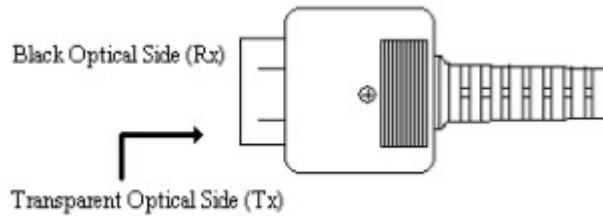


# Instruction Manual

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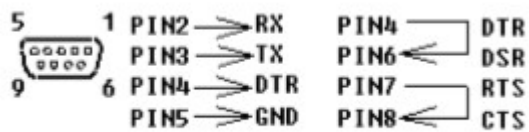
## ● RS232 Wiring Hardware

PC Interface Cable Meter side of PC Interface Cable      The RS-232 “Optical” plug side of the PC Interface Cable connects to the meter’s RS-232 “Optical” jack. Refer to the diagram below for wiring information.



### Computer’s Serial Port side of Interface Cable

The RS-232 “DB-9” side of the PC Interface Cable connects to the PC’s COM port. Refer to the diagram below for wiring information. Note that a SERIAL to USB Adapter may be used.



RS232 Default Settings When RS-232 communication enabled ,the default RS-232 settings are

Baud Rate 19200

Parity None

Data bits 8

Stop bit 1

## ● **HARDWARE REQUIREMENTS AND SETUP**

### **PC Hardware Requirements :**

HDD, CD Rom, 486 PC or above, with an available COM port

EGA or higher monitor

4M bytes or more memorysize

### **PC Hardware Setup :**

1) Switch off all power related to the PC

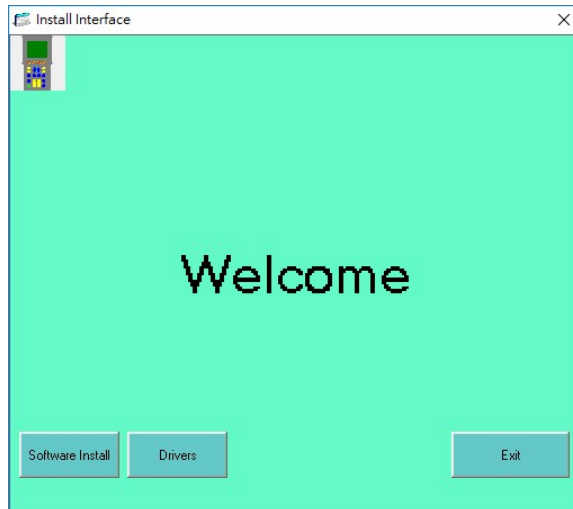
2) Connect the DB9 (female) end of the supplied RS-232 cable to available COM port

3) Switch on all related power

4) Connect the fiber end of the supplied RS-232 cable to the meter

## Software Requirements and Setup

- 1) Start up windows 98//XP//7//8//10 operating system
- 2) Close all other application
- 3) Insert disk in CD drive



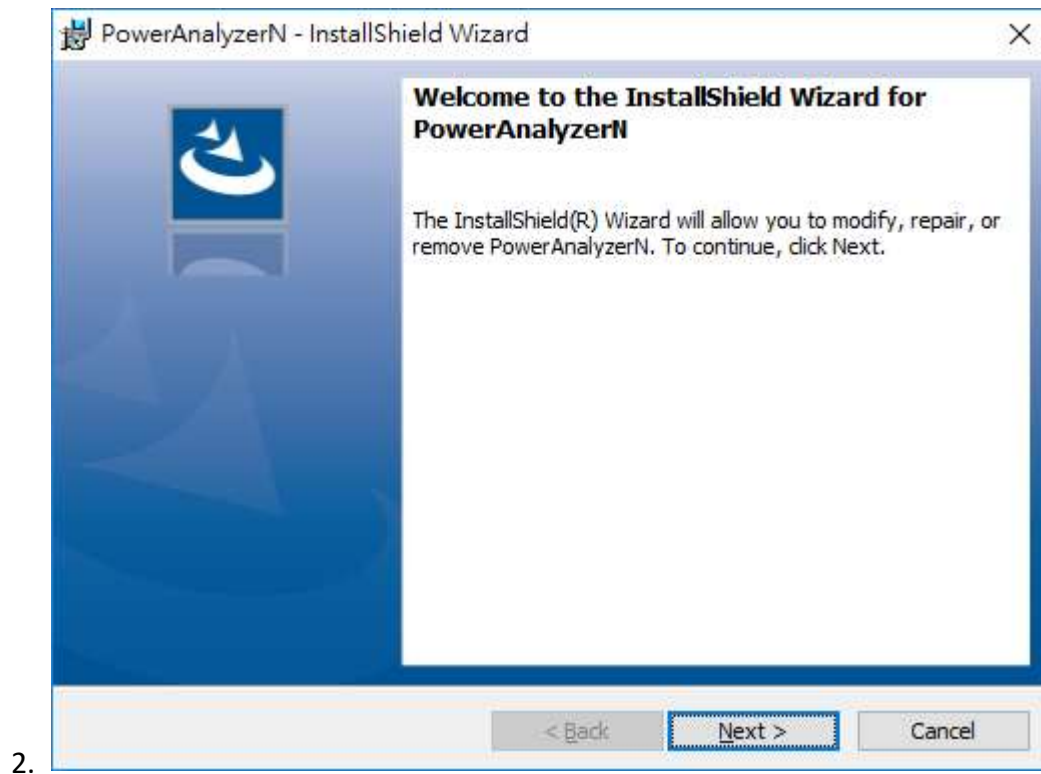
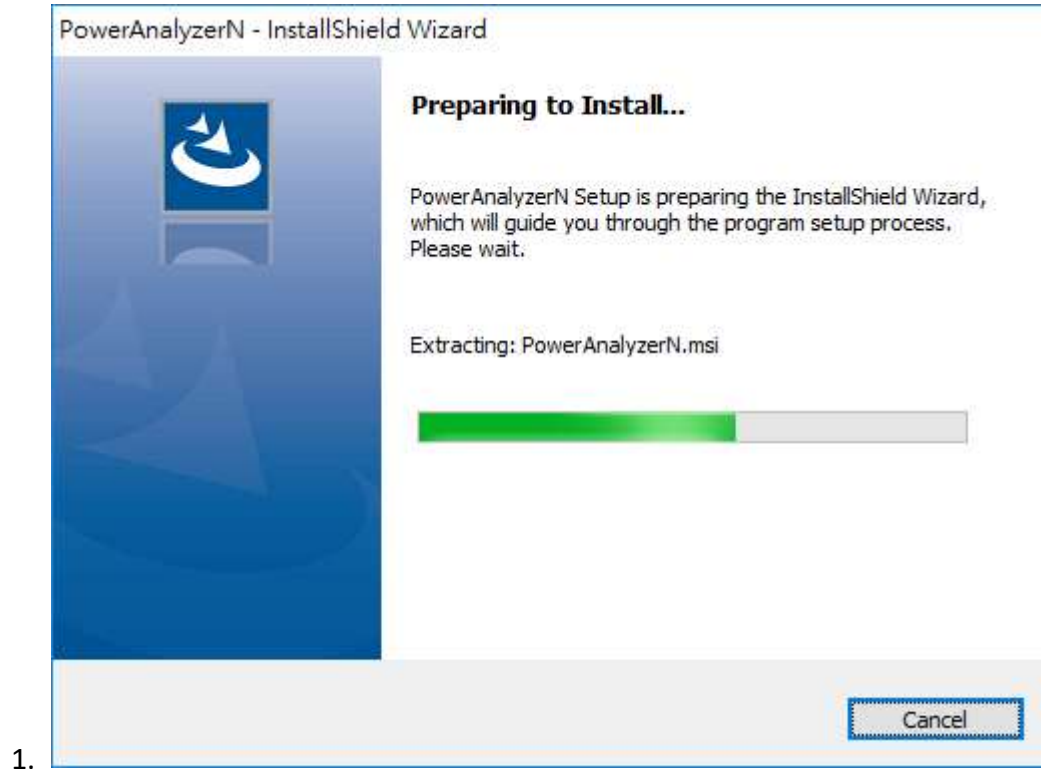
- 4) To install USB driver, click

