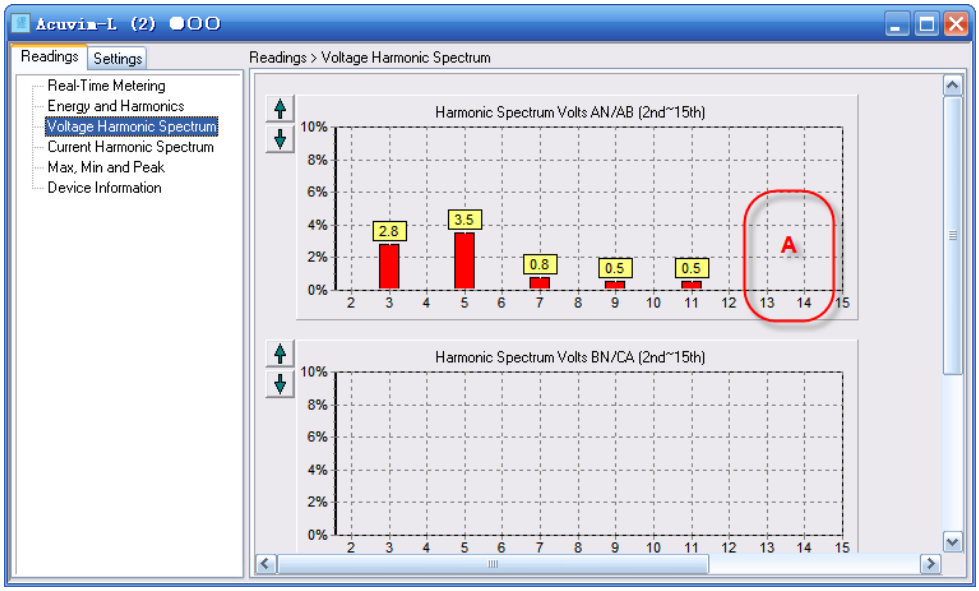

Figure 5.6.1. Voltage Spectrum

5.6.1.2. Energy and Harmonics (Acuvim-CL)

You can modify the value of energy by clicking underlined characters .

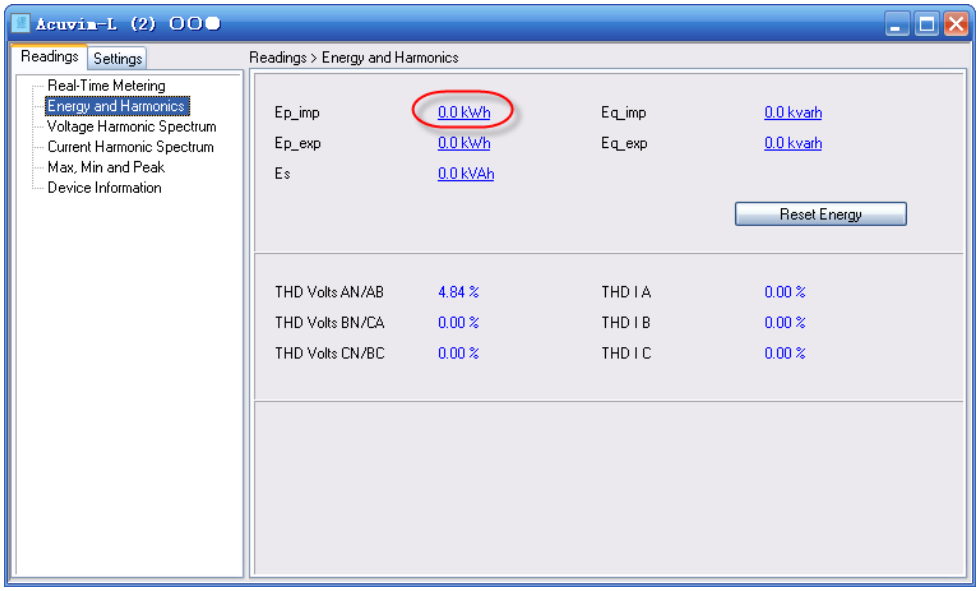

Figure 5.6.2. Energy and Harmonics

5.6.2. Settings

5.6.2.1. TOU (Acuvim-EL)

As shown in Figure 5.6.3, there are three respective formats.

A: MM-DD ID. MM is Months, DD is Days, ID is the Number of a Schedule.

B: The same as A.

C: HH-MM ID. HH is Hours, MM is minutes, ID is the Number of a Tariff.

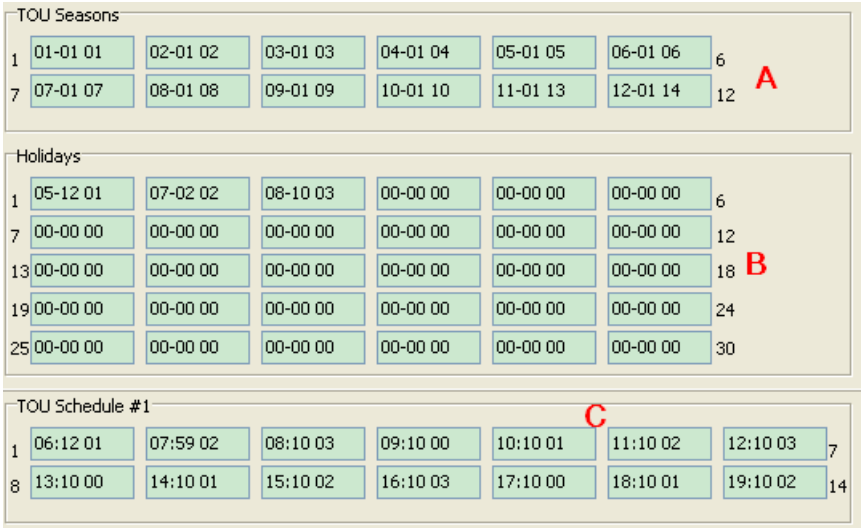

Figure 5.6.3. TOU

5.6.2.2. TOU Holiday (Acuvim-EL)

The format of C is MM-DD ID. MM is Months, DD is Days, ID is the Number of a Schedule.

Part B means ten years beginning and ending point.

When the checkbox of A in Figure 5.6.4 is selected, the button D is available.

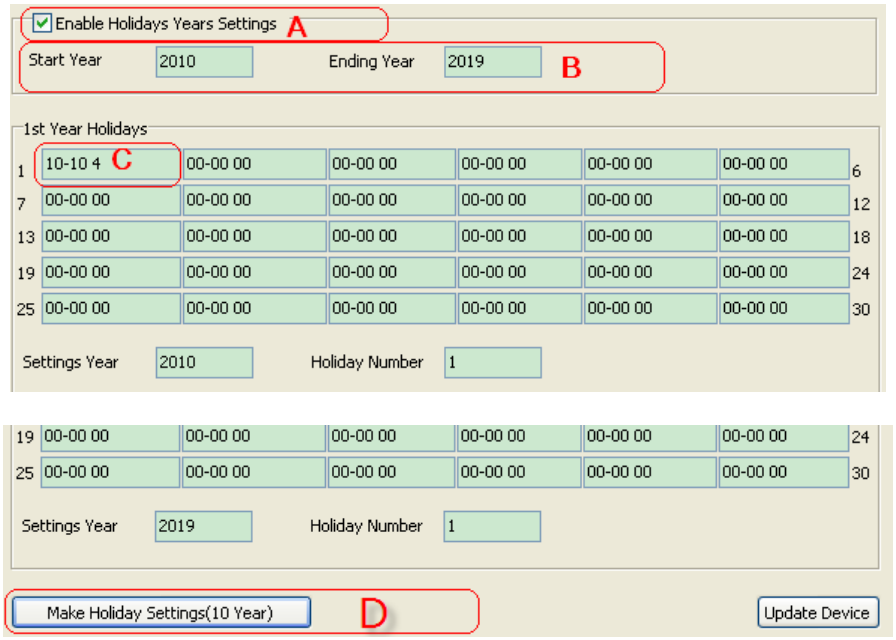

Figure 5.6.4. TOU Holiday

5.6.2.3. Pulse Input (Acuvim-EL)

As shown in Figure 5.6.5, when DI Type is state, the options are disabled. When DI Type is counter, they are enabled. Advanced Option button is used to define the Category and the Unit. The Advanced Option window is shown in Figure 5.6.6.

