



Digitized Automation for a Changing World

## DPMSoft User Manual

# DPMSoft User Manual

## Revision History

Version	Revision	Date
1 <sup>st</sup>	The first version was published.	2018/12/12
2 <sup>nd</sup>	The second version was published.	2020/4/30
3 <sup>rd</sup>	<p>1. Chapter 1: All images concerning DPMSoft interface are changed.</p> <p>2. Chapter 2: All images concerning communication setting are changed.</p> <p>3. Add section 3.16: Phasor Diagram.</p> <p>4. Add section 3.17: Last Month TOU.</p> <p>5. Add section 3.18: Time of Use Max Demand.</p> <p>6. Chapter 4.1: Add content concerning Ethernet, Pulse Output, Default Page Display in the Meter, and Energy Unit Display in the Meter.</p> <p>7. Chapter 4.2: Change images and add content concerning CO<sub>2</sub> Emission, Data Word Order, Password Modification, Alarm, and TOU.</p> <p>8. Add section 4.4: Data Log-DA5X0.</p>	2020/11/20
4 <sup>th</sup>	<p>1. Add description concerning webpage operations for multi-loop models as well as settings to collapse and expand the operate area at the beginning of chapter3.</p> <p>2. Update explanatory pictures in chapter 3.1 to 3.18.</p> <p>3. Add section 3.14: Alarm History.</p> <p>4. Update heading numberings in chapter 4.</p> <p>5. Add content concerning multi-loop function to section 4.1.2 Transformer Ratio.</p> <p>6. Add section 4.1.3: Current Transformer.</p> <p>7. Add section 4.1.5: Power System.</p> <p>8. Add explanation and update pictures relating to Relay Output in section 4.1.6 Alarm.</p> <p>9. Update section 4.1.7: Communications</p> <p>10. Update section 4.1.9: Demand.</p> <p>11. Update section 4.1.11: BACnet Device ID.</p> <p>12. Add descriptions concerning relay outputs to section 4.1.13 DIDO Setting.</p> <p>13. Add content concerning multi-loop function to section 4.1.15 Pulse Output.</p> <p>14. Add explanation and update pictures in section 4.1.17 Display Unit Format in the Meter.</p> <p>15. Add explanation and update pictures in section 4.1.18 Display Unit Format.</p> <p>16. Add section 4.1.19: Value Low Cut.</p> <p>17. Add section 4.1.20: Loop Quantity.</p> <p>18. Add section 4.1.21: Back Light Time in the Meter.</p> <p>19. Add section 4.1.22: Custom Page Display in the Meter.</p> <p>20. Add section 4.1.23: Data Word Order.</p> <p>21. Update section 4.2.3 Display of Numerical Values in the Meter.</p> <p>22. Add explanation and update pictures in section 4.2.4 Display Unit Format.</p>	2021/7/26

<b>Version</b>	<b>Revision</b>	<b>Date</b>
	<p>23.Add section 4.2.14: Custom Page in the Meter (Summary-P)</p> <p>24.Add section 4.2.15: Summary Display Order in the Meter.</p> <p>25.Add section 4.2.16: Digital Input.</p> <p>26.Add section 4.2.17: Relay Output Setting.</p> <p>27.Add section 4.2.18: Back Light Time in the Meter.</p> <p>28.Add section 4.2.19: Reset Loop Parameter.</p> <p>29.Add explanatory pictures in chapter 4.3 Data Log.</p> <p>30.Change the title of chapter 4.4 to <b>Data Log-DA Series/MA Series.</b></p>	
5 <sup>th</sup>	<p>1.Revise the explanatory images in section 1.1.</p> <p>2.Revise the table of contents and structure of Chapter 2.</p> <p>3.Add section 2.1 <b>Start DPMSoft</b></p> <p>4.Add section 2.1.1 <b>Online Mode</b></p> <p>5.Move the original section 2.1 to 2.1.1.1, and section 2.2 to 2.1.1.2</p> <p>6.Add section 2.1.2 <b>Offline Mode</b></p> <p>7.Add section 2.2 <b>User Interface</b></p> <p>8.Add section 2.3 <b>Toolbar</b>, including 2.3.1 <b>Operate</b> and 2.3.2 <b>Help</b>.</p> <p>9.Delete parts of the introduction at chapter 3 and update the images for each section.</p> <p>10.Add section 4.1.24 <b>RS-485 Master</b></p> <p>11.Add section 4.2 <b>System Setting-Digital I/O Setting</b></p> <p>12.Add section 4.3 <b>System Setting-Alarm Setting</b></p> <p>13.Add section 4.4 <b>Slave Setting</b></p> <p>14.Move the original section 4.2 to 4.5, section 4.3 to 4.7, section 4.4 to 4.8.</p> <p>15.Add section 4.6 <b>Advance Setting-Multi-Tariff Setting</b></p>	2024/4/30

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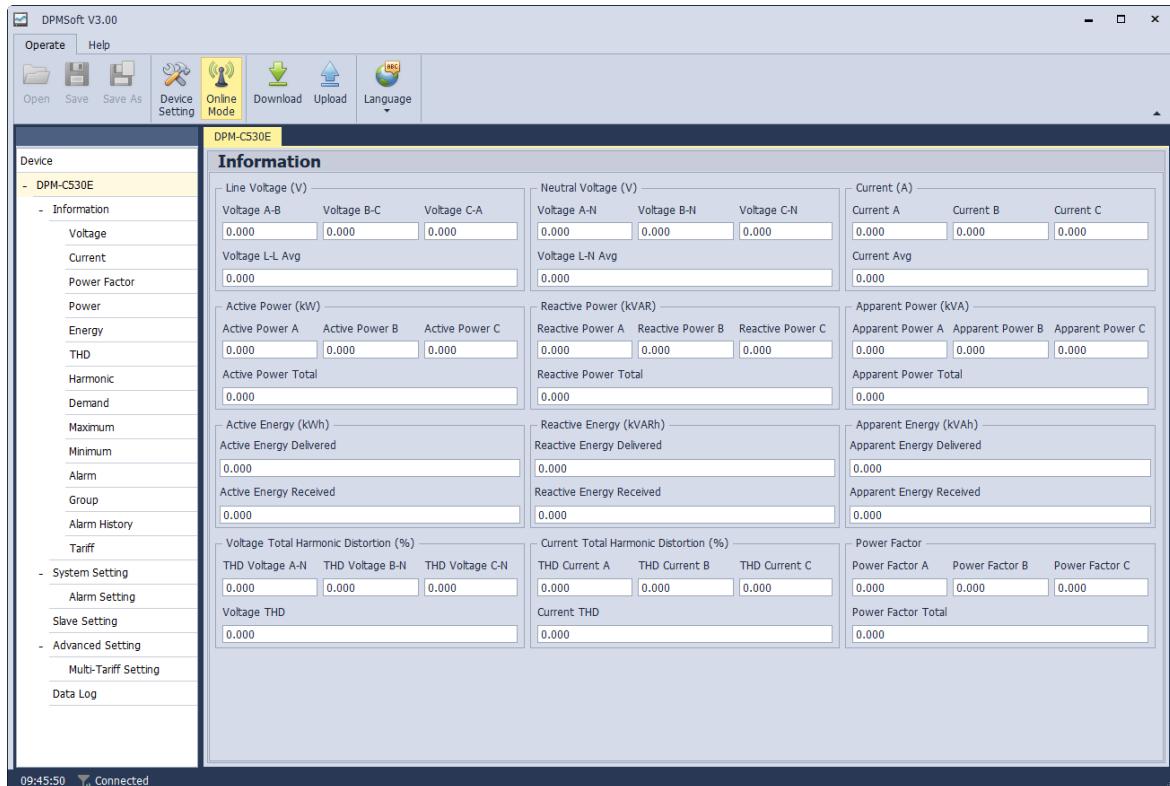
# Chapter 1 Introduction to DPMSoft

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## 1.1 Overview

DPMSoft is a software designed to read data from Delta power meters and complete setups including communications, current transformers (CT) and alarms. In addition, DPMSoft supports advanced functions of power meter DPM Series, such as auto recording, data storage as well as data import and export.



## 1.2 Install DPMSoft

Download DPMSoft via Delta Electronics official website: <http://www.deltaww.com/>

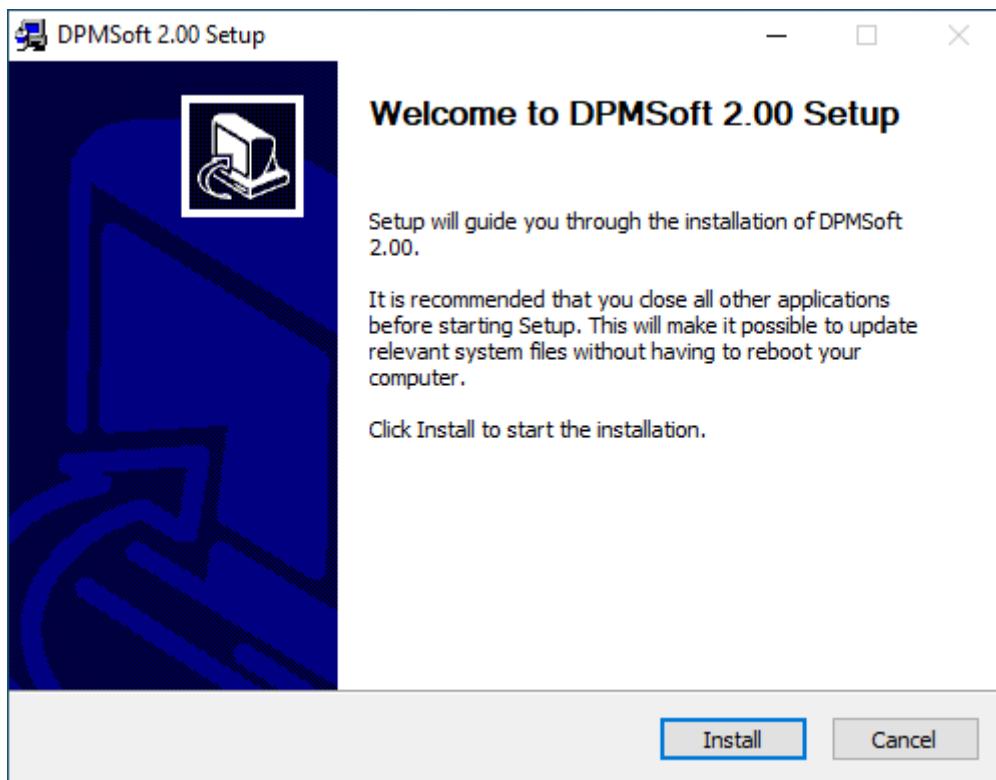
Software Info: Operating system (Windows 7/8/10)

Steps to installing DPMSoft:

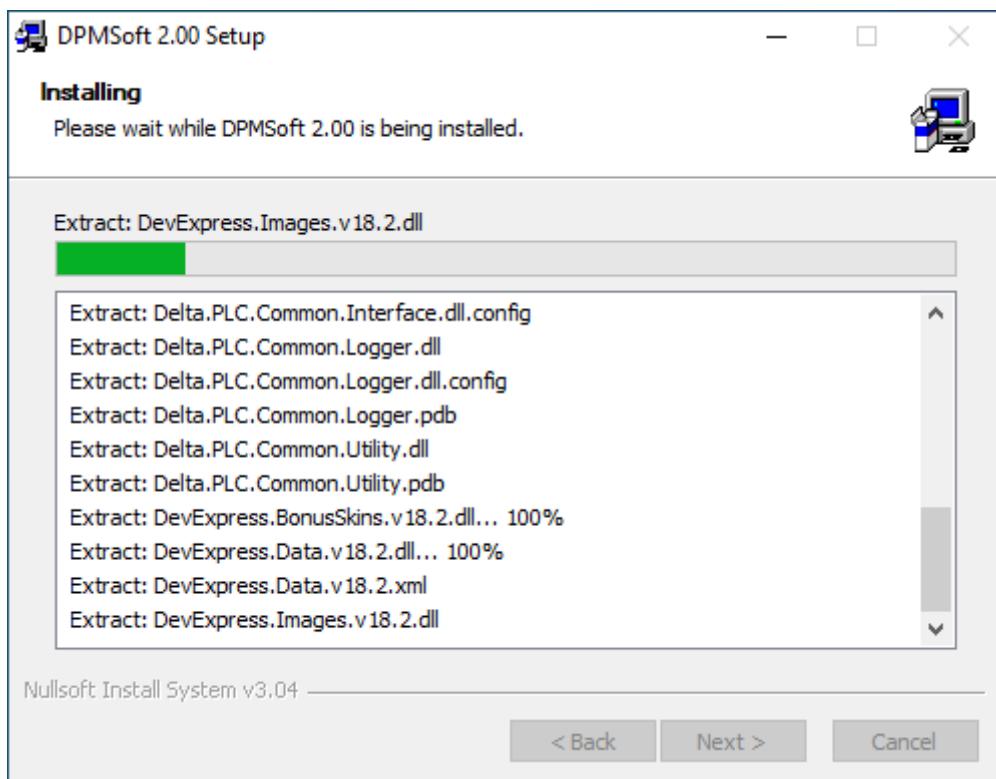
- (1) Open the compressed file and double click "DPMSoft 2.00" installer for setup.