Drivers

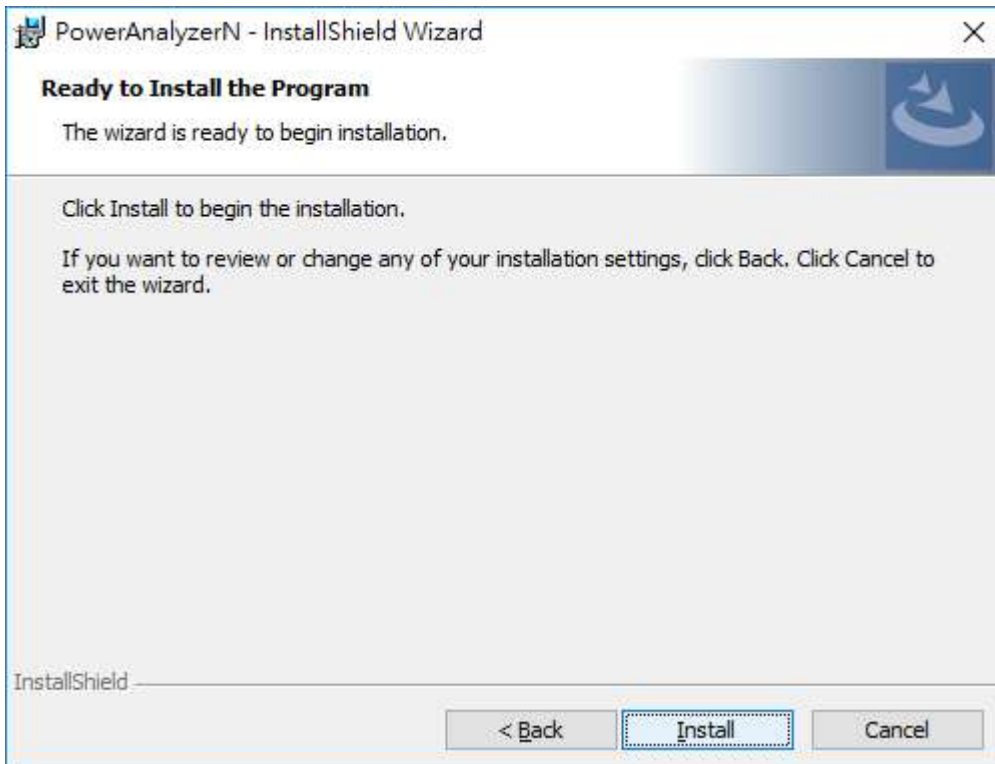


Software Install

5) To install meter software, Click . Setup program will run automatically.

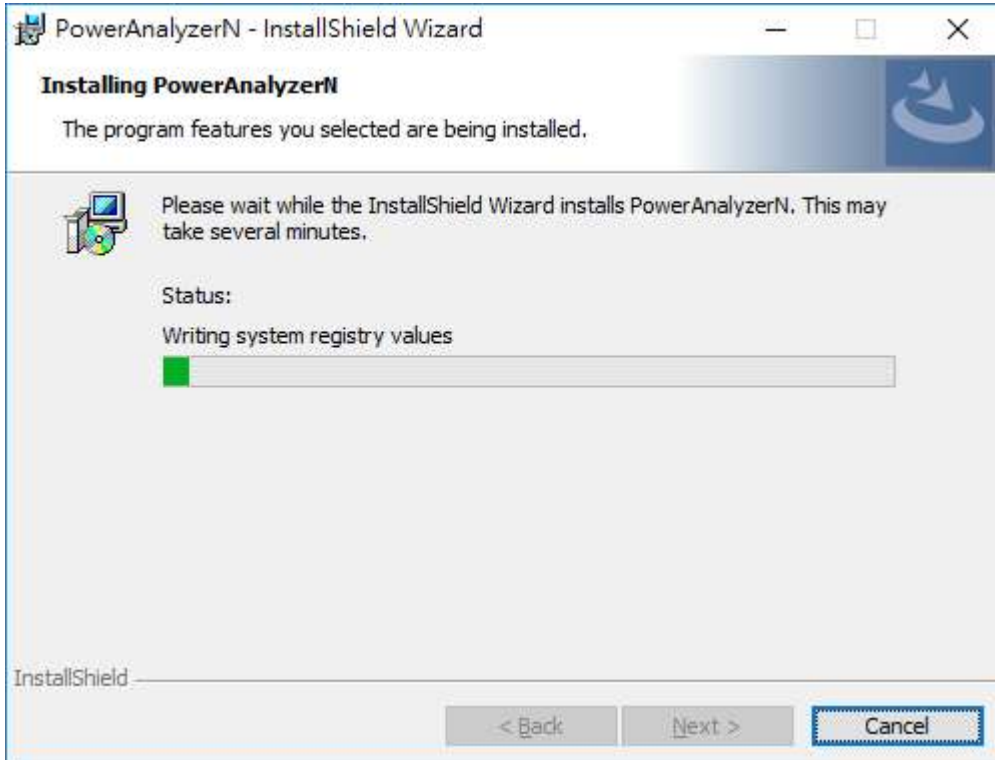


Click "Next"