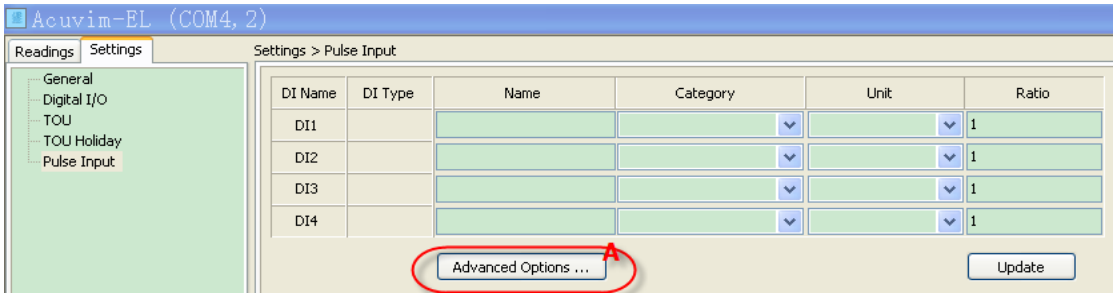

Figure 5.6.5. Pulse Input

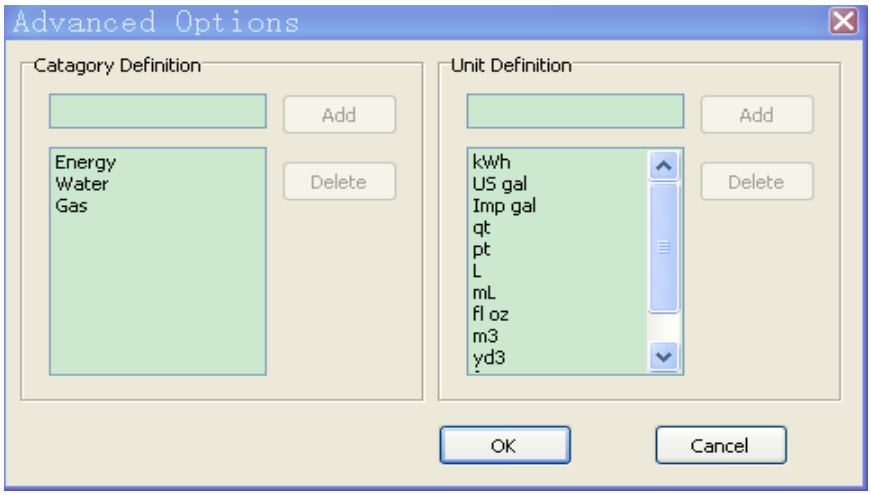

Figure 5.6.6. Advanced Options

5.7. Acuvim II Series

This chapter introduces some of the functions of Acuvim II/IIR/IIE/IIW. In order to understand the software abilities, please ***thoroughly*** read Acuvim II User's Manual.

5.7.1. Readings

5.7.1.1. Energy (Acuvim II)

You can modify the value of energy by clicking underlined characters.

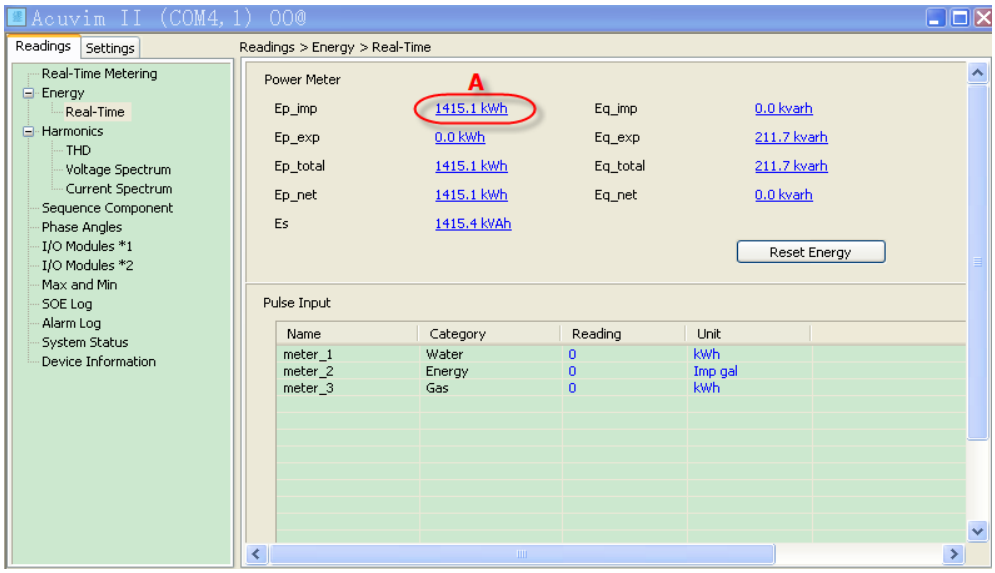

Figure 5.7.1. Energy

5.7.1.2. Voltage Spectrum, Current Spectrum (Acuvim II)

The A in Figure 5.7.2 means there is no display when harmonics are 0%.

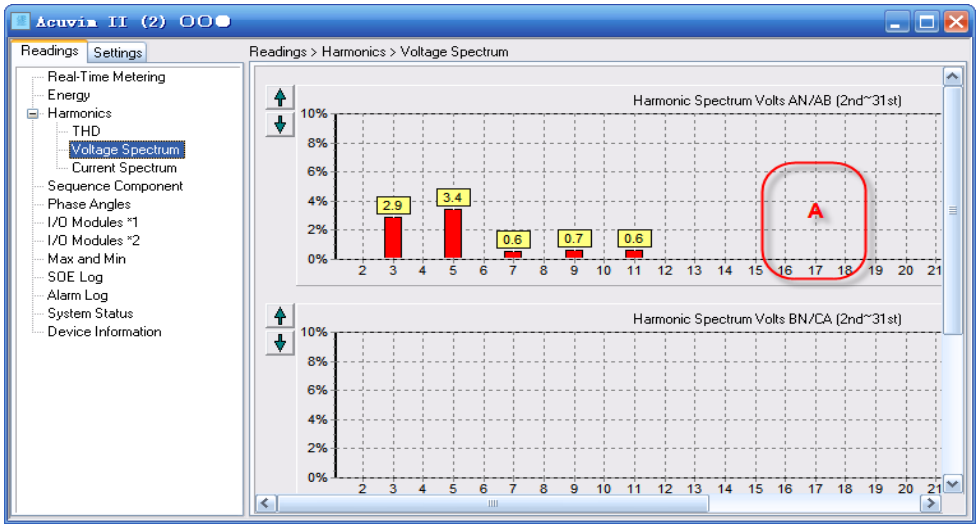

Figure 5.7.2. Voltage Spectrum

5.7.1.3. Sequence Component (Acuvim II)

Φuaia is the angle between I A and V A. The broken-line circle on the outside indicates 100% of full range.