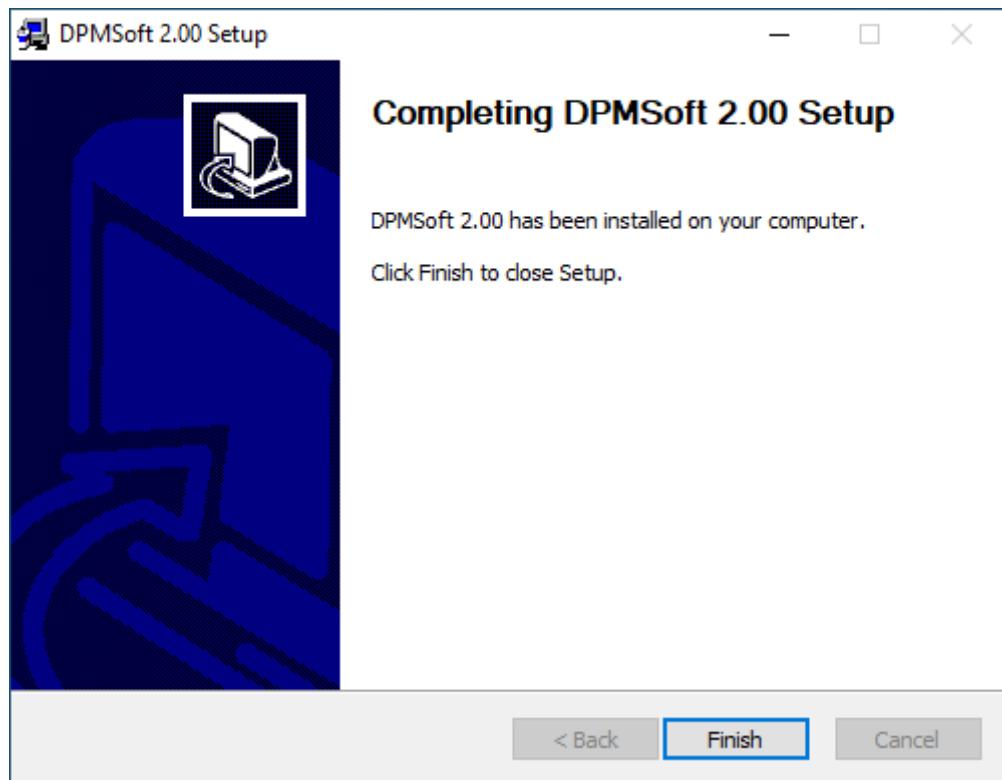
- (2) Click “Install” when entering the DPMSoft 2.00 setup page (see below).



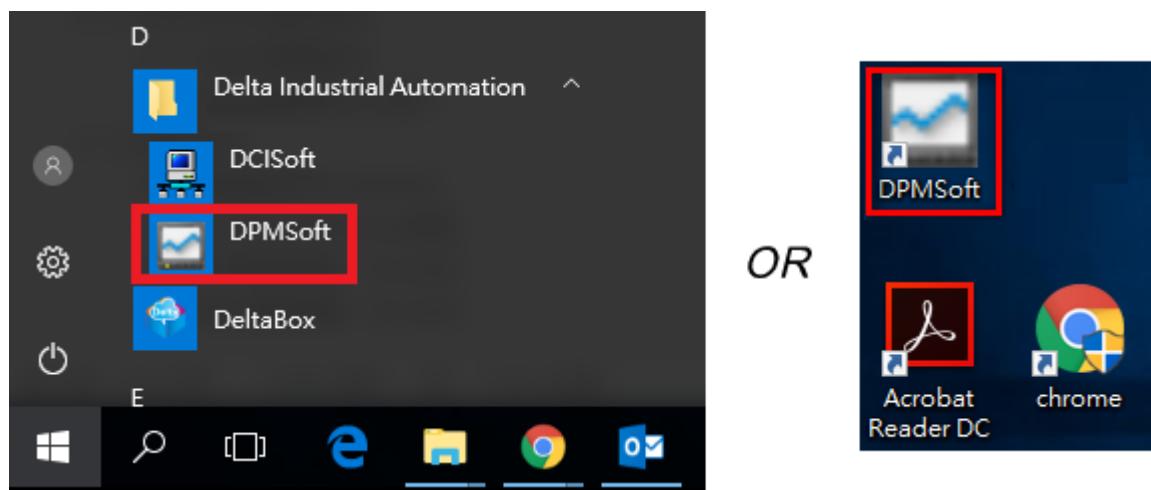
- (3) Wait for the installation to complete.



- (4) Click "Finish" to complete the setup.



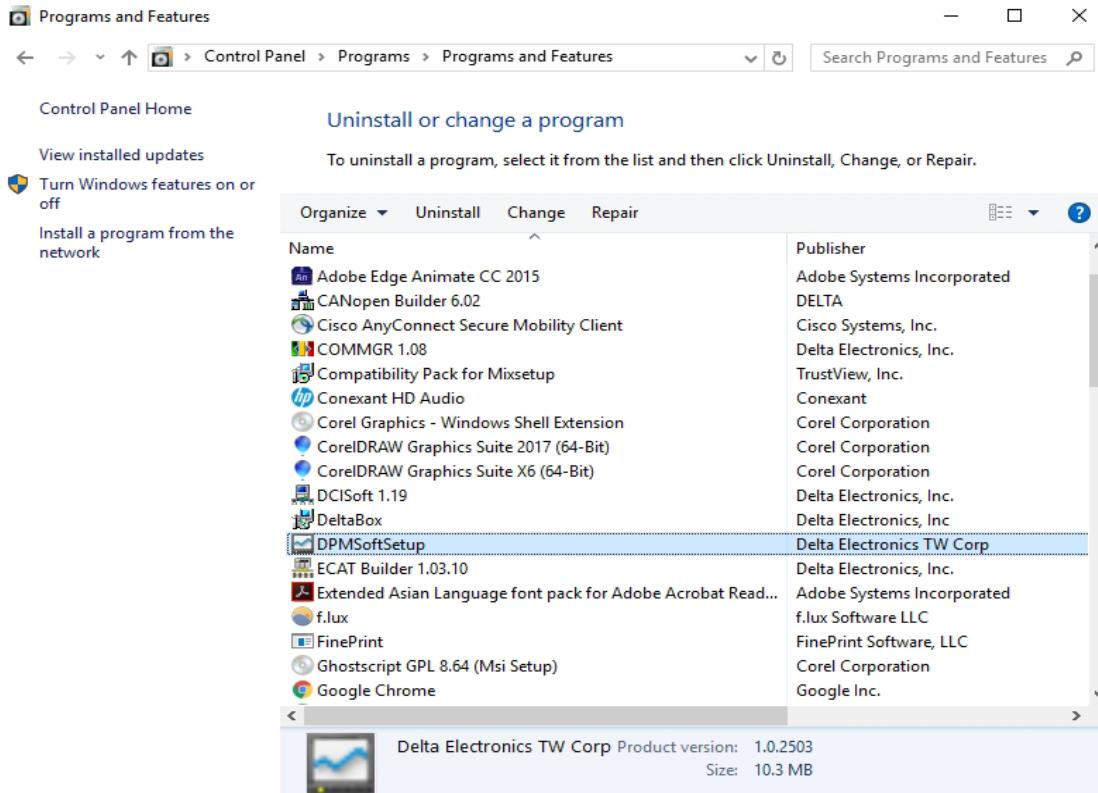
- (5) A desktop shortcut will be created automatically after installation completed, which can also be found in Control Panel. Click the shortcut to activate DPMSoft. In addition, DPMSoft allows multiple software programs to function simultaneously on your PC.



## 1.3 Uninstall DPMSoft

To uninstall DPMSoft:

Enter “Control Panel” and select **DPMSoftSetup** listed in the “Uninstall or change a program” page to remove the software.



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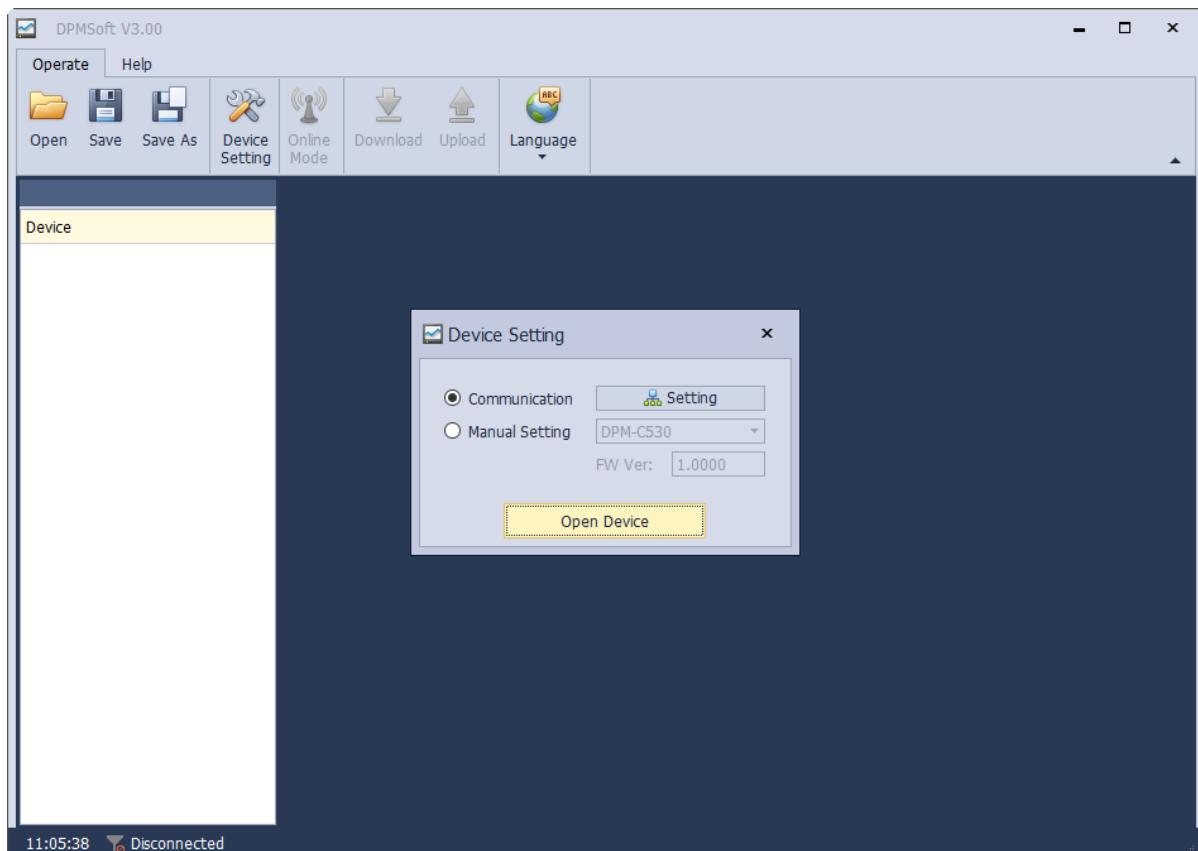
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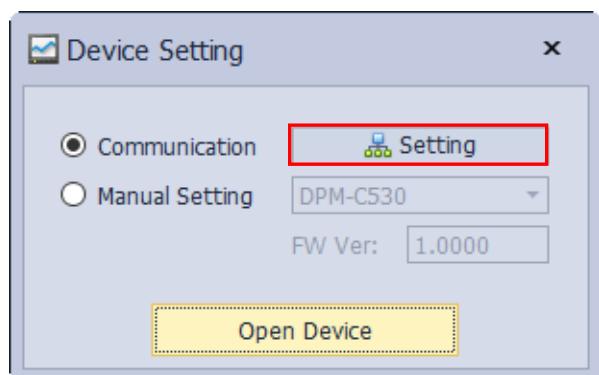
## 2.1 Start DPMSoft

Device Setting will pop up when you double-click installed DPMSoft. Click on **Communication Setting** to enter the online mode or click on **Manual Setting** for offline operations.