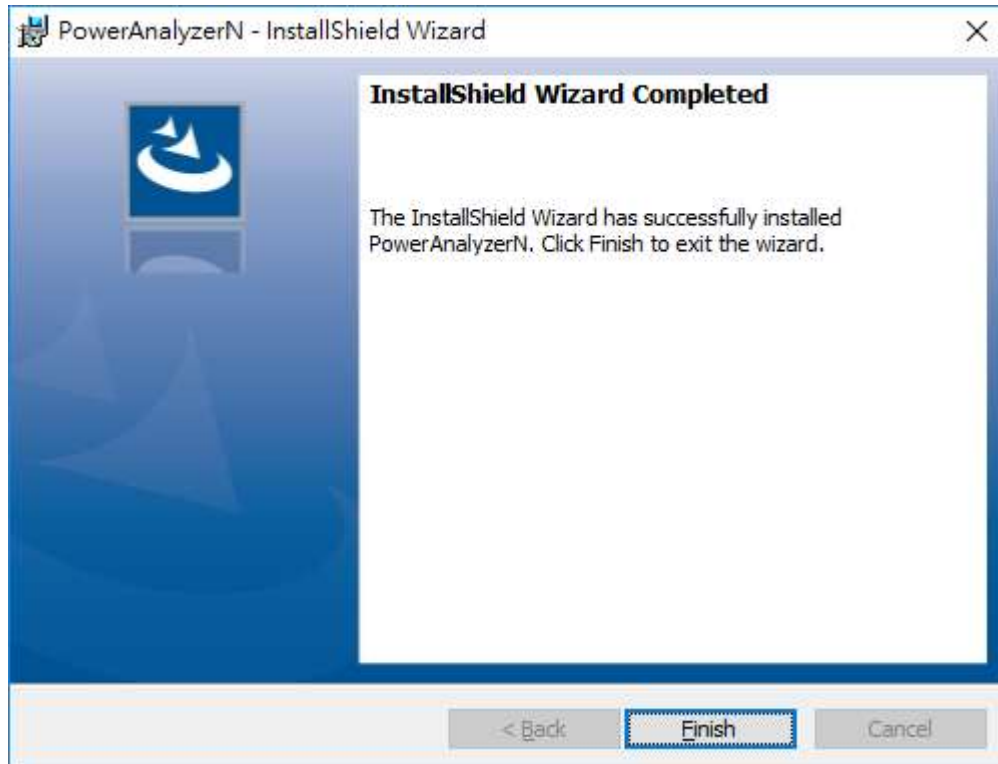


3.

Click "Install"



4.



5.

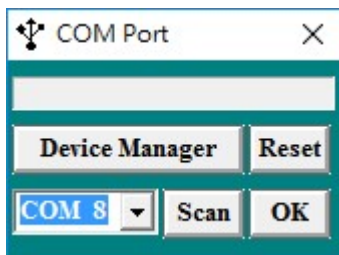
Click "Finish"

## ● Communication Operation

Run the software

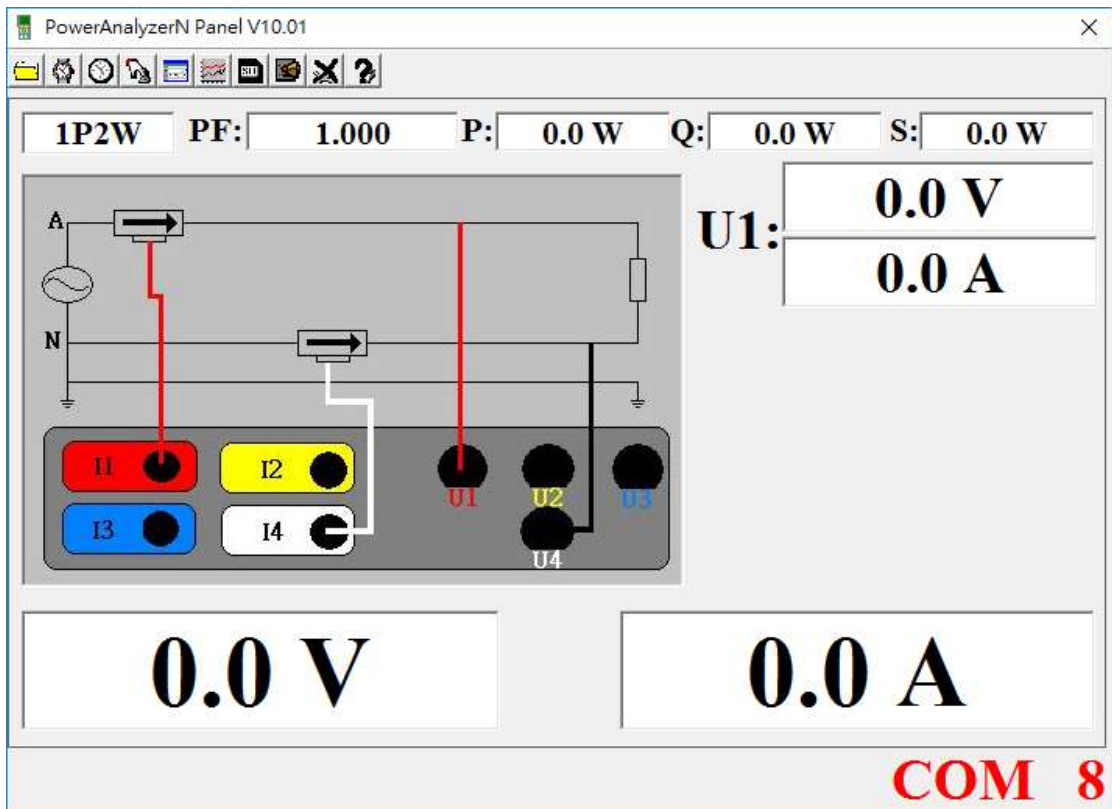


1. Click  icon.



Select as available COM Port then click OK


2. Main software screen



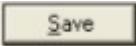


## ● Data Record


### Save to H.D.D.

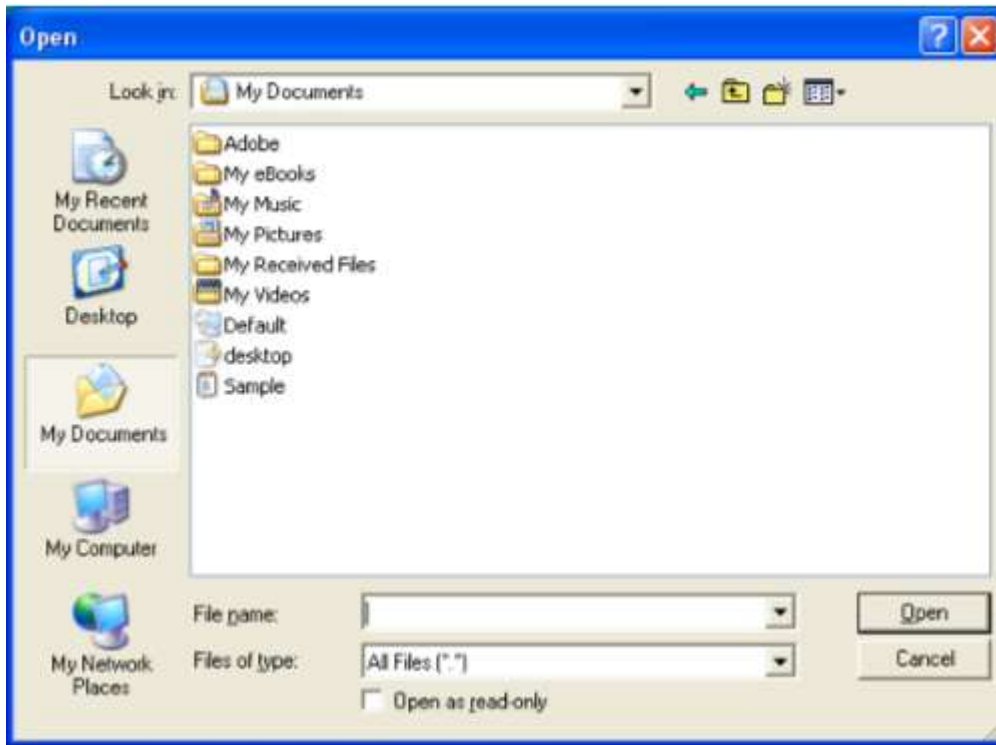
Click  button. The dialog box shown below will appear.