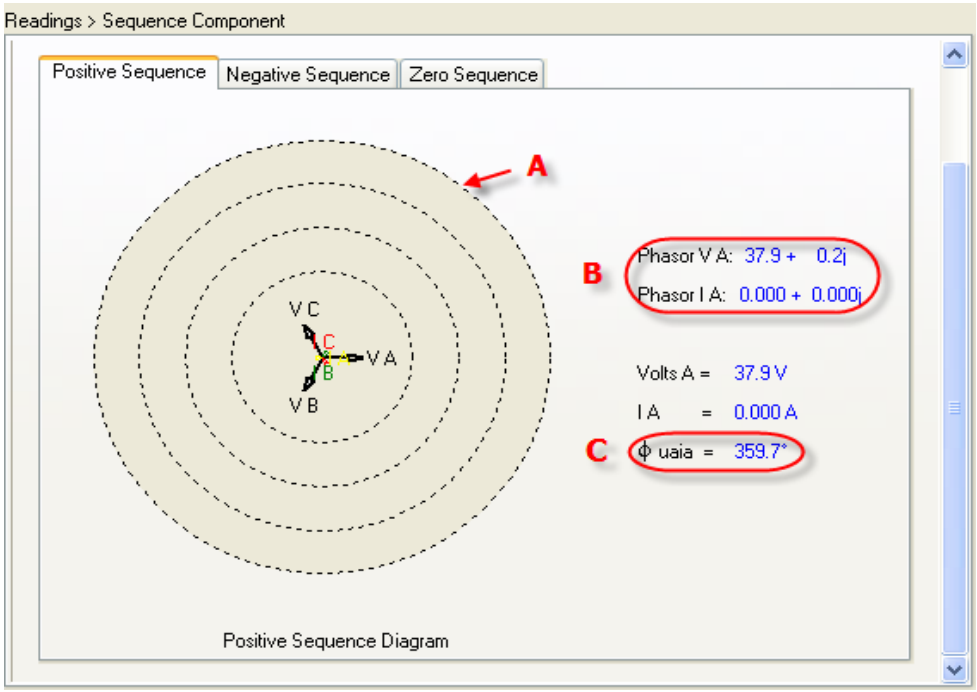

Figure 5.7.3. Positive Sequence

As shown in Figure 5.7.3, the following includes a description of all items:

A -- Full range indicator

B -- Vector expression

C -- Angle between I A and V A

5.7.1.4. I/O Modules (Acuvim II)

As shown in Figure 5.7.4, AO parameters are shown as real value, and AI parameters show as numerical value (range: 0~4095).

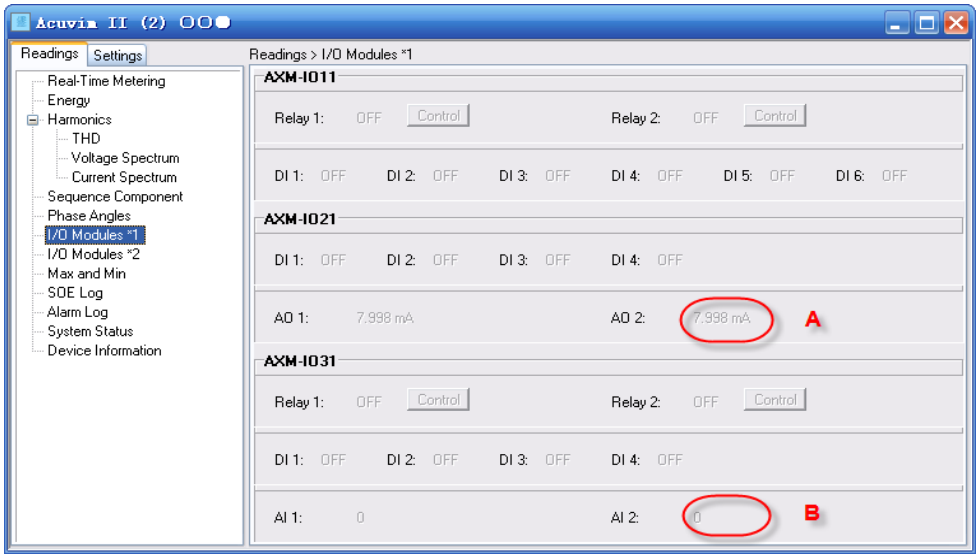

Figure 5.7.4. I/O Modules

5.7.1.5. Data Log (Acuvim IIR)

There are three ways of retrieving the logs: "read newest 50 records", "read one window" and "read 1000 records".

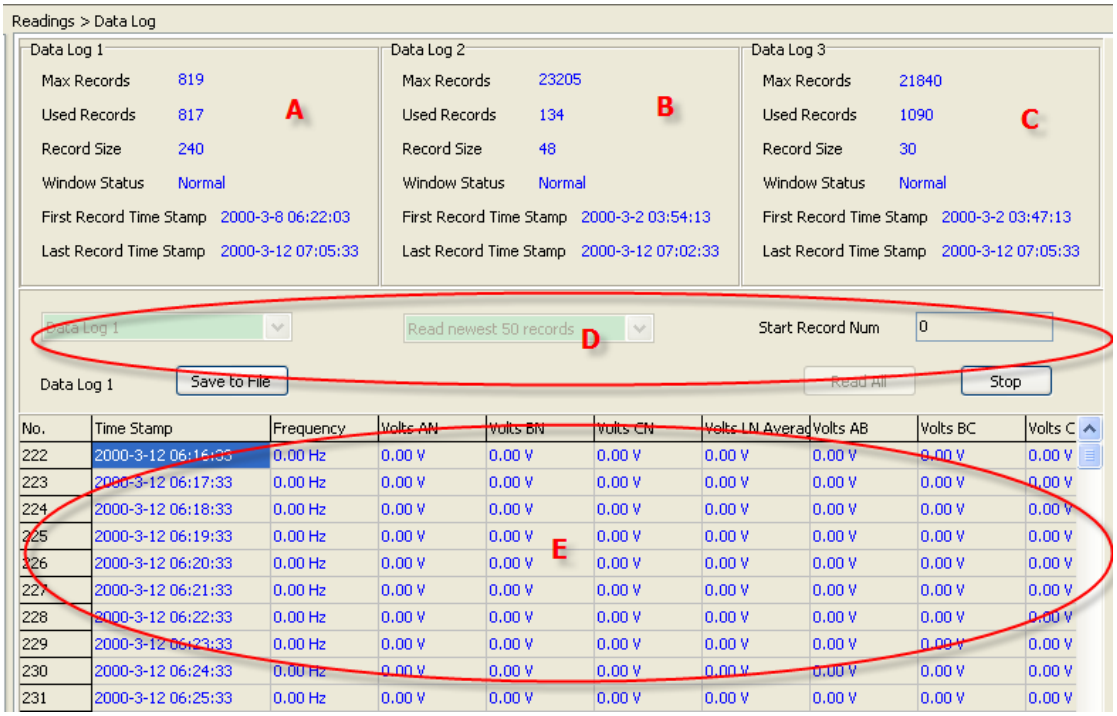

Figure 5.7.5. Data Log

As shown in Figure 5.7.5, the following includes a description of all items:

A -- Data Log 1 status

B -- Data Log 2 status

C -- Data Log 3 status

D -- Select types before read logs

E -- Data area

5.7.1.6. Waveform Log (Acuvim IIW)

There are two functions in waveform log:

1) Click Retrieve Waveform button to read the data corresponding to the selected item, and the Data column will remain after reading. It will then draw a waveform graph automatically.