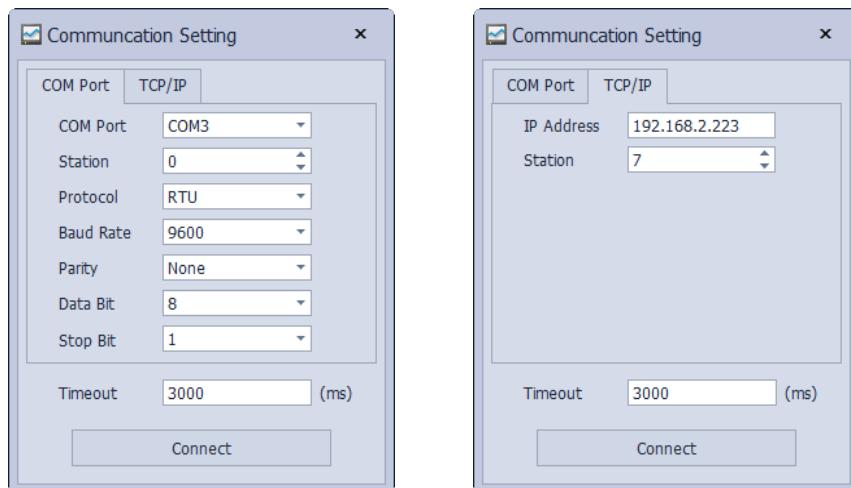


### 2.1.1 Online Mode

Click on **Communication Settings** to open the setup window.



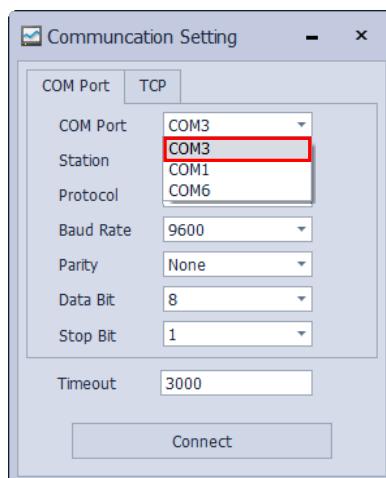
There are two methods for connecting DPMSoft to the power meter; one is serial port communication (see bottom left) and the other is TCP/IP network connections (see bottom right).



### 2.1.1.1 Serial Port Communication Settings

- Steps to set up serial port communication:

- (1) Select a COM Port.



- (2) Input the slave station, communication mode, Baud rate, data bit, parity, stop bit of the power meter. Enter the required timeout (ms) and the command speed for DPMSoft.

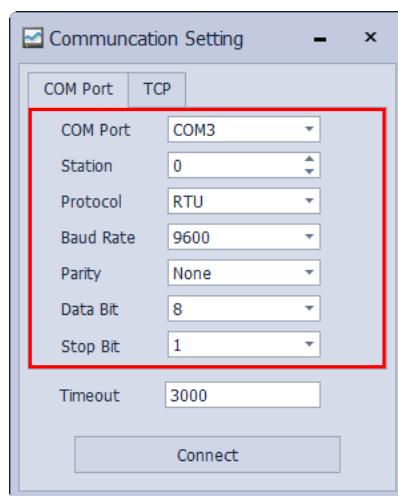
Communication Mode: RTU/ ASCII

Baud Rate: 9600/ 19200/ 38400

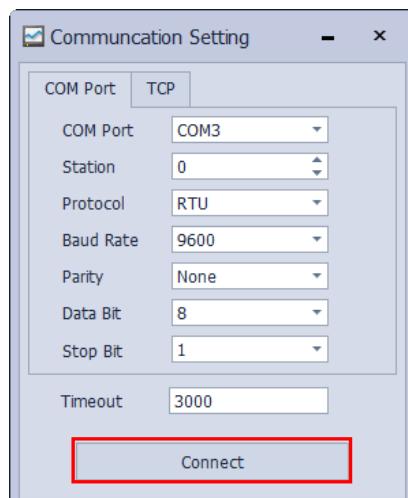
Parity: NONE/ EVEN/ ODD

Data Bit: 7/ 8

Stop Bit: 1/ 2



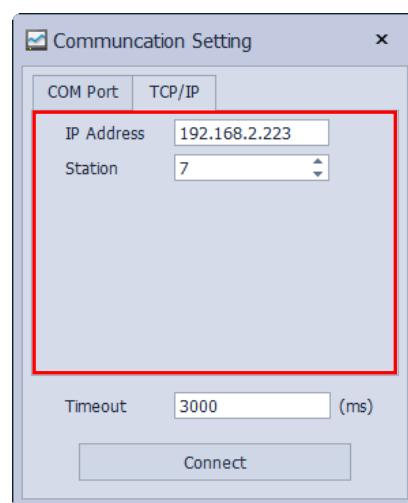
- (3) After the setup, connect to the power meter by clicking "Connect". For successful connection, the DPMSoft main page window will pop-up; for unsuccessful connection, a pop-up window will appear to point out the connection failure.



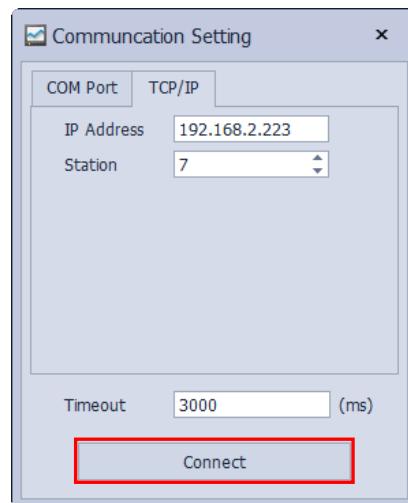
### 2.1.1.2 TCP/IP Network Connections

- Steps to set up TCP/IP Network Connections:

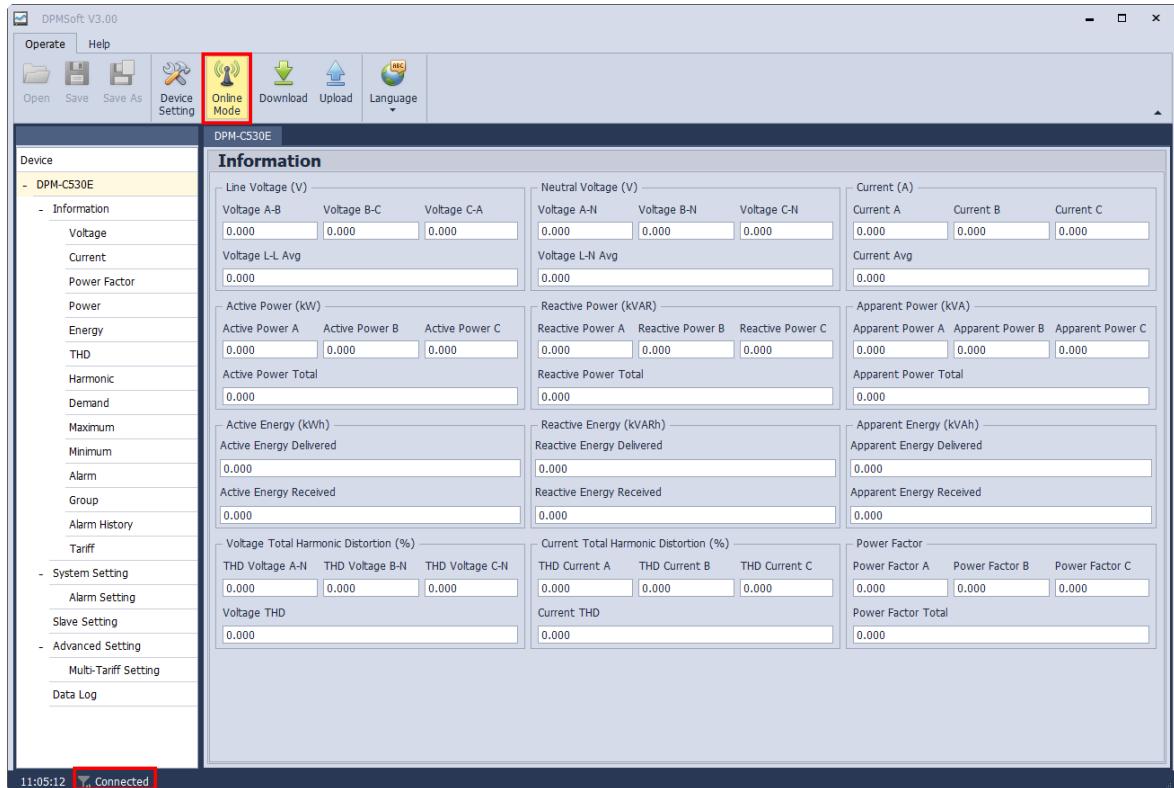
- (1) Setup the IP address and station of the power meter. When the RS-485 is used to communicate between the power meter and Ethernet converter, enter the IP address, station of the router and the required timeout (ms) based on your needs.



- (2) When setup is completed, connect to the power meter by clicking "Connect". For successful connection, the DPMSoft main page window will pop-up; for unsuccessful connection, a pop-up window will appear to issue the connection failure.



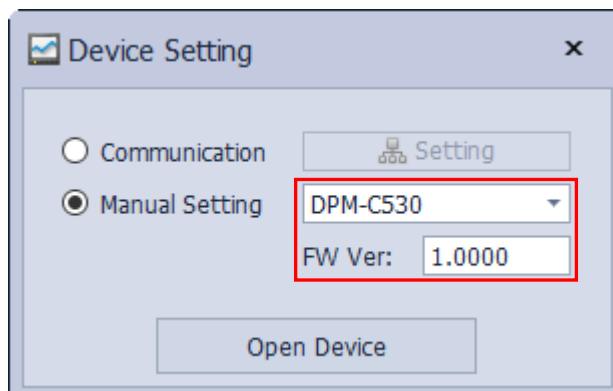
The DPMSoft main page window (see below) will pop-up and enter online mode automatically when successfully connected. The connection status will be displayed in the bottom left corner.



## 2.1.2 Offline Mode

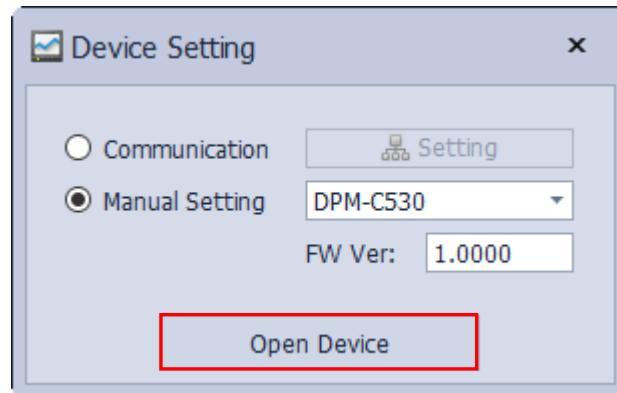
- Steps to enter offline mode:**

- (1) Click on **Manual Setting** and select the meter model, then enter the firmware version of the meter below.

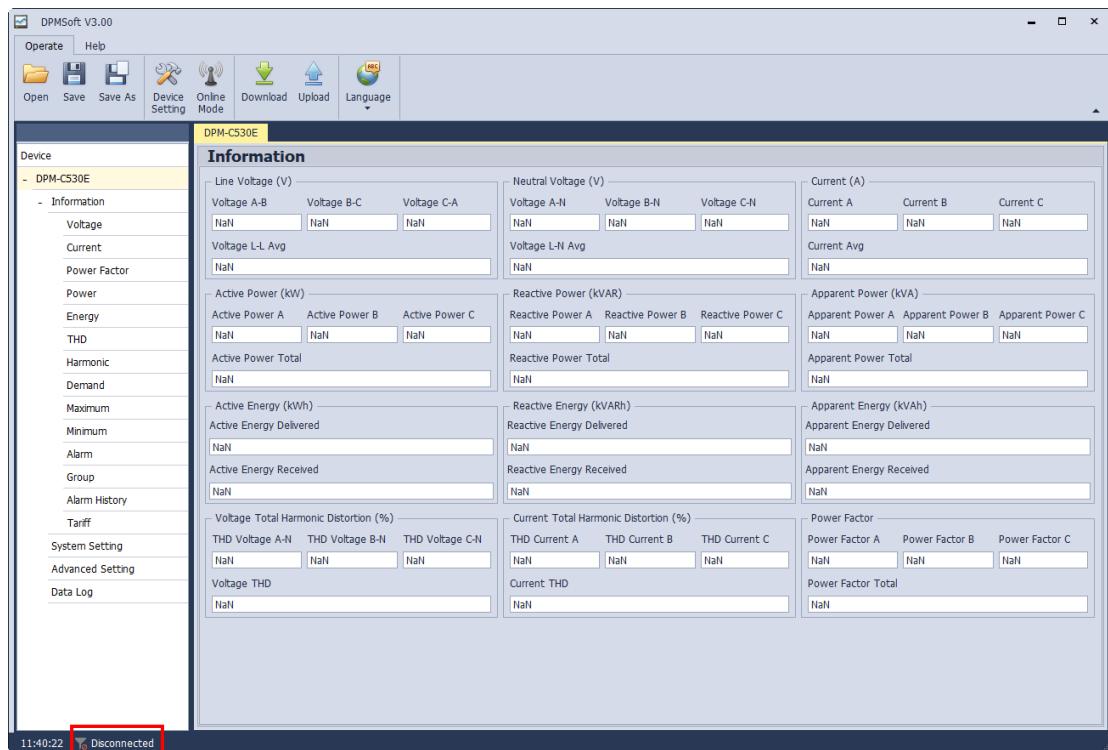


\*Note: DA/MA series meters do not support offline mode.