Input a file name and then Click  to begin saving data to the file just named.


- **Download data**

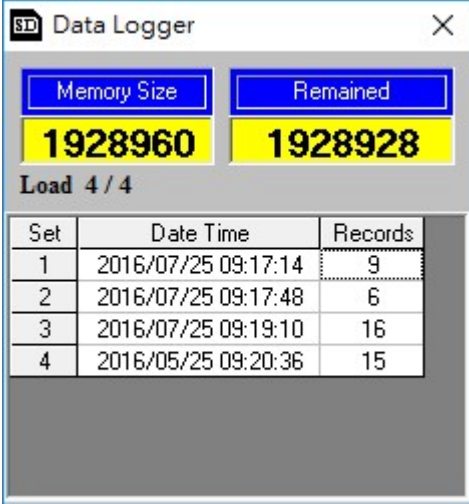
Click  button. The Open window, shown below, appears.



Input the file that was selected earlier and the click  to read.

## ● SD Card

Click  button. The Data Logger window, shown below, will open.

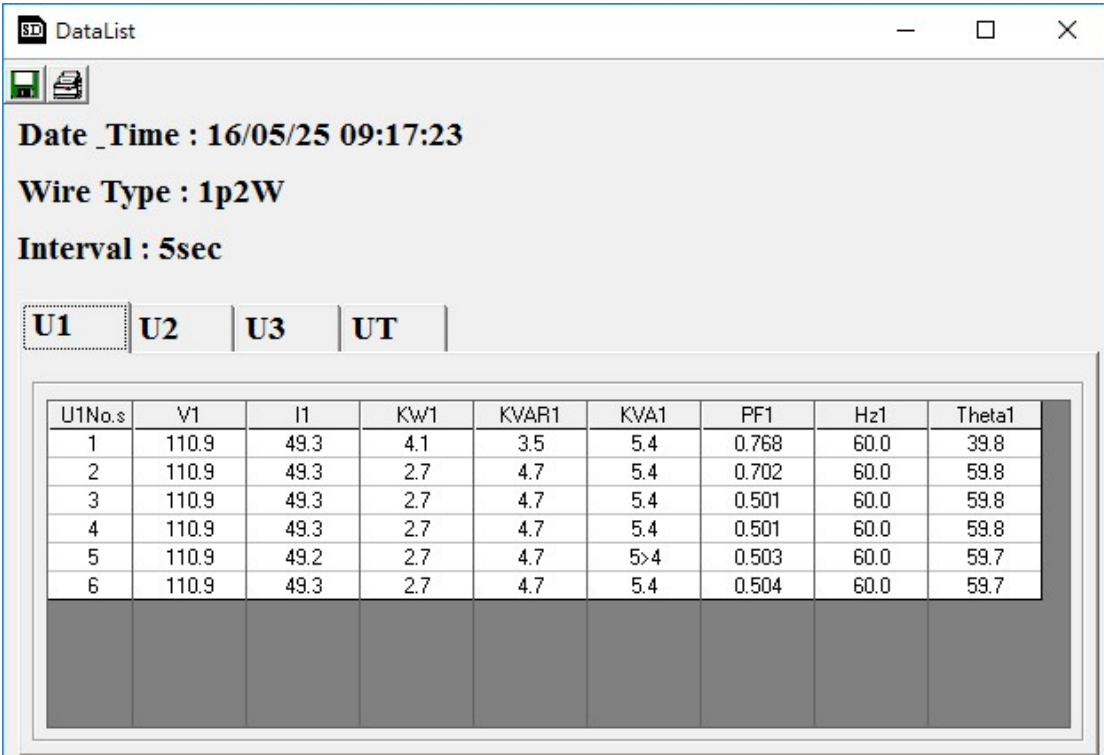


The Data Logger window displays the following information:

- Memory Size: 1928960
- Remained: 1928928
- Load: 4 / 4

Set	Date Time	Records
1	2016/07/25 09:17:14	9
2	2016/07/25 09:17:48	6
3	2016/07/25 09:19:10	16
4	2016/05/25 09:20:36	15

Click on a SET number to view the set's details. For example, in the window above, there are 2 sets from which to choose. The list below is an example of an opened set.



The DataList window displays the following information for a selected set:

- Date\_Time : 16/05/25 09:17:23
- Wire Type : 1p2W
- Interval : 5sec

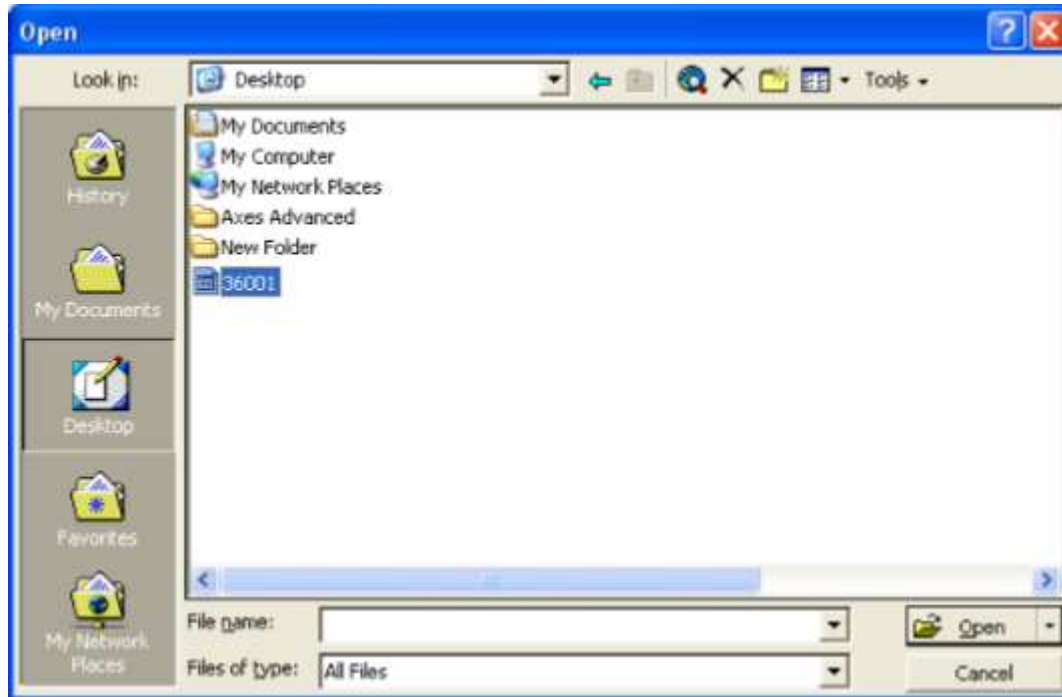
Selected set: **U1** (Other sets: U2, U3, UT)