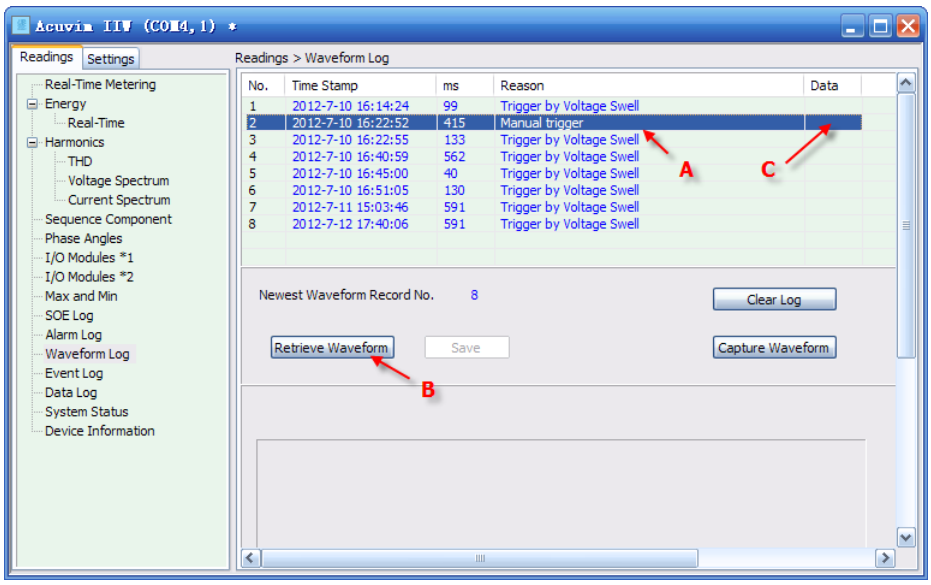

Figure 5.7.6. Waveform Log (1)

As shown in Figure 5.7.6, the following includes a description of all items:

A -- Step 1: Select an item to read.

B -- Step 2: Click Retrieve Waveform button.

C -- The Data column will remain after reading.

2) An item whose data field is not empty may be selected. Its waveform will be displayed as shown in Figure 5.7.7. Section A means to click an item with data.

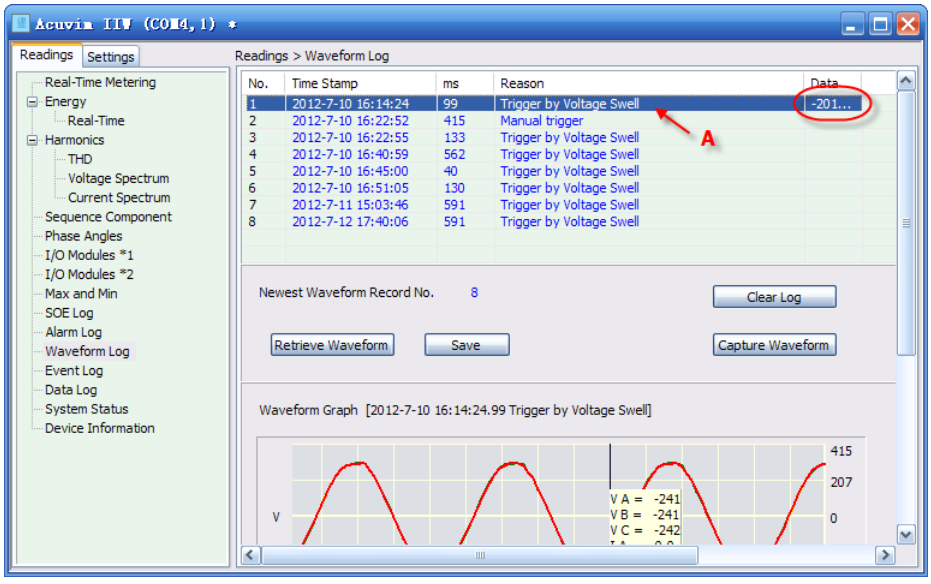

Figure 5.7.7. Waveform Log (2)

Click the Save button, then you can save the data of selected items as a txt/csv/xls file for future analysis.

In typical waveform as is shown in Figure 5.7.8, the following includes a description of all items:

A -- Capture time and reason

B -- Capture time when capturing condition is satisfied

C -- Values on current time stamp

D -- Movable time label

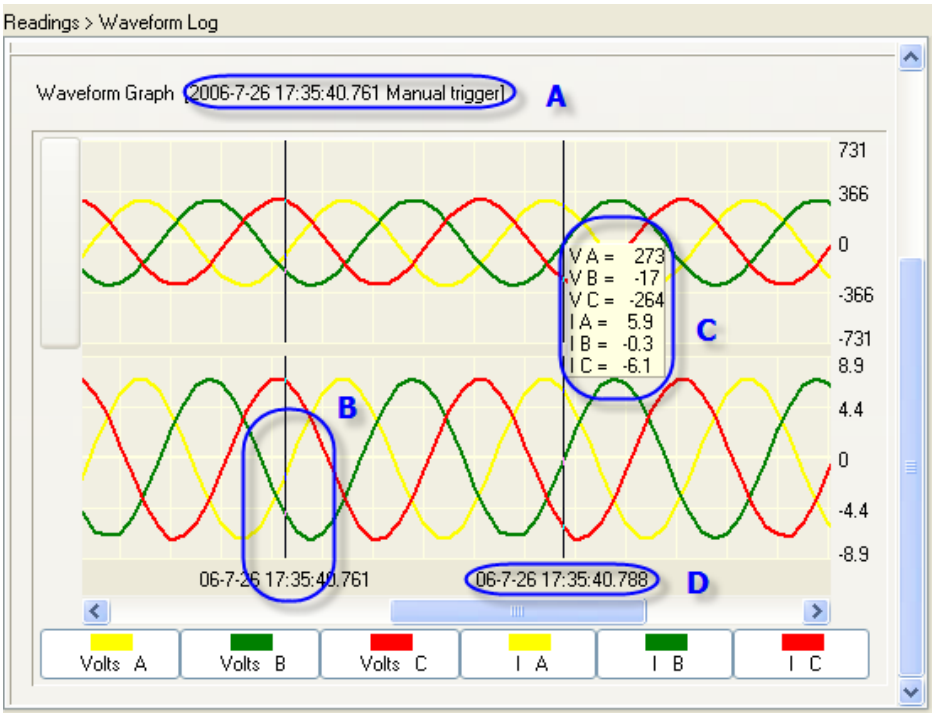

Figure 5.7.8. Waveform Graph

5.7.2. Settings

5.7.2.1. General (Acuvim II)

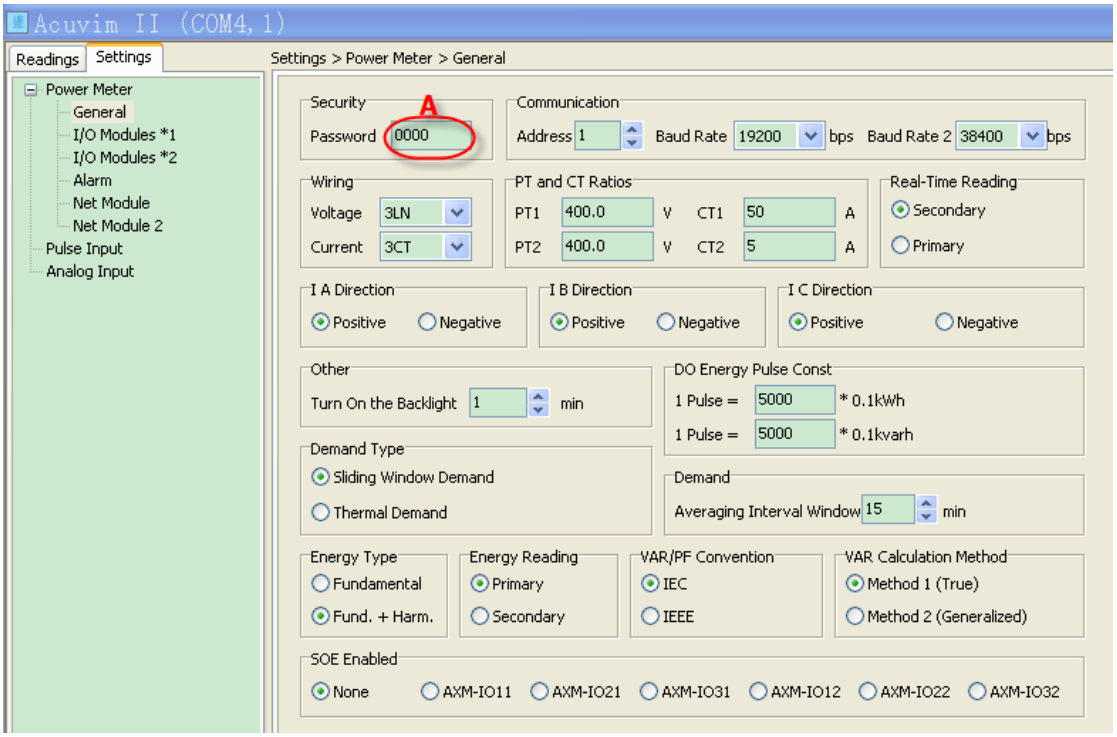

Figure 5.7.6. General Settings (serial connection)