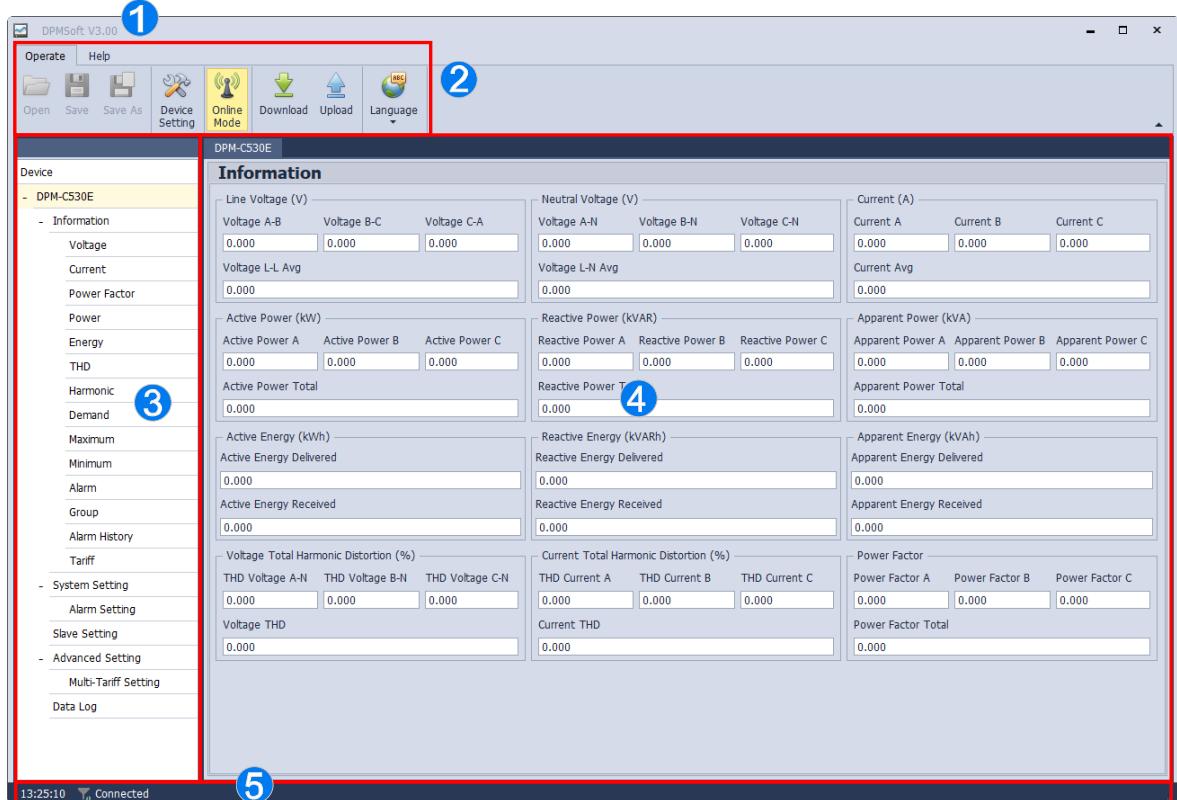
- (2) After completing the setting, click on **Open Device** to enter offline mode.



The DPMSoft main page window will pop-up as shown below, with disconnected status displayed in the bottom left corner.

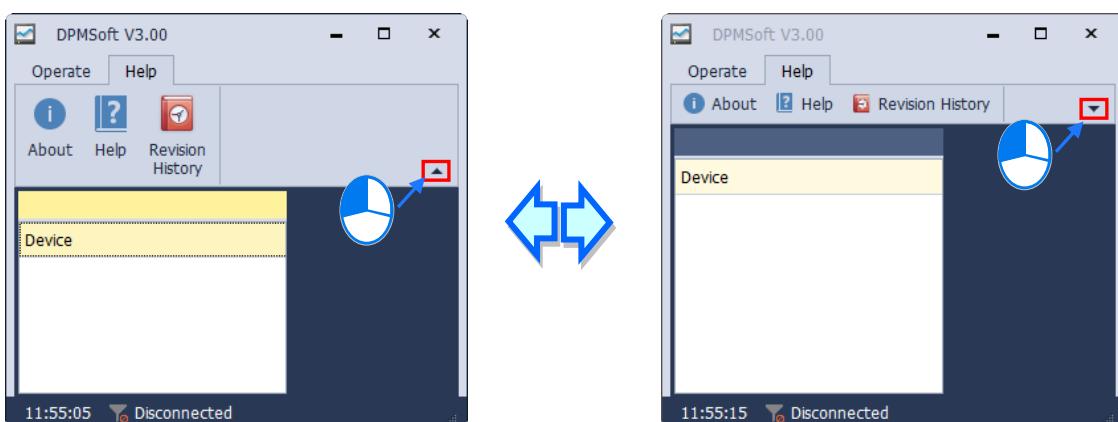


## 2.2 User Interface



- ② Toolbar: Contains two categories of operation options
- ③ Project Management: Hierarchical tree structure for managing project objects.
- ④ Edit Workplace: Displays the monitoring content, settings, and others.
- ⑤ Status Bar: Display the current connection status and the time.

In DPMSoft, you can click to close the toolbar, as shown in the left image below; if you want to expand the toolbar, click , as shown in the right image below. The software will remain the previous window size and toolbar settings when reopened after closing.

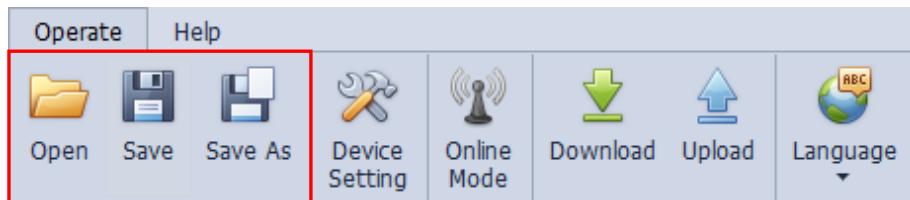


## 2.3 Toolbar

DPMSoft's toolbar contains two categories of functional options: “Operate” and “Help”.

### 2.3.1 Operate

- Project Access Operation



#### Open

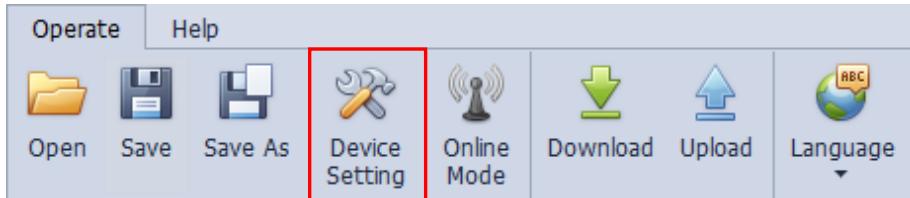
To open a previously created project in DPMSoft, please click on **Open** in the toolbar. Then, select the desired file(\*.dpm) and click Open.

#### Save

When creating a new project in DPMSoft, the actual project file will not be generated until you save the project file in the specified path. The steps for saving projects are as follows:

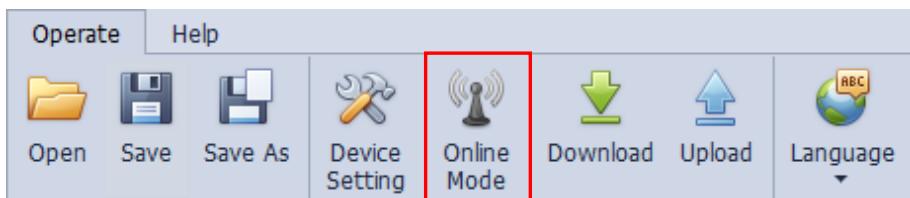
Click **Operate > Save** in the toolbar to save the project in DPMSoft. The **Save As** windows will pop up if the project does not have any saving record. Then, you can designate the new path and file name, then click Save.

- Device Setting



Please refer to section **2.2 Online Mode and 2.3 Offline Mode**.

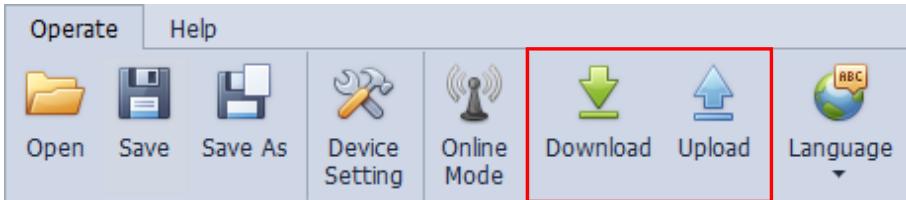
- Online Mode



You can enter or exit online mode; in online mode, you can monitor the parameters of the meter. If you exit online mode, the parameters on the screen will not update.

(You need to enter online mode first.)

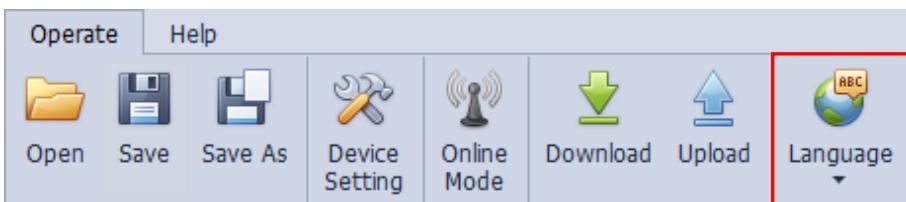
- **Download / Upload**



Click on **Upload** to restore the meter's parameters to the software; click on **Download** to download the parameters from the software to the meter.