U1No.s	V1	I1	Kw1	KVAR1	KVA1	PF1	Hz1	Theta1
1	110.9	49.3	4.1	3.5	5.4	0.768	60.0	39.8
2	110.9	49.3	2.7	4.7	5.4	0.702	60.0	59.8
3	110.9	49.3	2.7	4.7	5.4	0.501	60.0	59.8
4	110.9	49.3	2.7	4.7	5.4	0.501	60.0	59.8
5	110.9	49.2	2.7	4.7	5.4	0.503	60.0	59.7
6	110.9	49.3	2.7	4.7	5.4	0.504	60.0	59.7

## ● Data Convert

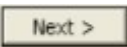
### Apply for Excel

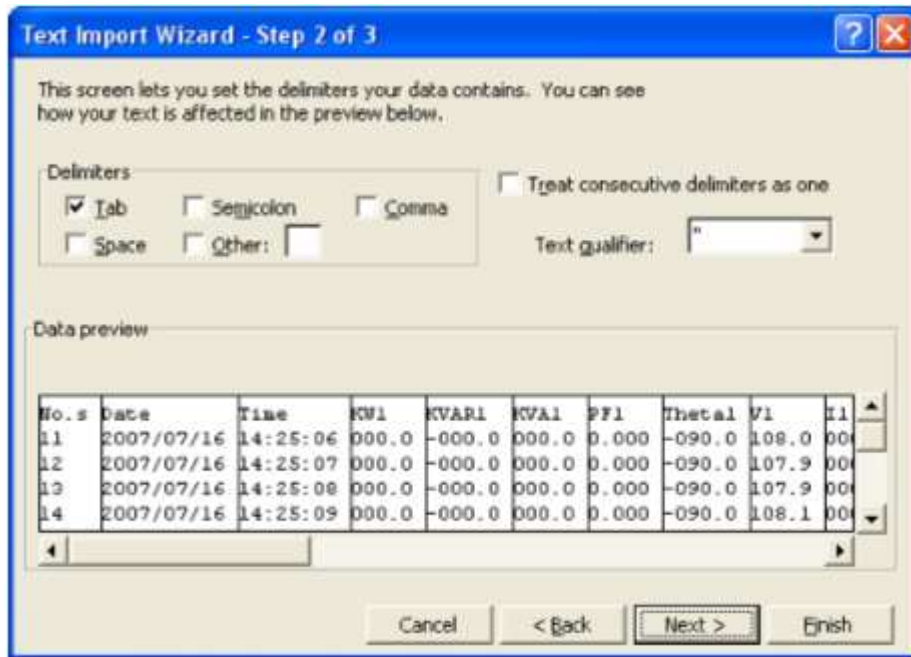
Open Microsoft Excel, find the file saved, for example 3600N.pan



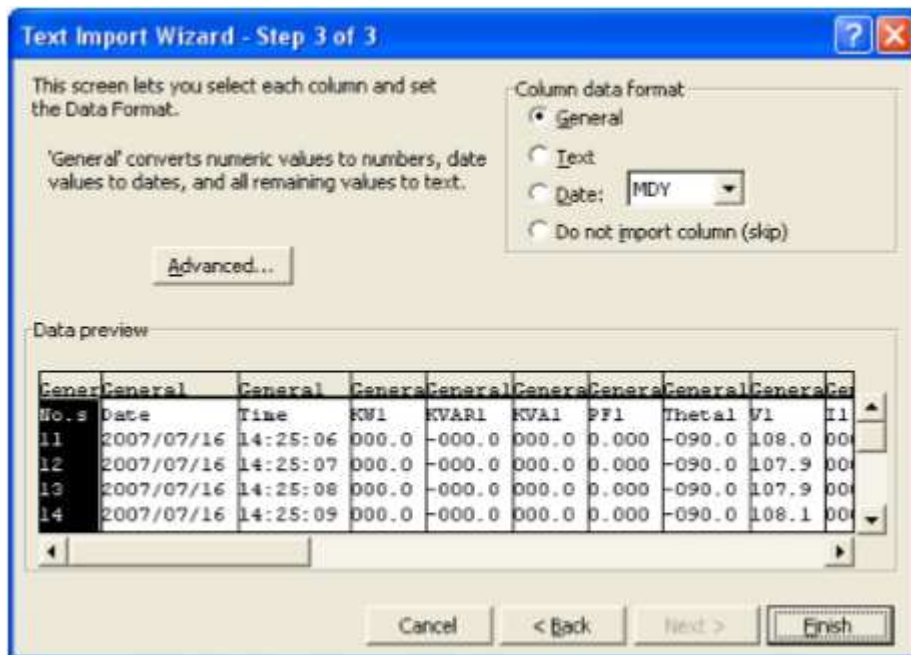
The “Text Import Wizard” then appears. Follow on-screen instructions.



Click 




Click  to proceed.