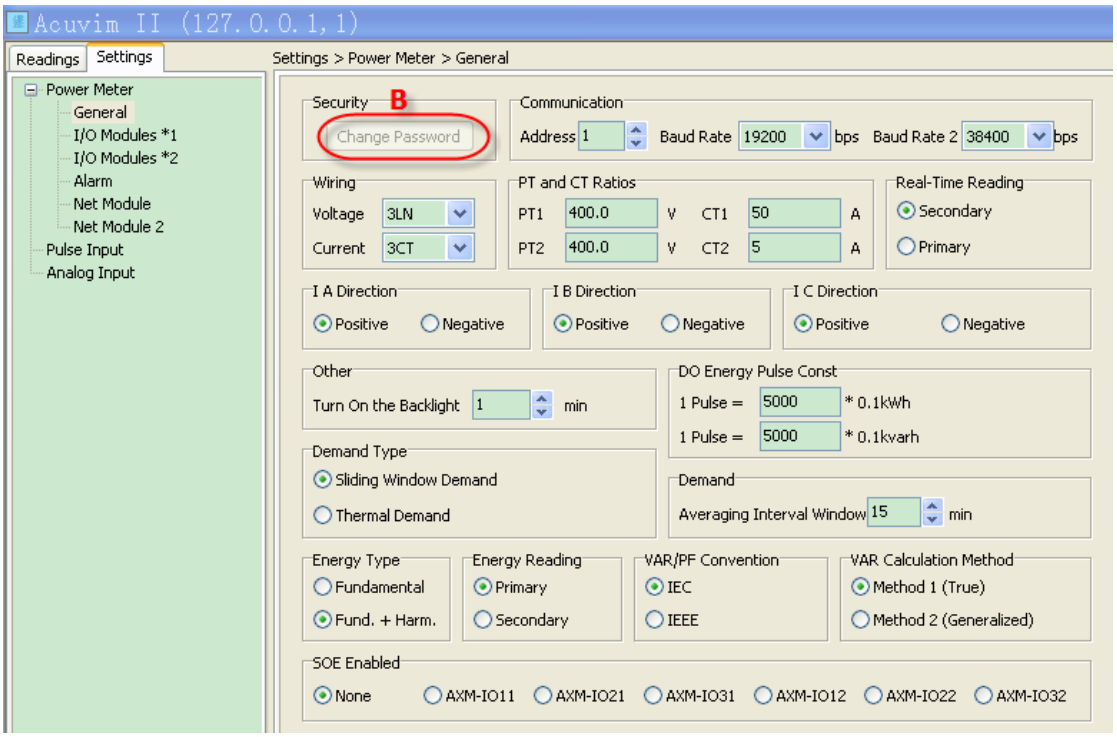

Figure 5.7.7. General Settings (network connection)

Figure 5.7.8. Change Password

A **--** As shown in Figure 5.7.6, **in the serial connection,** Password is visible and displays with decimal number.

B **--** As shown in Figure 5.7.7, **in the network connection,** Password is not visible. Instead of decimal numbers, it is displayed as '*'. Click Change Password button and the Change Password window which is shown in Figure 5.7.8 will appear.

Notice: In the network connection, it needs to input device password when data or parameters related to meter are changed, such as **Update Device**, **Modify Energy** and **Clear Demand** and so on.

5.7.2.2. I/O Modules (Acuvim II)

Notice: When you set the Input/output Range of AO Transfer Curve, there is no unit for it. All units are displayed in the Raw Channel of AO area.

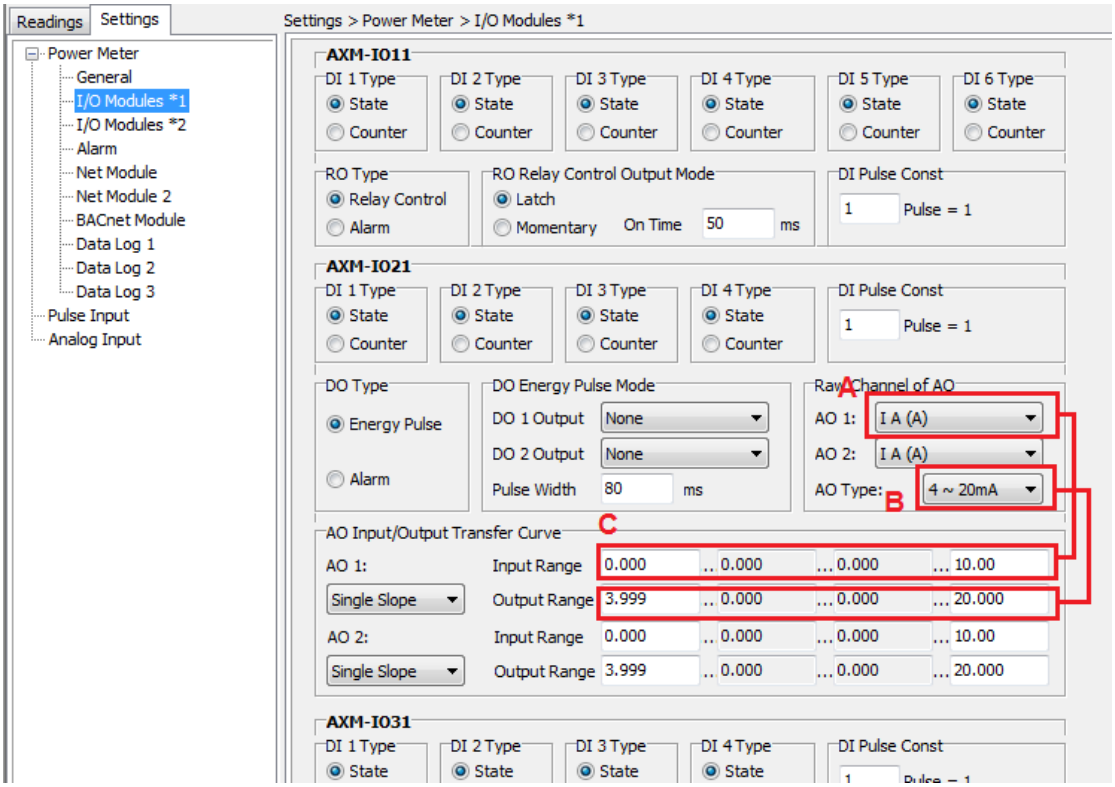

Figure 5.7.9. I/O Modules Settings

As shown in Figure 5.7.9, the following is a description of all items:

A -- Channel and Unit of AO Input

B -- Range and Unit of AO Output

C -- Value without unit

5.7.2.3. Alarm (Acuvim II)

Notice: When you set the Set Point of the alarm limit, there is no unit for it. All units are displayed in the Alarm Channel.