(You need to enter online mode first)

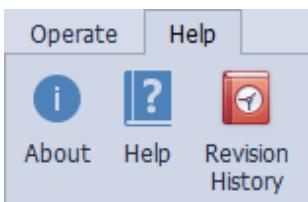
- **Language**



Set the software language (English, Traditional Chinese, Simplified Chinese, Japanese)

### 2.3.2 Help

- **Software instructions**



**About:** understand software version information.

**Help:** open the software operation manual.

**Revision History:** explain the software's modification history.

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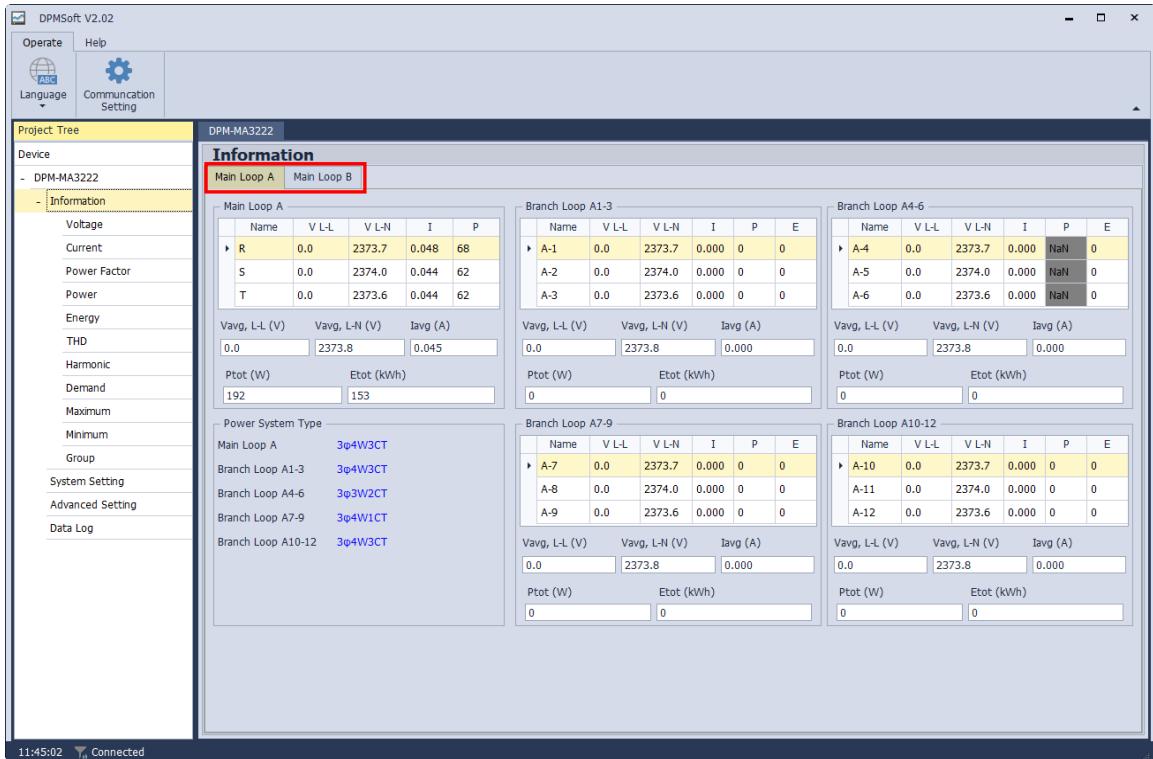
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DPMSoft screen displays including Information, Voltage, Current, Power Factor, Power, Energy, Total Harmonic Distortion (THD), Demand, Maximum, Minimum, Alarm, Group, Alarm History and Tariff with explanations in the following sections.

For multi-loop type models, you can switch the information page of the target loop with the tabs shown in the following figure.



## 3.1 Information

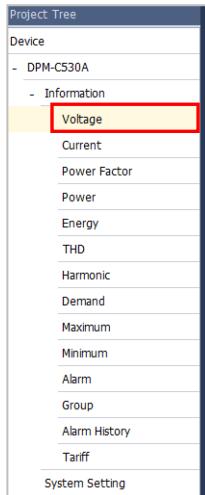
The page displays most commonly used parameters for measurements including voltage, neutral voltage, current, active power, reactive power, apparent power, active energy, power factor as well as voltage and current total harmonic distortions.



## 3.2 Voltage

The page displays the average voltage and voltage per phase, voltage unbalance rate as well as the average, phase to phase and unbalance rate value of line voltage.

- Click “Voltage” in the project tree on the left side to enter the page (see below).



**DPM-C530A**

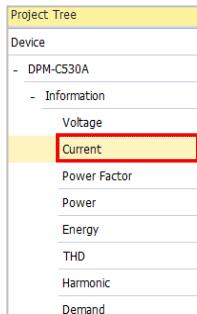
**Voltage**

Index	Name	Description	Value	Unit	Register
1	Van	Voltage A-N	NaN	V	100H, 101H
2	Vbn	Voltage B-N	NaN	V	102H, 103H
3	Vcn	Voltage C-N	NaN	V	104H, 105H
4	Vavg	Voltage L-N Avg	NaN	V	106H, 107H
5	Vab	Voltage A-B	807.186	V	108H, 109H
6	Vbc	Voltage B-C	804.459	V	10AH, 10BH
7	Vca	Voltage C-A	806.045	V	10CH, 10DH
8	Vavg	Voltage L-L Avg	806.032	V	10EH, 10FH
9	Van	Voltage Unbalance A-N	NaN	%	110H, 111H
10	Vbn	Voltage Unbalance B-N	NaN	%	112H, 113H
11	Vcn	Voltage Unbalance C-N	NaN	%	114H, 115H
12	Vtot	Voltage Unbalance L-N Worst	NaN	%	116H, 117H
13	Vab	Voltage Unbalance A-B	0.140	%	118H, 119H
14	Vbc	Voltage Unbalance B-C	0.130	%	11AH, 11BH
15	Vca	Voltage Unbalance C-A	0.000	%	11CH, 11DH
16	Vtot	Voltage Unbalance L-L Worst	0.140	%	11EH, 11FH

## 3.3 Current

The page displays current, current unbalance rate value.

- Click “Current” in the project tree on the left side to enter the page (see below).



**DPM-C530A**

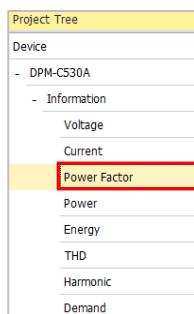
**Current**

Index	Name	Description	Value	Unit	Register
1	Ia	Current A	1949.805	A	120H, 121H
2	Ib	Current B	1949.805	A	122H, 123H
3	Ic	Current C	1959.804	A	124H, 125H
4	Iavg	Current Avg	1949.805	A	126H, 127H
5	In	Current N	NaN	A	128H, 129H
6	Ia	Current Unbalance A	0.510	%	12AH, 12BH
7	Ib	Current Unbalance B	0.000	%	12CH, 12DH
8	Ic	Current Unbalance C	0.510	%	12EH, 12FH
9	Itot	Current Unbalance Worst	0.510	%	130H, 131H

## 3.4 Power Factor

The page displays power factor and displacement power factor per phase and in total.

- Click “Power Factor” in the project tree on the left side to enter the page (see below).



**DPM-C530A**

**Power Factor**

Index	Name	Description	Value	Unit	Register
1	PFtot	Power Factor Total	-0.656		132H, 133H
2	PFa	Power Factor A	NaN		134H, 135H
3	PFb	Power Factor B	NaN		136H, 137H
4	PFc	Power Factor C	NaN		138H, 139H
5	DPFtot	Displacement Power Factor Total	-1.000		13AH, 13BH
6	DPFa	Displacement Power Factor A	NaN		13CH, 13DH
7	DPFb	Displacement Power Factor B	NaN		13EH, 13FH
8	DPFc	Displacement Power Factor C	NaN		140H, 141H
9	Freq	Frequency	59.941	Hz	142H, 143H

## 3.5 Power

The page displays the active power, reactive power per phase and apparent power per phase and in total.

- Click “Power” in the project tree on the left side to enter the page (see below).

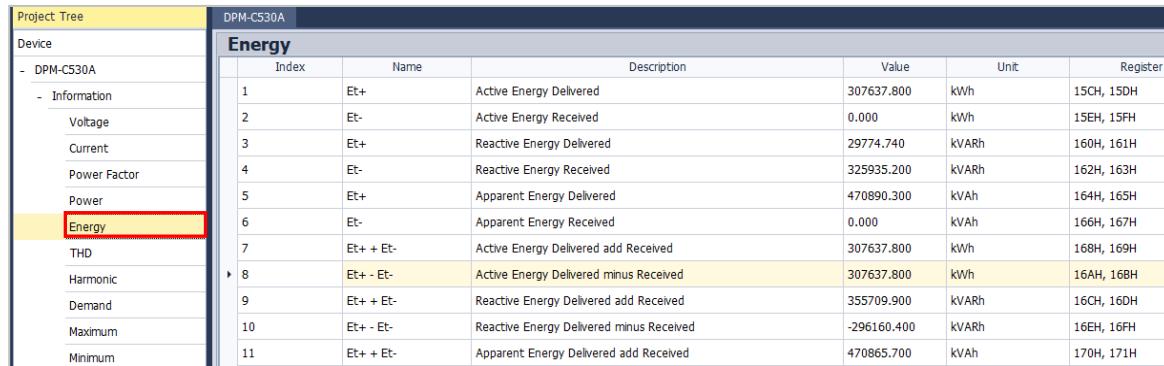


DPM-C530A						
Power						
Index	Name	Description	Value	Unit	Register	
1	Pt	Active Power Total	1621.457	kW	144H, 145H	
2	Pa	Active Power A	NaN	kW	146H, 147H	
3	Pb	Active Power B	NaN	kW	148H, 149H	
4	Pc	Active Power C	NaN	kW	14AH, 14BH	
5	Qt	Reactive Power Total	-1881.531	kVAR	14CH, 14DH	
6	Qa	Reactive Power A	NaN	kVAR	14EH, 14FH	
7	Qb	Reactive Power B	NaN	kVAR	150H, 151H	
8	Qc	Reactive Power C	NaN	kVAR	152H, 153H	
9	St	Apparent Power Total	2480.091	kVA	154H, 155H	
10	Sa	Apparent Power A	NaN	kVA	156H, 157H	
11	Sb	Apparent Power B	NaN	kVA	158H, 159H	
12	Sc	Apparent Power C	NaN	kVA	15AH, 15BH	

## 3.6 Energy

The page displays active, reactive and apparent energy delivered or received, automated energy recording as well as fundamental wave active power.

- Click “Energy” in the project tree on the left side to enter the page (see below).

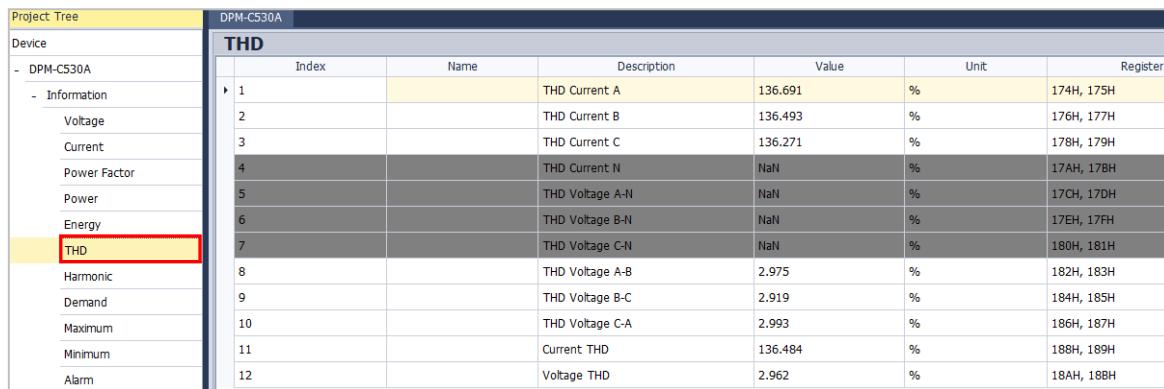


DPM-C530A						
Energy						
Index	Name	Description	Value	Unit	Register	
1	Et+	Active Energy Delivered	307637.800	kWh	15CH, 15DH	
2	Et-	Active Energy Received	0.000	kWh	15EH, 15FH	
3	Et+	Reactive Energy Delivered	29774.740	kVArh	160H, 161H	
4	Et-	Reactive Energy Received	325935.200	kVArh	162H, 163H	
5	Et+	Apparent Energy Delivered	470890.300	kVAh	164H, 165H	
6	Et-	Apparent Energy Received	0.000	kVAh	166H, 167H	
7	Et+ + Et-	Active Energy Delivered add Received	307637.800	kWh	168H, 169H	
8	Et+ - Et-	Active Energy Delivered minus Received	307637.800	kWh	16AH, 16BH	
9	Et+ + Et-	Reactive Energy Delivered add Received	355709.900	kVArh	16CH, 16DH	
10	Et+ - Et-	Reactive Energy Delivered minus Received	-296160.400	kVArh	16EH, 16FH	
11	Et+ + Et-	Apparent Energy Delivered add Received	470865.700	kVAh	170H, 171H	

## 3.7 Total Harmonic Distortion (THD)

The page displays voltage THD and current THD in total as well as in per phase.

- Click “THD” in the project tree on the left side to enter the page (see below).