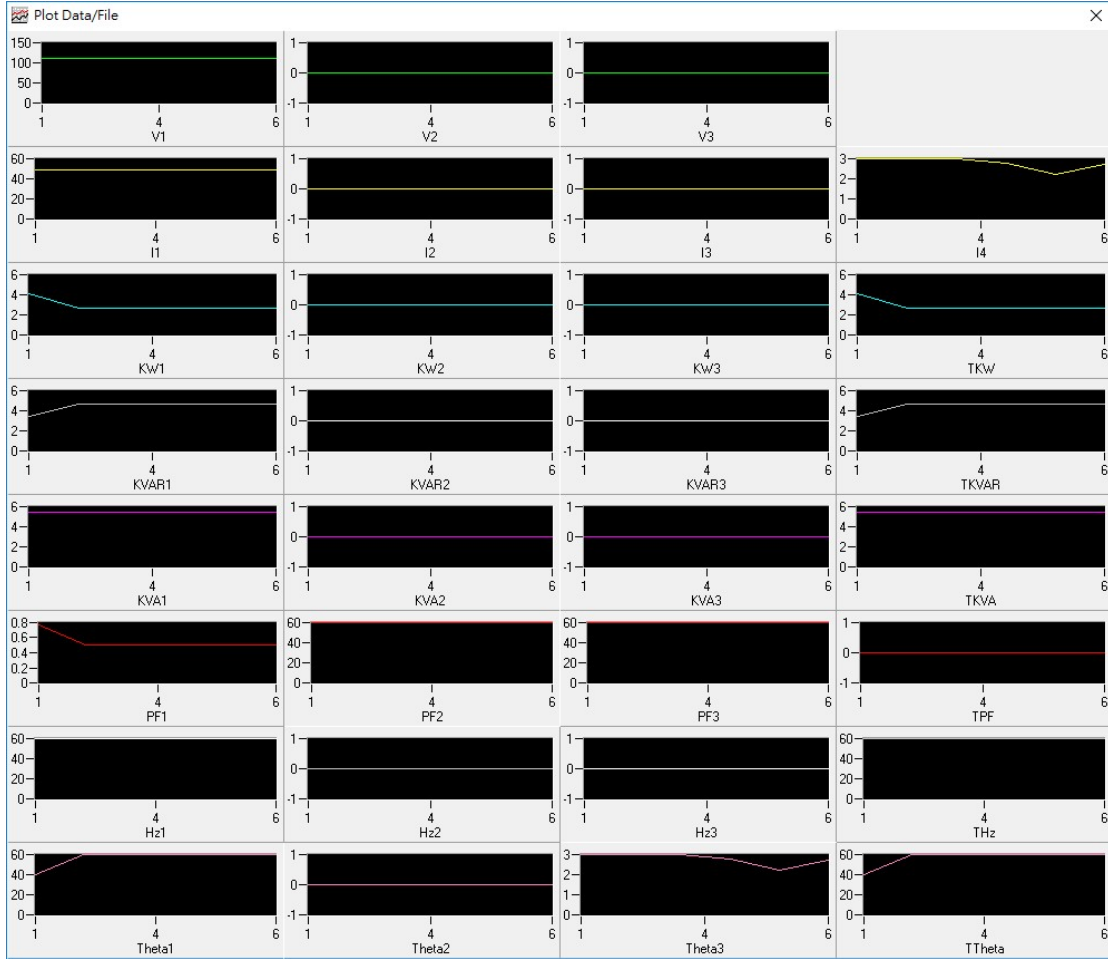


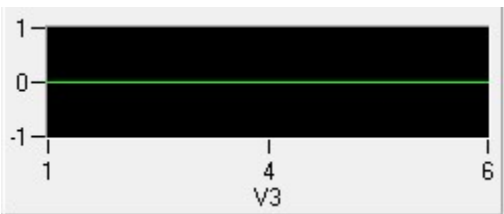
Click  to complete.

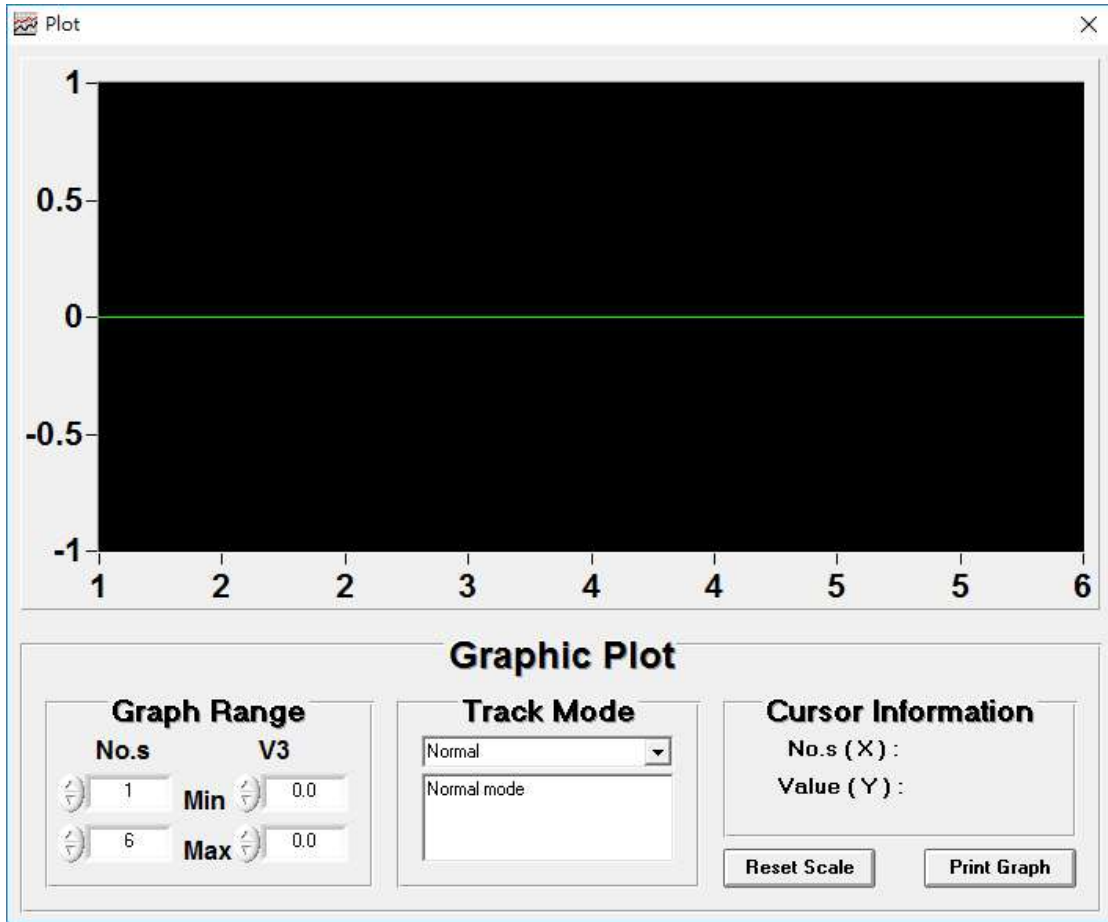
Row	Col 1	Col 2	Col 3	Col 4	Col 5	Col 6	Col 7	Col 8	Col 9	Col 10	Col 11	Col 12	Col 13	Col 14	Col 15	Col 16	Col 17	Col 18	Col 19	Col 20	Col 21	Col 22	Col 23	Col 24	Col 25	Col 26	Col 27	Col 28	Col 29	Col 30	Col 31	Col 32	
1	1100	004	41	41	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
2	1100	004	27	47	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3	1100	004	27	47	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
4	1100	004	27	47	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
5	1100	004	27	47	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
6	1100	004	27	47	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

## ● Apply for Graph

Open a saved data file in the software program and then click .




Click  graphic.

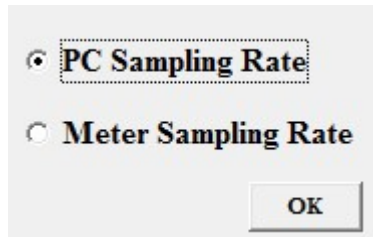


## ● Sampling Time

### PC Sampling Rate:

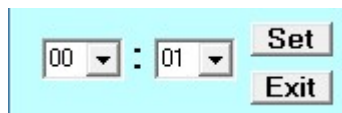
(rate at which the PC collects readings while connected to the meter)

Click  on the Menu Bar.



A dialog box with a light gray background. It contains two radio buttons: "PC Sampling Rate" (which is selected and has a dotted border) and "Meter Sampling Rate". At the bottom right is an "OK" button.


Click  button.