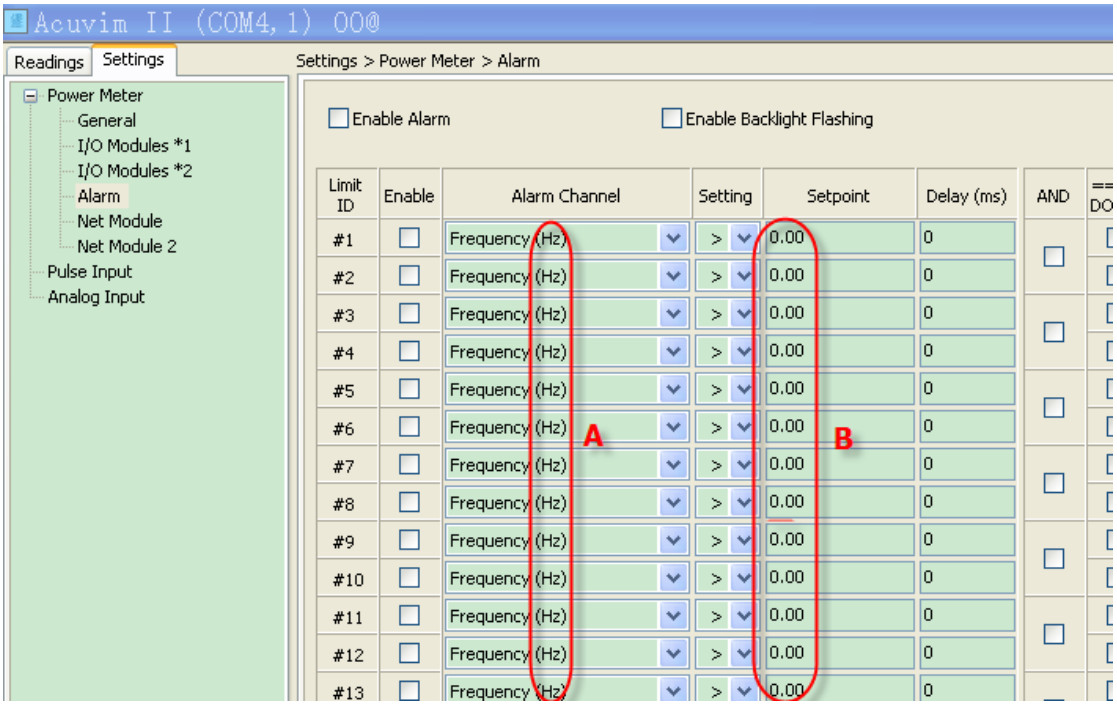

Figure 5.7.10. Alarm Settings

As shown in Figure 5.7.10, the following is a description of all items:

A -- Unit of Alarm Channel

B -- Value without unit

5.7.2.4. Data Log (Acuvim IIR)

Notice: You can program up to 114 parameters per log. The total size is no more than 63 sectors that has 64k bytes. The Data Log 1 Setting is shown in Figure 5.7.11.

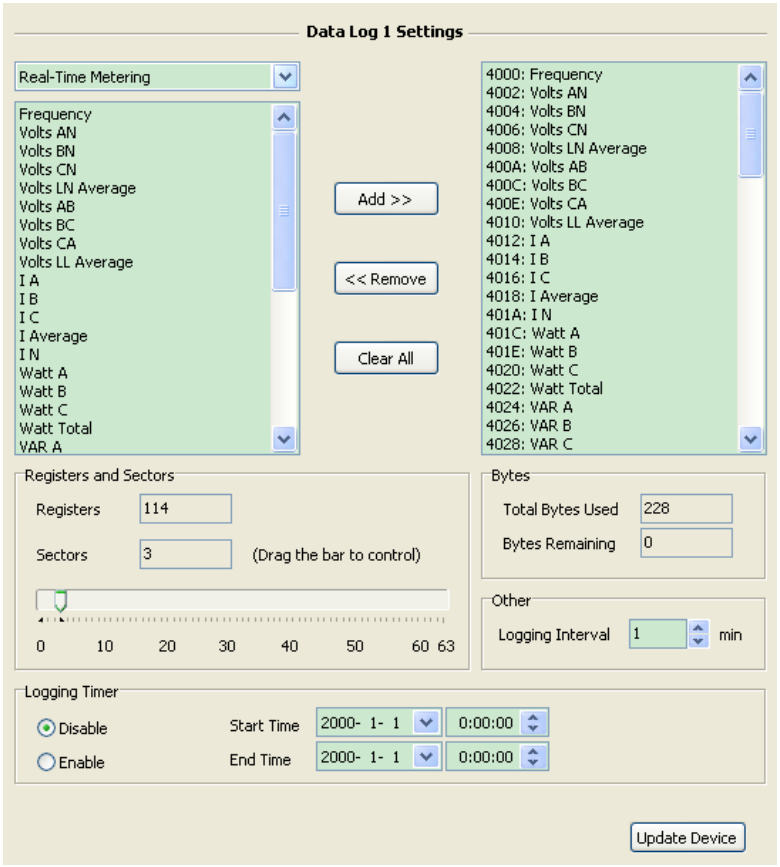

Figure 5.7.11. Data Log 1 Settings

5.7.2.5. TOU (Acuvim IIE)

As shown in Figure 5.7.12, there are three respective formats.

A: MM-DD ID. MM is Months, DD is Days, ID is the Number of a Schedule.

B: The same as A.

C: HH-MM ID. HH is Hours, MM is minutes, ID is the Number of a Tariff.

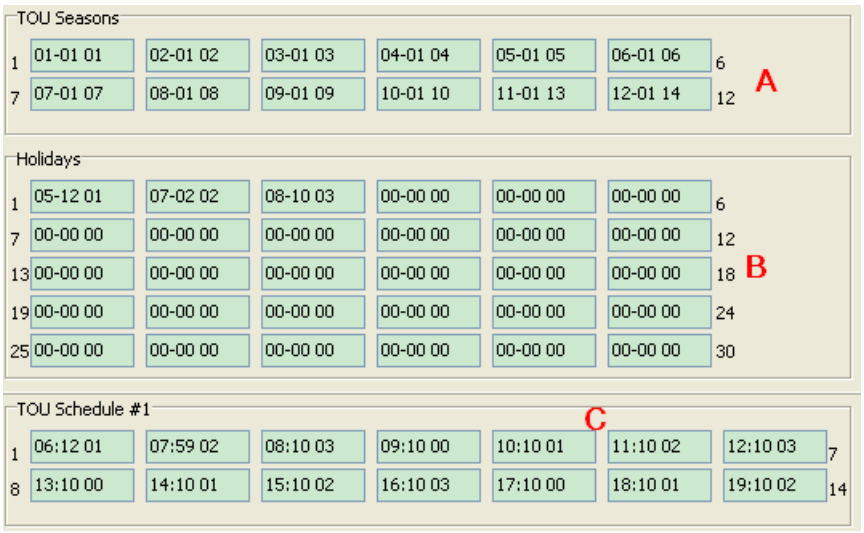

Figure 5.7.12. TOU

5.7.2.6. TOU Holiday (Acuvim IIE)

The format of C is MM-DD ID. MM is Months, DD is Days, ID is the Number of a Schedule. Part B means ten years beginning and ending point.

When the checkbox of A in Figure 5.7.13 is selected, the button D is available.