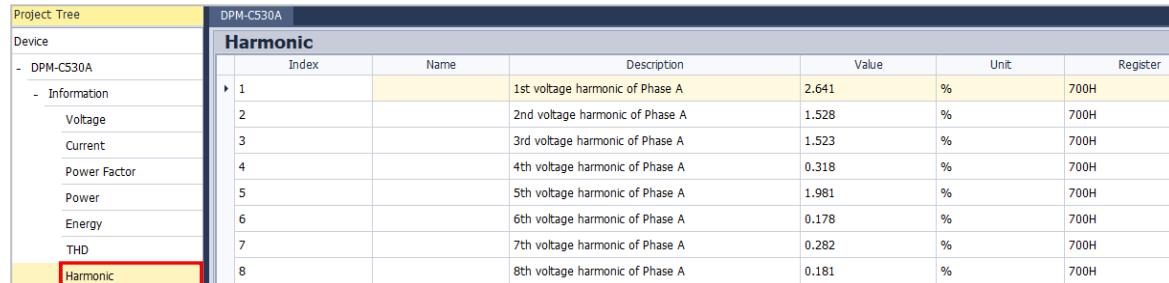


DPM-C530A						
THD						
Index	Name	Description	Value	Unit	Register	
1	THD Current A	THD Current A	136.691	%	174H, 175H	
2		THD Current B	136.493	%	176H, 177H	
3		THD Current C	136.271	%	178H, 179H	
4		THD Current N	NaN	%	17AH, 17BH	
5		THD Voltage A-N	NaN	%	17CH, 17DH	
6		THD Voltage B-N	NaN	%	17EH, 17FH	
7		THD Voltage C-N	NaN	%	180H, 181H	
8		THD Voltage A-B	2.975	%	182H, 183H	
9		THD Voltage B-C	2.919	%	184H, 185H	
10		THD Voltage C-A	2.993	%	186H, 187H	
11		Current THD	136.484	%	188H, 189H	
12		Voltage THD	2.962	%	18AH, 18BH	

## 3.8 Harmonic

The page displays voltage and current harmonic distortion of each phase from 1<sup>st</sup> to 31<sup>st</sup>.

- Click “Harmonic” in the project tree on the left side to enter the page (see below).

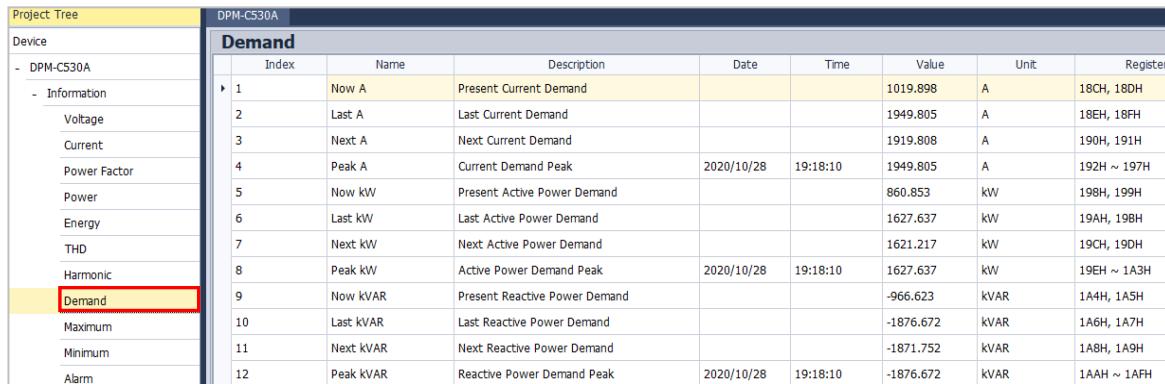


Index	Name	Description	Value	Unit	Register
1		1st voltage harmonic of Phase A	2.641	%	700H
2		2nd voltage harmonic of Phase A	1.528	%	700H
3		3rd voltage harmonic of Phase A	1.523	%	700H
4		4th voltage harmonic of Phase A	0.318	%	700H
5		5th voltage harmonic of Phase A	1.981	%	700H
6		6th voltage harmonic of Phase A	0.178	%	700H
7		7th voltage harmonic of Phase A	0.282	%	700H
8		8th voltage harmonic of Phase A	0.181	%	700H

## 3.9 Demand

The page displays the present, last and next demand value. The list also shows the peak value and its occurring date and time.

- Click “Demand” in the project tree on the left side to enter the page (see below).

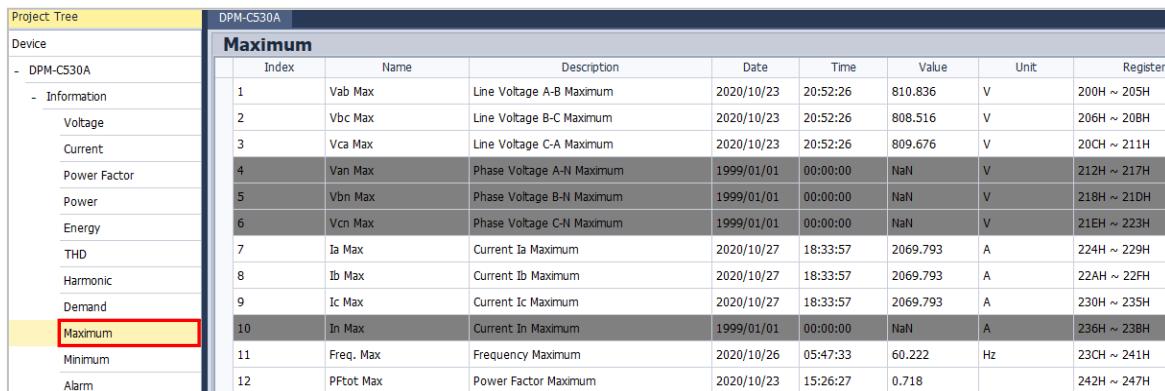


Index	Name	Description	Date	Time	Value	Unit	Register
1	Now A	Present Current Demand			1019.898	A	18CH, 18DH
2	Last A	Last Current Demand			1949.805	A	18EH, 18FH
3	Next A	Next Current Demand			1919.808	A	190H, 191H
4	Peak A	Current Demand Peak	2020/10/28	19:18:10	1949.805	A	192H ~ 197H
5	Now kW	Present Active Power Demand			860.853	kW	198H, 199H
6	Last kW	Last Active Power Demand			1627.637	kW	19AH, 19BH
7	Next kW	Next Active Power Demand			1621.217	kW	19CH, 19DH
8	Peak kW	Active Power Demand Peak	2020/10/28	19:18:10	1627.637	kW	19EH ~ 1A3H
9	Now kVAR	Present Reactive Power Demand			-966.623	kVAR	1A4H, 1A5H
10	Last kVAR	Last Reactive Power Demand			-1876.672	kVAR	1A6H, 1A7H
11	Next kVAR	Next Reactive Power Demand			-1871.752	kVAR	1A8H, 1A9H
12	Peak kVAR	Reactive Power Demand Peak	2020/10/28	19:18:10	-1876.672	kVAR	1AAH ~ 1AFH

## 3.10 Maximum

The page displays the maximum values, date and time of parameters.

- Click “Maximum” in the project tree on the left side to enter the page (see below).

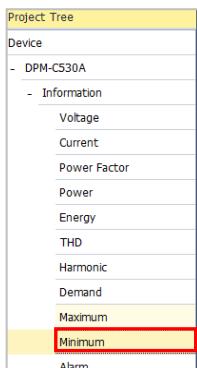


Index	Name	Description	Date	Time	Value	Unit	Register
1	Vab Max	Line Voltage A-B Maximum	2020/10/23	20:52:26	810.836	V	200H ~ 205H
2	Vbc Max	Line Voltage B-C Maximum	2020/10/23	20:52:26	808.516	V	206H ~ 208H
3	Vca Max	Line Voltage C-A Maximum	2020/10/23	20:52:26	809.676	V	20CH ~ 211H
4	Van Max	Phase Voltage A-N Maximum	1999/01/01	00:00:00	NaN	V	212H ~ 217H
5	Vbn Max	Phase Voltage B-N Maximum	1999/01/01	00:00:00	NaN	V	218H ~ 21DH
6	Vcn Max	Phase Voltage C-N Maximum	1999/01/01	00:00:00	NaN	V	21EH ~ 223H
7	Ia Max	Current Ia Maximum	2020/10/27	18:33:57	2069.793	A	224H ~ 229H
8	Ib Max	Current Ib Maximum	2020/10/27	18:33:57	2069.793	A	22AH ~ 22FH
9	Ic Max	Current Ic Maximum	2020/10/27	18:33:57	2069.793	A	230H ~ 235H
10	In Max	Current In Maximum	1999/01/01	00:00:00	NaN	A	236H ~ 239H
11	Freq. Max	Frequency Maximum	2020/10/26	05:47:33	60.222	Hz	23CH ~ 241H
12	Pftot Max	Power Factor Maximum	2020/10/23	15:26:27	0.718		242H ~ 247H

## 3.11 Minimum

The page displays the minimum values, date and time of parameters.

- Click “Minimum” in the project tree on the left side to enter the page (see below).



DPM-C530A

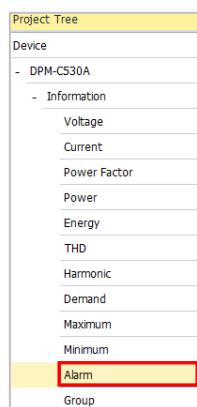
**Minimum**

Index	Name	Description	Date	Time	Value	Unit	Register
1	Vab Min	Line Voltage A-B Minimum	2020/10/28	10:24:53	773.334	V	300H ~ 305H
2	Vbc Min	Line Voltage B-C Minimum	2020/10/28	10:24:53	770.666	V	306H ~ 30BH
3	Vca Min	Line Voltage C-A Minimum	2020/10/28	10:24:53	771.774	V	30CH ~ 311H
4	Van Min	Phase Voltage A-N Minimum	1999/01/01	00:00:00	NaN	V	312H ~ 317H
5	Vbn Min	Phase Voltage B-N Minimum	1999/01/01	00:00:00	NaN	V	318H ~ 31DH
6	Vcn Min	Phase Voltage C-N Minimum	1999/01/01	00:00:00	NaN	V	31EH ~ 323H
7	Ia Min	Current Ia Minimum	2020/10/27	09:17:21	1589.841	A	324H ~ 329H
8	Ib Min	Current Ib Minimum	2020/10/27	09:17:19	1589.841	A	32AH ~ 32FH
9	Ic Min	Current Ic Minimum	2020/10/27	09:17:19	1589.841	A	330H ~ 335H
10	In Min	Current In Minimum	1999/01/01	00:00:00	NaN	A	336H ~ 33BH
11	Freq. Min	Frequency Minimum	2020/10/24	07:56:25	59.801	Hz	33CH ~ 341H
12	Pftot Min	Power Factor Minimum	2020/10/24	08:49:26	0.620		342H ~ 347H

## 3.12 Alarm

The page displays the current alarm status, the number of alarm events as well as time and date. If the alarm is deactivated, the page background color is green; however, if the alarm is activated, the background color turns red.

- Click “Alarm” in the project tree on the left side to enter the page (see below).



DPM-C530A

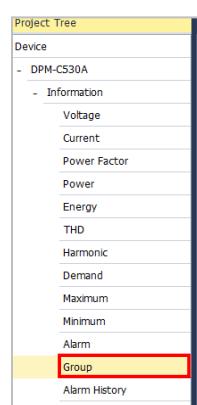
**Alarm**

Index	Name	Description	Date	Time	Value	Unit	Register
1		Over Current Alarm Status	2020/10/27	09:35:20	2		400H ~ 405H
2		Under Current Alarm Status	1999/01/01	00:00:00	0		406H ~ 408H
3		Over Neutral Current Alarm Status	1999/01/01	00:00:00	0		40CH ~ 411H
4		Over Line Voltage Alarm Status	1999/01/01	00:00:00	0		412H ~ 417H
5		Under Line Voltage Alarm Status	1999/01/01	00:00:00	0		418H ~ 41DH
6		Over Phase Voltage Alarm Status	1999/01/01	00:00:00	0		41EH ~ 423H
7		Under Phase Voltage Alarm Status	1999/01/01	00:00:00	0		424H ~ 429H
8		Over Volt Unbalance Alarm Status	1999/01/01	00:00:00	0		42AH ~ 42FH
9		Over Amp Unbalance Alarm Status	1999/01/01	00:00:00	0		430H ~ 435H
10		Over Active Power Alarm Status	1999/01/01	00:00:00	0		436H ~ 43BH
11		Over Reactive Power Alarm Status	1999/01/01	00:00:00	0		43CH ~ 441H
12		Over Apparent Power Alarm Status	1999/01/01	00:00:00	0		442H ~ 447H
13		Lead PF Alarm Status	1999/01/01	00:00:00	0		448H ~ 44DH

## 3.13 Group

The page displays the mapping value regarding the group parameter setting.

- Click “Group” in the project tree on the left side to enter the page (see below).