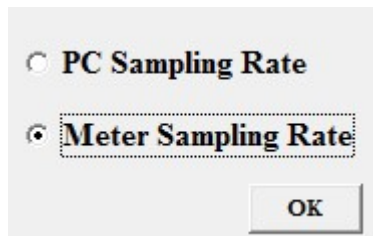


A configuration dialog with a light blue background. It features two dropdown menus: the first shows "00" and the second shows "01", separated by a colon. To the right are "Set" and "Exit" buttons.

Click  button.

### Meter Sampling Rate:

Click  on the Menu Bar.



A dialog box with a light gray background. It contains two radio buttons: "PC Sampling Rate" and "Meter Sampling Rate" (which is selected and has a dotted border). At the bottom right is an "OK" button.

Click  button.




A configuration dialog with a light blue background. It features a dropdown menu showing "5 Sec" and "Set" and "Exit" buttons.

Click  button.

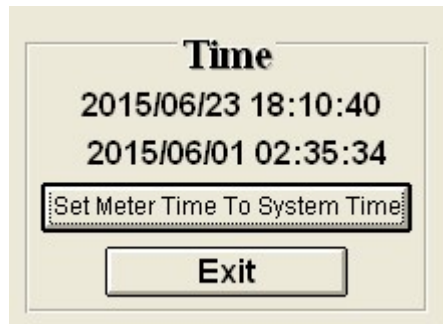



- **RTC ( Real Time Clock)**

Click  on the **Menu Bar** to set the meter time to PC system time.



Click **PC System Time** to show PC System Time or **Meter Time** to show Meter Time.



Click  to set the meter time to PC system time.

## ● Single Record

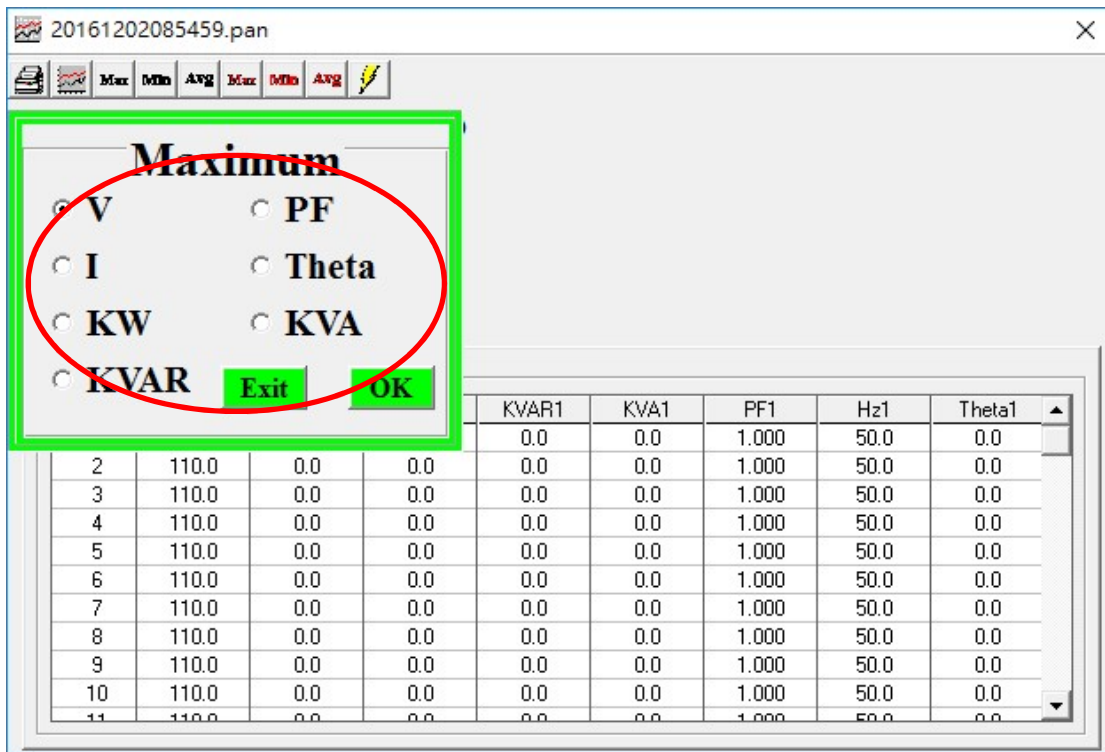
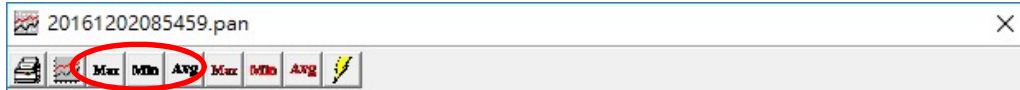
Click  button, On Menu Bar.

Single Record <span style="float: right;">×</span>				
<b>Print</b> <b>Wire Type: 1P2w</b>				
<b>Date Time : 16/05/25 09:16:11</b>				
<b>1</b> ▾	<b>U1</b>	<b>U2</b>	<b>U3</b>	<b>I4</b>
<b>Electric Current</b>	<b>49.3</b>	<b>0.0</b>	<b>0.0</b>	<b>2.7</b>
<b>Voltage</b>	<b>110.9</b>	<b>0.0</b>	<b>0.0</b>	<b>Total</b>
<b>P</b>	<b>2.7</b>	<b>0.0</b>	<b>0.0</b>	<b>2.7</b>
<b>Q</b>	<b>4.7</b>	<b>0.0</b>	<b>0.0</b>	<b>4.7</b>
<b>S</b>	<b>5.4</b>	<b>0.0</b>	<b>0.0</b>	<b>5.4</b>
<b>PF</b>	<b>0.503</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>Hz</b>	<b>60.0</b>	<b>60.0</b>	<b>60.0</b>	<b>60.0</b>
<b>Theta</b>	<b>79.7</b>	<b>0.0</b>	<b>0.0</b>	<b>59.7</b>

Click  button. Print form page.