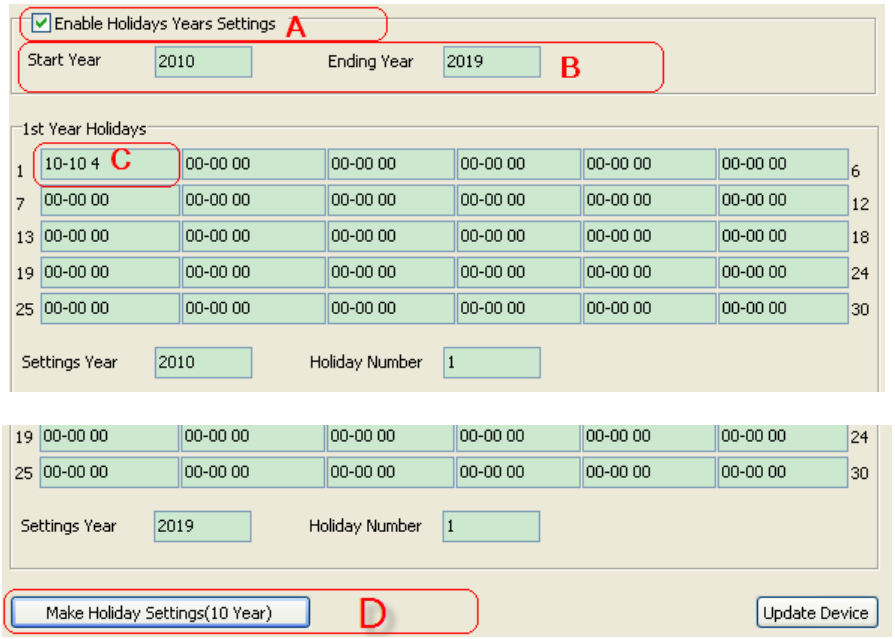

Figure 5.7.13. TOU Holiday

5.7.2.6. Pulse Input (Acuvim IIE)

As shown in Figure 5.7.14, When DI Type is state, the options are disabled. When DI Type is counter, they are enabled.

Advanced Option button is used to define the Category and the Unit. The Advanced Option window is shown in Figure 5.7.15.

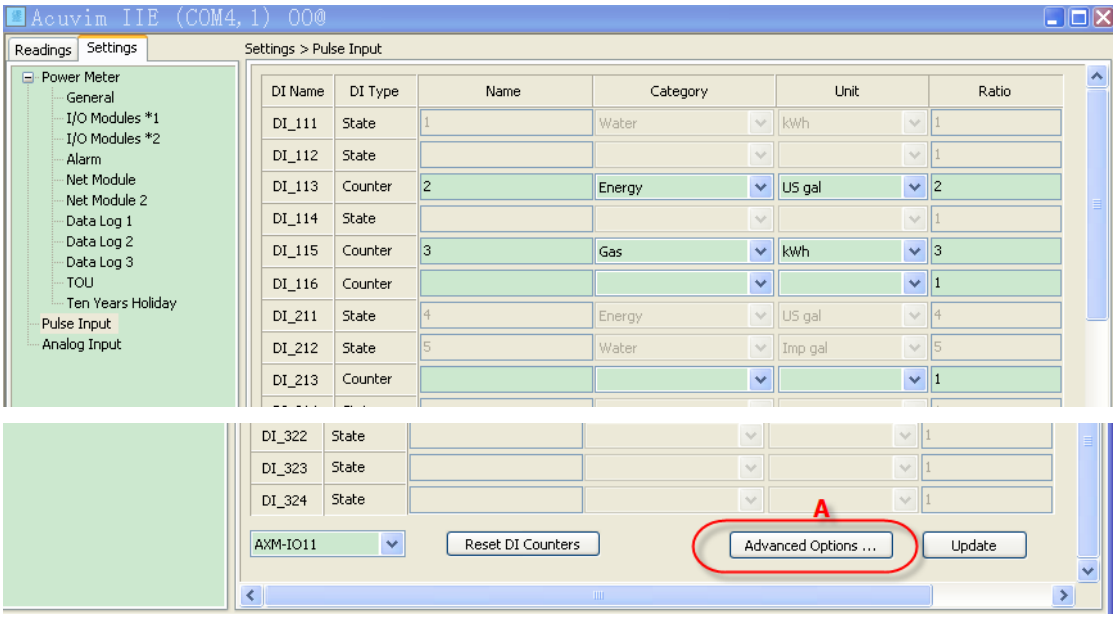

Figure 5.7.14. Pulse Input

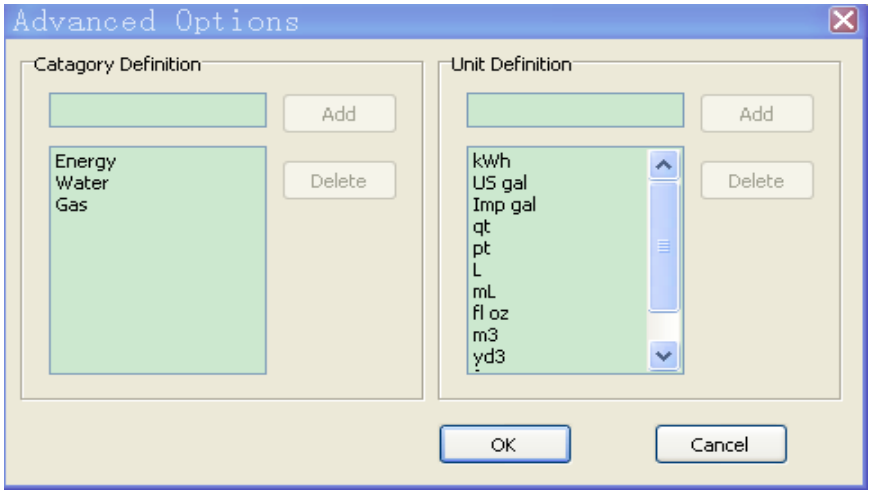

Figure 5.7.15. Advanced Options

5.7.2.7. Analog Input (Acuvim IIE)

As shown in Figure 5.7.16, Advanced Option button is used to define the Category and the Unit.

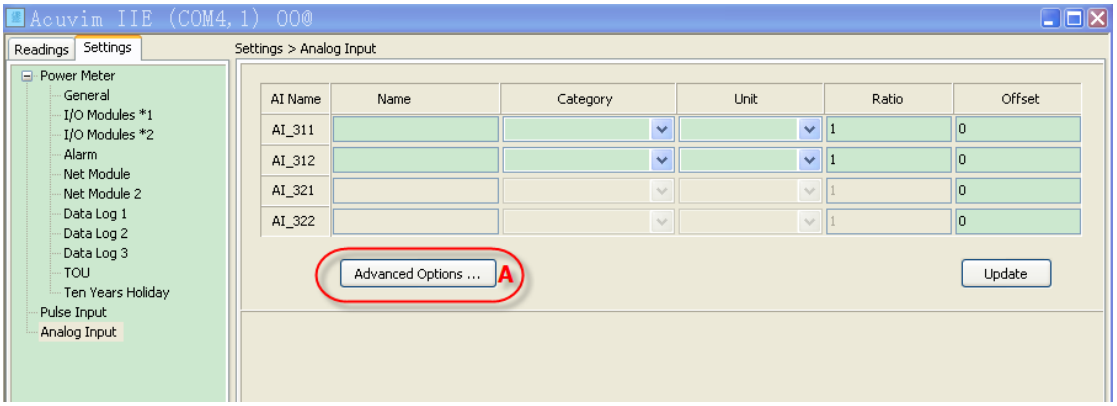

Figure 5.7.16. Analog Input

5.8. Acuvim Series

This chapter introduces some of the functions of the Acuvim+. In order to understand the software abilities, please ***thoroughly*** read Acuvim User's Manual.

5.8.1. Readings

5.8.1.1. Energy

You can modify the value of energy by clicking underlined characters.