DPM-C530A

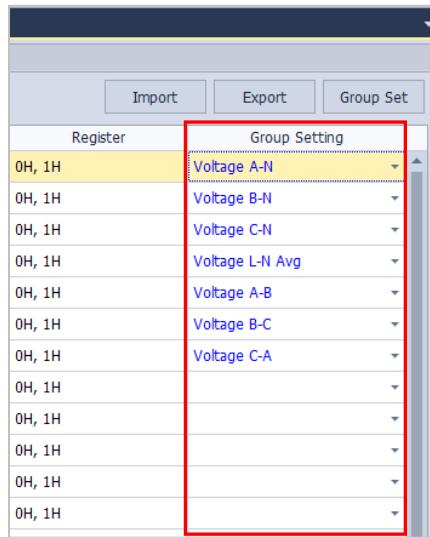
**Group**

Index	Name	Description	Value	Unit	Register	Group Setting
1	Van	Voltage A-N	NaN	V	100H, 101H	Voltage A-N
2	Vab	Voltage A-B	802.375	V	108H, 109H	Voltage A-B
3	Vtot	Voltage Unbalance L-L Worst	0.140	%	11EH, 11FH	Voltage Unbalance L-L Worst
4	Et+ - Et-	Active Energy Delivered minus Received	308119.500	kWh	16AH, 16BH	Active Energy Delivered minus Received
5	Et-	Apparent Energy Received	0.000	kVAh	16DH, 167H	Apparent Energy Received
6		Current THD	138.697	%	189H, 189H	Current THD
7		Voltage THD	2.863	%	18AH, 18BH	Voltage THD
8	Vab	Voltage Unbalance A-B	0.140	%	118H, 119H	Voltage Unbalance A-B
9	Vbc	Voltage Unbalance B-C	0.140	%	11AH, 11BH	Voltage Unbalance B-C
10	Vca	Voltage Unbalance C-A	0.000	%	11CH, 11DH	Voltage Unbalance C-A
11	Pfb	Power Factor B	NaN		136H, 137H	Power Factor B
12	Pfc	Power Factor C	NaN		138H, 139H	Power Factor C
13	DPftot	Displacement Power Factor Total	-1.000		13AH, 13BH	Displacement Power Factor Total

The Group page contains three useful buttons including “Group Set”, “Import” and “Export” with the following explanations.

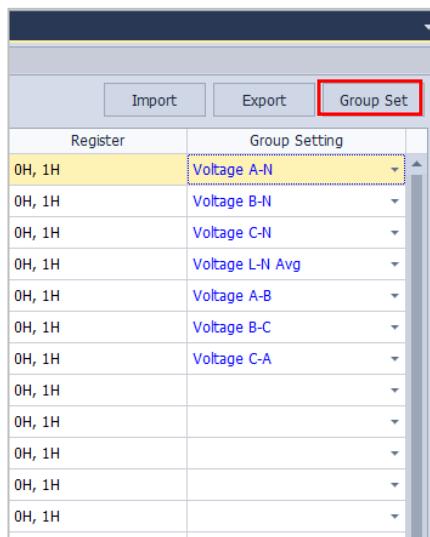
- **Group Set:** The button displays the parameter data for setup through the following steps:

- (1) First, select the parameters displayed on the page.



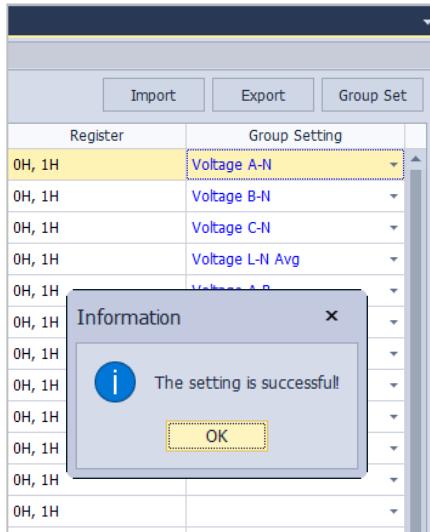
Register	Group Setting
0H, 1H	Voltage A-N
0H, 1H	Voltage B-N
0H, 1H	Voltage C-N
0H, 1H	Voltage L-N Avg
0H, 1H	Voltage A-B
0H, 1H	Voltage B-C
0H, 1H	Voltage C-A
0H, 1H	

- (2) Click “Group Set” to start the process after selecting the parameters.



Register	Group Setting
0H, 1H	Voltage A-N
0H, 1H	Voltage B-N
0H, 1H	Voltage C-N
0H, 1H	Voltage L-N Avg
0H, 1H	Voltage A-B
0H, 1H	Voltage B-C
0H, 1H	Voltage C-A
0H, 1H	

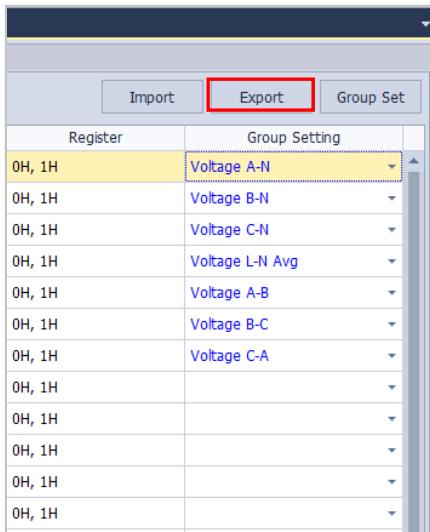
- (3) When the setup is complete, a pop-up window will appear to show the setting is successful, click OK to view the selected parameter data on the page.



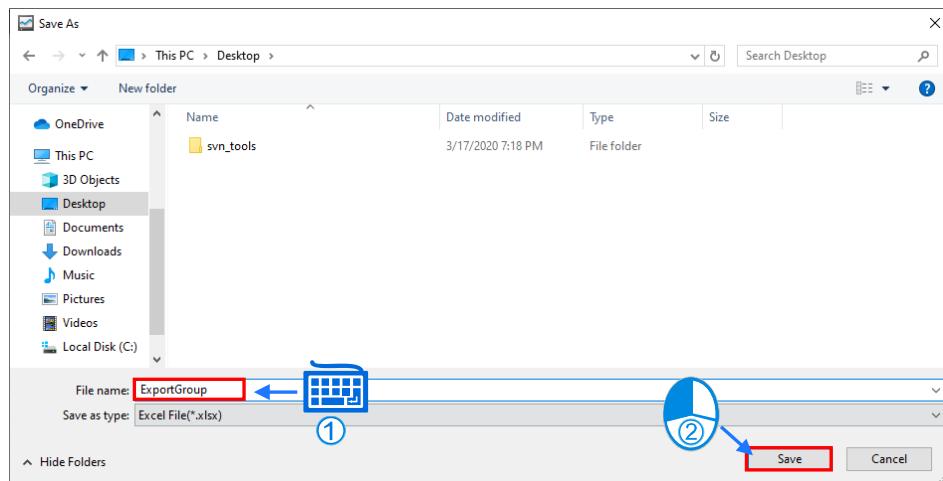
Group							Import	Export	Group Set
Index	Name	Description	Value	Unit	Register	Group Setting			
1	Van	Voltage A-N	119.503	V	100H, 101H	Voltage A-N			
2	Vbn	Voltage B-N	119.423	V	102H, 103H	Voltage B-N			
3	Vcn	Voltage C-N	119.423	V	104H, 105H	Voltage C-N			
4	Vavg	Voltage L-N Avg	119.450	V	106H, 107H	Voltage L-N Avg			
5	Vab	Voltage A-B	206.806	V	108H, 109H	Voltage A-B			
6	Vbc	Voltage B-C	206.659	V	10AH, 10BH	Voltage B-C			
7	Vca	Voltage C-A	206.664	V	10CH, 10DH	Voltage C-A			

- **Export:** The button exports large number of parameters through the following steps.

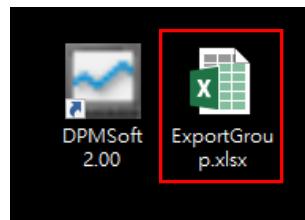
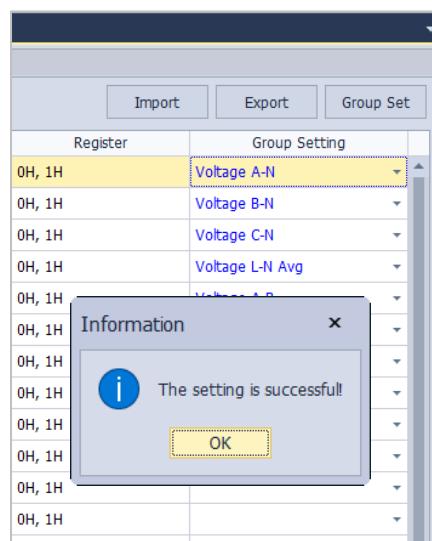
- (1) Select the parameters and click 'Export' button.



- (2) After clicking the 'Export' button, a pop-up window for file saving appears. Users need to choose the appropriate directory and click 'Save' to start the process.



- (3) A pop-up window appears when the group data export is a success. Click OK and the export file can be viewed from the desktop.



- (4) Open the ExportGroup.xls from the desktop (see below).

	A	B	C	D	E	F	G
1	Group index	Parameter				Parameter	Code
2	1	1				Voltage A-N	0
3	2	2				Voltage B-N	1
4	3	3				Voltage C-N	2
5	4	4				Voltage L-N Avg	3
6	5	5				Voltage A-B	4
7	6	6				Voltage B-C	5
8	7	7				Voltage C-A	6
9	8	0				Voltage L-L Avg	7
10	9	0				Voltage Unbalance A-N	8
11	10	0				Voltage Unbalance B-N	9
12	11	0				Voltage Unbalance C-N	10
13	12	0				Voltage Unbalance L-N Worst	11
14	13	0				Voltage Unbalance A-B	12
15	14	0				Voltage Unbalance A-B	13

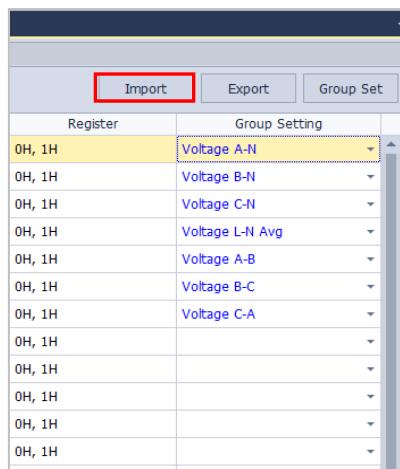
Description on exporting files: Below, the blue frame on the left are the group parameters for import, while the green frame on the right provides parameter codes for reference.

	A	B	C	D	E	F	G
1	Group index	Parameter				Parameter	Code
2	1	1				Voltage A-N	0
3	2	2				Voltage B-N	1
4	3	3				Voltage C-N	2
5	4	4				Voltage L-N Avg	3
6	5	5				Voltage A-B	4
7	6	6				Voltage B-C	5
8	7	7				Voltage C-A	6
9	8	0				Voltage L-L Avg	7
10	9	0				Voltage Unbalance A-N	8
11	10	0				Voltage Unbalance B-N	9
12	11	0				Voltage Unbalance C-N	10
13	12	0				Voltage Unbalance L-N Worst	11
14	13	0				Voltage Unbalance A-B	12
15	14	0				Voltage Unbalance A-B	13

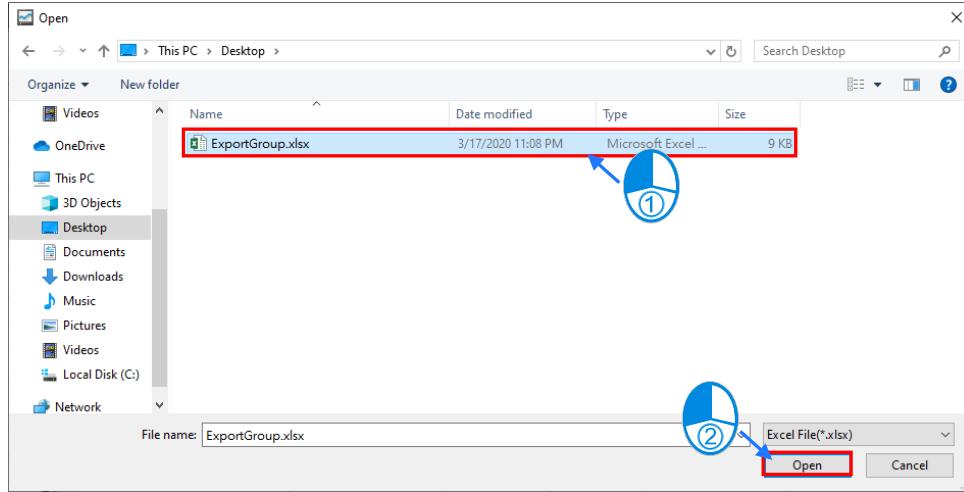
Please refer to user manual of each model for details on Parameter Code List.