- **30-minutes Maximum / Minimum / Average**

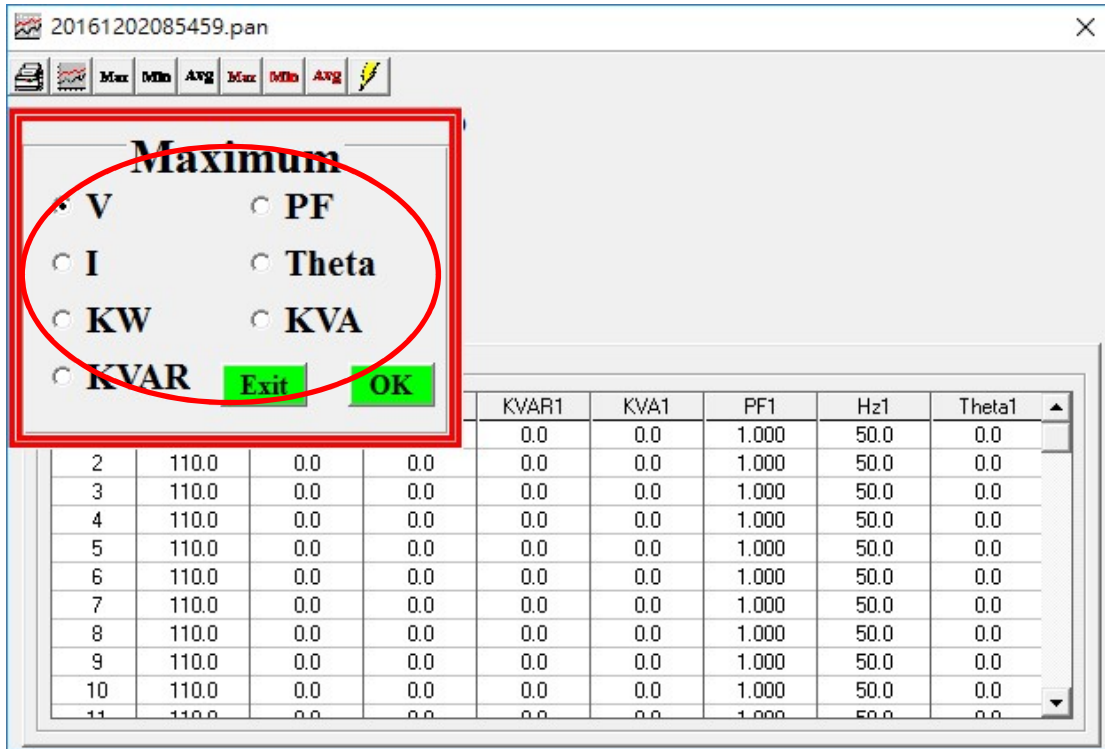
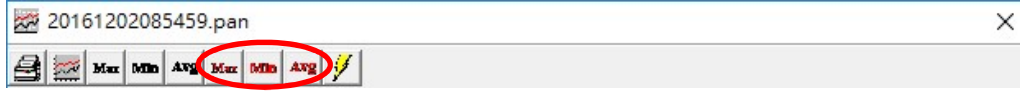
Open a saved file and then click the button (red circle) to confirm.



No.s	Start	Stop	Max.V1	Max. Time	Max.V2	Max. Time	Max.V3	Max. Time
1	2016/12/02 08:54:59	2016/12/02 09:22:59	110.0	08:54:59	110.1	08:54:59	110.0	08:54:59
2	2016/12/02 09:24:59	2016/12/02 09:52:59	110.0	09:24:59	110.1	09:24:59	110.0	09:24:59
3	2016/12/02 09:54:59	2016/12/02 10:22:59	110.1	10:16:59	110.2	10:18:59	110.0	09:54:59
4	2016/12/02 10:24:59	2016/12/02 10:52:59	110.0	10:24:59	110.2	10:42:59	110.0	10:24:59
5	2016/12/02 10:54:59	2016/12/02 11:22:59	110.0	10:54:59	110.2	10:54:59	110.0	10:54:59
6	2016/12/02 11:24:59	2016/12/02 11:52:59	110.1	11:34:59	110.1	11:24:59	110.0	11:24:59
7	2016/12/02 11:54:59	2016/12/02 12:22:59	110.0	11:54:59	110.1	11:54:59	110.0	11:54:59
8	2016/12/02 12:24:59	2016/12/02 12:52:59	110.0	12:24:59	110.1	12:24:59	110.0	12:24:59
9	2016/12/02 12:54:59	2016/12/02 13:22:59	110.0	12:54:59	110.1	12:54:59	110.0	12:54:59
10	2016/12/02 13:24:59	2016/12/02 13:52:59	110.1	13:36:59	110.2	13:40:59	110.0	13:24:59
11	2016/12/02 13:54:59	2016/12/02 14:22:59	110.0	13:54:59	110.1	13:54:59	110.0	13:54:59
12	2016/12/02 14:24:59	2016/12/02 14:52:59	110.0	14:24:59	110.1	14:24:59	110.0	14:24:59
13	2016/12/02 14:54:59	2016/12/02 15:22:59	110.1	15:18:59	110.2	15:20:59	110.0	14:54:59
14	2016/12/02 15:24:59	2016/12/02 15:52:59	110.0	15:24:59	110.2	15:44:59	110.0	15:24:59
15	2016/12/02 15:54:59	2016/12/02 16:22:59	110.0	15:54:59	110.2	15:56:59	110.0	15:54:59
16	2016/12/02 16:24:59	2016/12/02 16:52:59	110.1	16:36:59	110.1	16:24:59	110.0	16:24:59
17	2016/12/02 16:54:59	2016/12/02 17:22:59	110.0	16:54:59	110.1	16:54:59	110.0	16:54:59
18	2016/12/02 17:24:59	2016/12/02 17:52:59	110.0	17:24:59	110.1	17:24:59	110.0	17:24:59
19	2016/12/02 17:54:59	2016/12/02 18:22:59	110.0	17:54:59	110.1	17:54:59	110.0	17:54:59
20	2016/12/02 18:24:59	2016/12/02 18:52:59	110.1	18:38:59	110.2	18:42:59	110.0	18:24:59
21	2016/12/02 18:54:59	2016/12/02 19:22:59	110.0	18:54:59	110.1	18:54:59	110.0	18:54:59
22	2016/12/02 19:24:59	2016/12/02 19:52:59	110.0	19:24:59	110.1	19:24:59	110.0	19:24:59
23	2016/12/02 19:54:59	2016/12/02 20:22:59	110.1	20:20:59	110.2	20:22:59	110.0	19:54:59

● **30-minutes Average of Maximum / Minimum / Average**

Open a saved file and then click the button (red circle) to confirm.



No.s	Start	Stop	Avg. of Max. of V
1	2016/12/02 08:54:59	2016/12/02 09:22:59	110.1
2	2016/12/02 09:24:59	2016/12/02 09:52:59	110.1
3	2016/12/02 09:54:59	2016/12/02 10:22:59	110.1
4	2016/12/02 10:24:59	2016/12/02 10:52:59	110.1
5	2016/12/02 10:54:59	2016/12/02 11:22:59	110.1
6	2016/12/02 11:24:59	2016/12/02 11:52:59	110.1
7	2016/12/02 11:54:59	2016/12/02 12:22:59	110.1
8	2016/12/02 12:24:59	2016/12/02 12:52:59	110.1
9	2016/12/02 12:54:59	2016/12/02 13:22:59	110.1
10	2016/12/02 13:24:59	2016/12/02 13:52:59	110.1
11	2016/12/02 13:54:59	2016/12/02 14:22:59	110.1
12	2016/12/02 14:24:59	2016/12/02 14:52:59	110.1
13	2016/12/02 14:54:59	2016/12/02 15:22:59	110.1
14	2016/12/02 15:24:59	2016/12/02 15:52:59	110.1
15	2016/12/02 15:54:59	2016/12/02 16:22:59	110.1
16	2016/12/02 16:24:59	2016/12/02 16:52:59	110.1

## ● 24-hours Voltage Analysis

Open a saved file and then click the button (red circle) to confirm