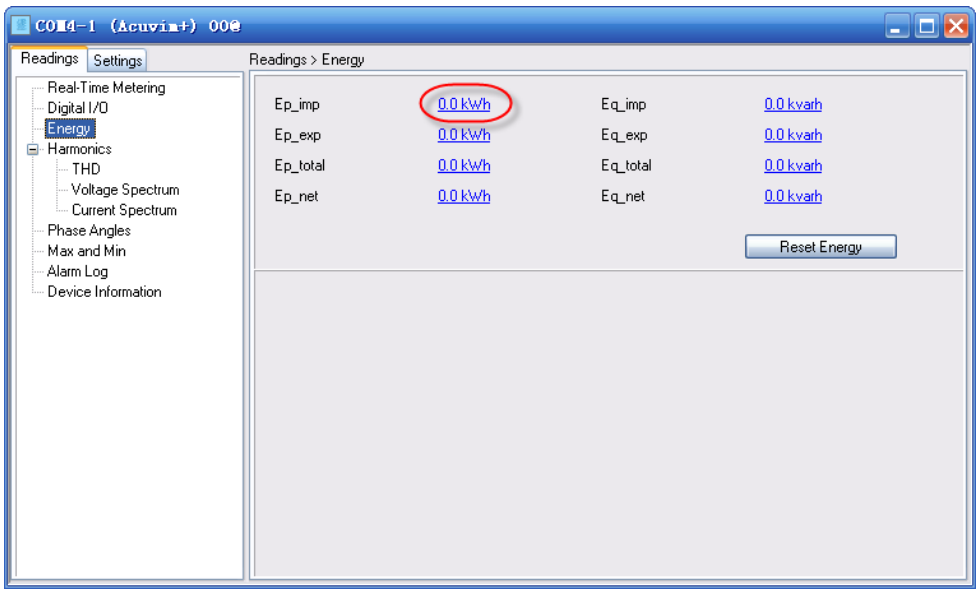

Figure 5.8.1. Energy

5.8.1.2. Voltage Spectrum, Current Spectrum

The A in Figure 5.8.2 means there is no display when harmonics are 0%.

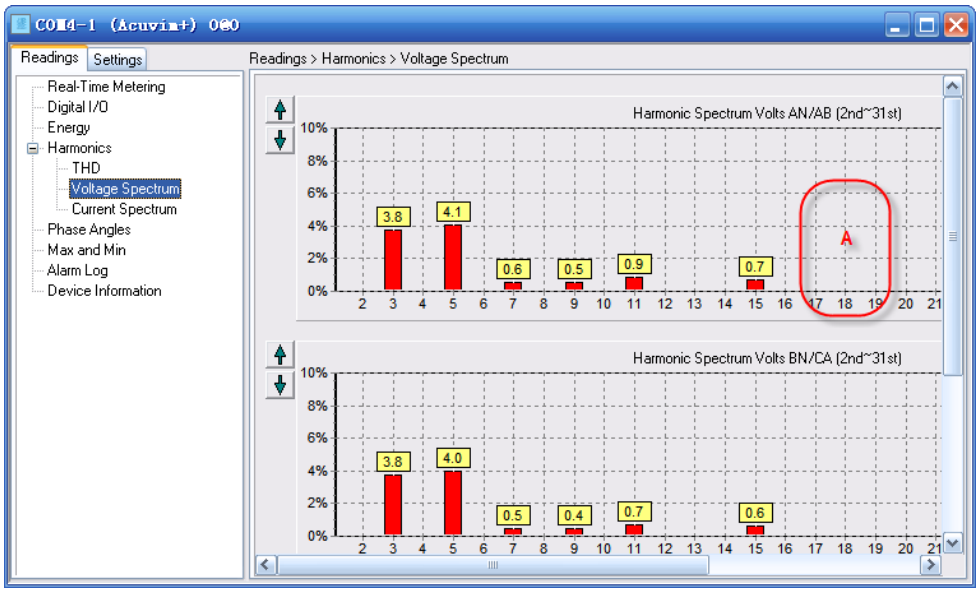

Figure 5.8.2. Voltage Spectrum

5.8.2. Settings

5.8.2.1. Alarm

Notice: When you set the Set Point of the alarm limit, there are no units for them. All units are displayed in the Alarm Channel.

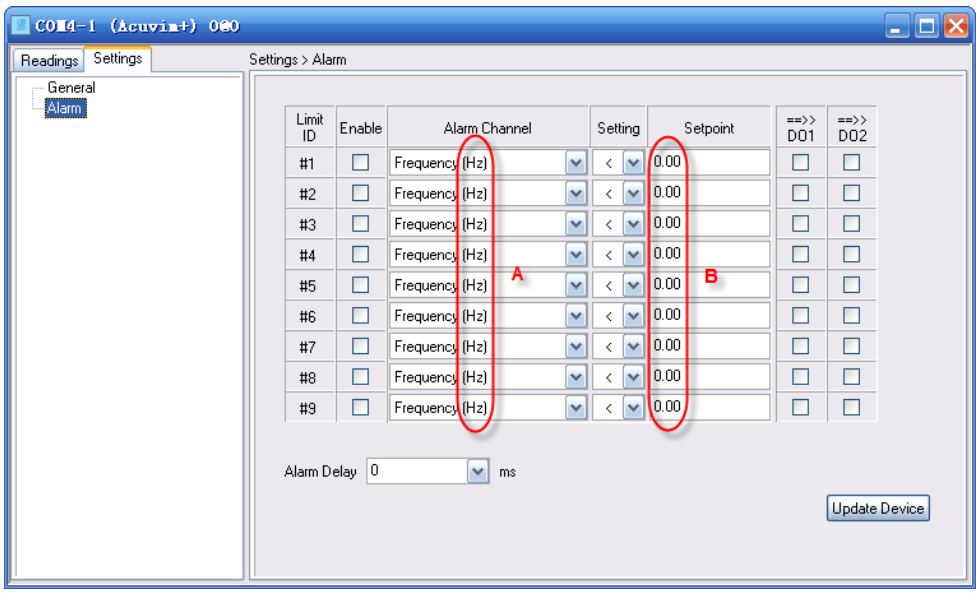

Figure 5.8.3. Alarm Settings

As shown in Figure 5.8.3, the following includes a description of all items:

A -- Unit of Alarm Channel

B -- Value without unit

6. Troubleshooting

1) Why is the drop-down list of the Com Port in Connection Settings dialog empty?

Answer: the program has not detected any available serial port, please check if it is any idle.

2) Why is there no new waveform in the list after I clicked Capture Waveform button?

Answer: the waveform buffer is full. Make sure that the current 5 waveforms are not being used and clear them in the System Status page by clicking Reset Waveform Log button.

3) Why are there inconsistencies between the displaying value and the real value of voltage and current?

Answer: This may be caused by incorrect settings of the PT and/or CT ratios, please check the General Settings page.

4) How do I know whether the settings of TOU are right and taking effect?

Answer: firstly, check whether the feedback information of TOU settings in the System Status page are correct. If correct, then check whether related TOU settings are enabled. Finally, check whether there is any change in the Current Month TOU page.

5) Does Start Freezing mean to freeze at once?

Answer: Yes, but if you want to go back to Assign freeze mode after clicking the Start Freezing button, you have to set it again.

6) Under what conditions, can I use the SmartSum function?

Answer: In the Data Log Settings, you must ensure that each **Logging Options** and **Log file folder location** in the device list are the same.

7) Can I choose some columns by myself and fix their names in the data log file of Excel?

Answer: Yes, you can set the column names, and also can append some columns. But you must be careful to avoid confusion in the data log template file of Excel.

7. Installation

7.1. Installing

Double click setup file, follow the guide step by step.
Notice: Software can be installed to a different directory (up to 8).

7.2. Uninstalling

To remove this program from your system:

1) Open the Windows Control Panel, double-click Add/Remove Programs.
2) Find the application name in the list and select it.
3) Follow the instructions in the Uninstall Wizard step by step.

7.3. System Requirements

The minimum running requirements of Acuview software:

1) Operating System: Windows 2000/XP/Vista/Windows 7.
2) Memory: 128MB/256MB or more.
3) HDD: 100MB/500MB or more free space.
4) Display Resolution: 1024 * 768 or higher.
5) Software Needed: Microsoft Office Excel 2000/XP/2003/2007.

Notice: If Excel Application is not installed in the system, files cannot be saved as Excel documents when using the data logging function.