- **Import:** The button imports excel files and large number of parameters through the following steps.

- (1) Click 'Import' and a pop-up window will appear for users to choose and open the selected file.



- (2) The import process for the selected excel file starts and a diagram showing the current import progress will appear.



- (3) A pop-up window would appear when the group parameter is successfully imported. Click OK and the selected parameter data can be viewed from the desktop.

## 3.14 Alarm History

The page displays the alarm history which the alarm data can be exported using a CSV file.

- Click “Alarm History” in the project tree on the left side to enter the page (see below).

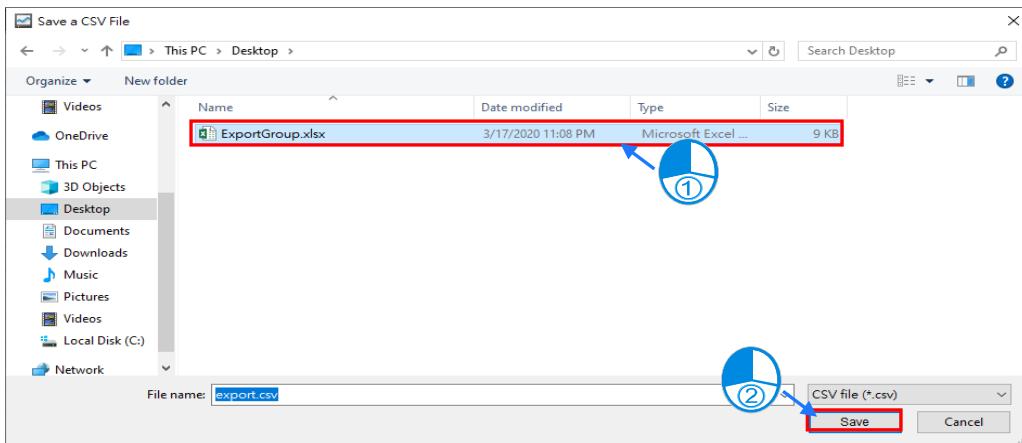
Project Tree		DPM-C530A					
Device		Alarm History					
		Index	Type	Count	Date	Time	Register
-	DPM-C530A	1	Over Frequency	1	2020/04/10	11:06:09	B700H, B8F4H ~ B8F7H
-	Information	2	Over Frequency	2	2020/04/10	16:10:41	B701H, B8F8H ~ B8FBH
	Voltage	3	Over Frequency	3	2020/04/28	14:34:55	B702H, B8FCH ~ B8FFH
	Current	4	Over Frequency	4	2020/05/14	11:13:22	B703H, B900H ~ B903H
	Power Factor	5	Over Frequency	5	2020/05/15	17:36:31	B704H, B904H ~ B907H
	Power	6	Over Frequency	6	2020/07/20	09:16:27	B705H, B908H ~ B90BH
	Energy	7	Over Frequency	7	2020/07/20	11:57:59	B706H, B90CH ~ B90FH
	THD	8	Over Frequency	8	2020/07/21	11:16:14	B707H, B910H ~ B913H
	Harmonic	9	Over Frequency	9	2020/07/23	17:06:20	B708H, B914H ~ B917H
	Demand	10	Over Frequency	10	2020/07/27	11:21:50	B709H, B918H ~ B91BH
	Maximum	11	Over Current	1	2000/10/23	12:14:47	B70AH, B91CH ~ B91FH
	Minimum	12	Over Current	2	2020/10/27	09:35:20	B70BH, B920H ~ B923H
	Alarm	13					B70CH, B924H ~ B927H
	Group	14					B70DH, B928H ~ B92BH

**Export:** Export all the alarm log data by following the steps below.

- (1) Click the export button.

The screenshot shows the DPMSoft software interface with the title bar "DPM-C530A". On the left is a "Project Tree" sidebar with a tree view of the device structure. The main area is titled "Alarm History" and contains a table with 13 rows of data. The columns are labeled: Index, Type, Count, Date, Time, and a timestamp column. The "Type" column shows values like "Over Frequency" and "Over Current". The "Count" column shows values from 1 to 10. The "Time" column shows timestamps such as "B700H, B8F4H ~ B8F7H" and "B70BH, B920H ~ B923H". A red box highlights the "Export" button in the top right corner of the grid. A blue circle with the number 3 is located to the left of the window.

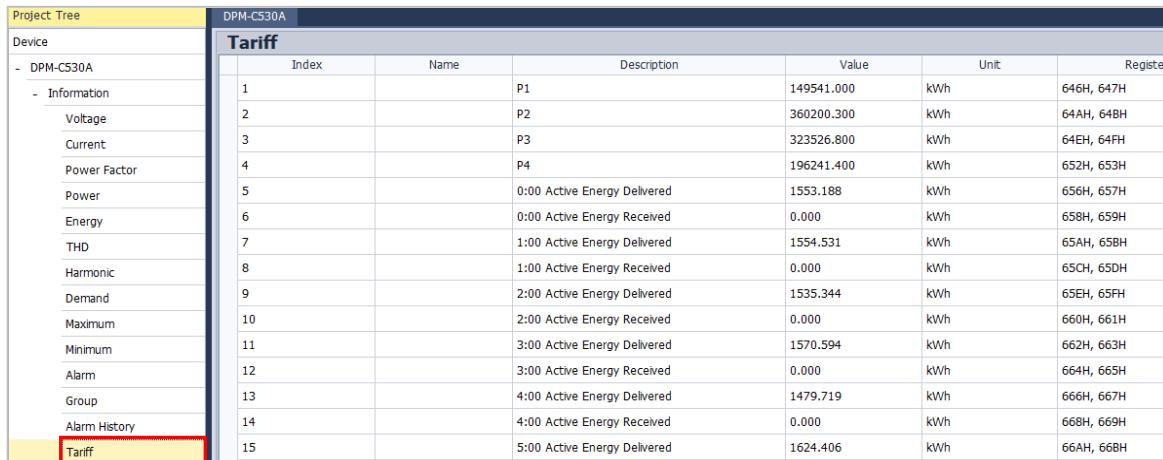
- (2) A pop-up window for saving the export file would be displayed. Click save after choosing a path to save the exported file, then the data export would be completed.



## 3.15 Tariff

The page displays the tariff point (P1), peak (P2), plateau (P3), valley (P4) for power usage as well on hourly basis daily.

- Click “Tariff” in the project tree on the left side to enter the page (see below).



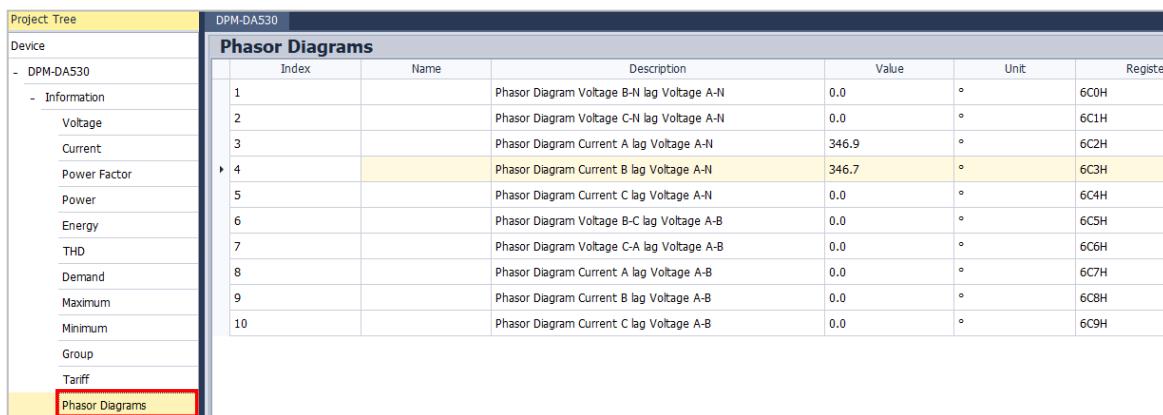
The screenshot shows the DPM-C530A software interface. On the left, the Project Tree lists various device categories. Under the 'Device' category, 'DPM-C530A' is expanded, showing sub-options like 'Information', 'Voltage', 'Current', etc., with 'Tariff' highlighted by a red box. The main panel displays a table titled 'Tariff' with columns for Index, Name, Description, Value, Unit, and Register. The table contains 15 rows of data, each representing an active energy measurement at different times of the day.

Index	Name	Description	Value	Unit	Register
1	P1	149541.000	kWh	646H, 647H	
2	P2	360200.300	kWh	64AH, 64BH	
3	P3	323526.800	kWh	64EH, 64FH	
4	P4	196241.400	kWh	652H, 653H	
5		0:00 Active Energy Delivered	1553.188	kWh	656H, 657H
6		0:00 Active Energy Received	0.000	kWh	658H, 659H
7		1:00 Active Energy Delivered	1554.531	kWh	65AH, 65BH
8		1:00 Active Energy Received	0.000	kWh	65CH, 65DH
9		2:00 Active Energy Delivered	1535.344	kWh	65EH, 65FH
10		2:00 Active Energy Received	0.000	kWh	660H, 661H
11		3:00 Active Energy Delivered	1570.594	kWh	662H, 663H
12		3:00 Active Energy Received	0.000	kWh	664H, 665H
13		4:00 Active Energy Delivered	1479.719	kWh	666H, 667H
14		4:00 Active Energy Received	0.000	kWh	668H, 669H
15		5:00 Active Energy Delivered	1624.406	kWh	66AH, 66BH

## 3.16 Phasor Diagram

This page displays phasor difference between the applied voltages.

To enter the page, click “Phasor Diagram” in the project tree on the left hand side of the page as shown in the following figure.

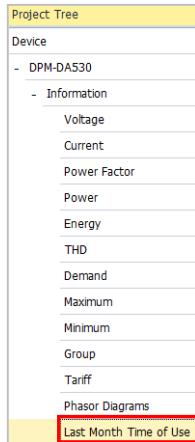


The screenshot shows the DPM-DA530 software interface. On the left, the Project Tree lists various device categories. Under the 'Device' category, 'DPM-DA530' is expanded, showing sub-options like 'Information', 'Voltage', 'Current', etc., with 'Phasor Diagrams' highlighted by a red box. The main panel displays a table titled 'Phasor Diagrams' with columns for Index, Name, Description, Value, Unit, and Register. The table contains 10 rows of data, each representing a specific phasor diagram measurement.

Index	Name	Description	Value	Unit	Register
1		Phasor Diagram Voltage B-N lag Voltage A-N	0.0	°	6C0H
2		Phasor Diagram Voltage C-N lag Voltage A-N	0.0	°	6C1H
3		Phasor Diagram Current A lag Voltage A-N	346.9	°	6C2H
4		Phasor Diagram Current B lag Voltage A-N	346.7	°	6C3H
5		Phasor Diagram Current C lag Voltage A-N	0.0	°	6C4H
6		Phasor Diagram Voltage B-C lag Voltage A-B	0.0	°	6C5H
7		Phasor Diagram Voltage C-A lag Voltage A-B	0.0	°	6C6H
8		Phasor Diagram Current A lag Voltage A-B	0.0	°	6C7H
9		Phasor Diagram Current B lag Voltage A-B	0.0	°	6C8H
10		Phasor Diagram Current C lag Voltage A-B	0.0	°	6C9H

### 3.17 Last Month TOU

This page displays values concerning time of use in last month, please refer to DA530 user manual for more configuration details. To enter the page, click “Last Month Time of Use” in the project tree on the left-hand side of the page as shown in the following figure.



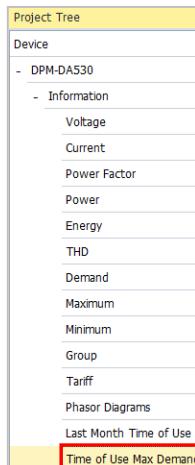
DPM-DA530

Last Month Time of Use						
	Index	Name	Description	Value	Unit	Register
	1		Active Energy Delivered(P1)	0.000	kWh	900H, 901H
	2		Active Energy Received(P1)	0.000	kWh	902H, 903H
	3		Reactive Energy Delivered(P1)	0.000	kVArh	904H, 905H
	4		Reactive Energy Received(P1)	0.000	kVArh	906H, 907H
	5		Apparent Energy Delivered(P1)	0.000	kVAh	908H, 909H
	6		Active Energy Delivered(P2)	0.000	kWh	90AH, 90BH
	7		Active Energy Received(P2)	0.000	kWh	90CH, 90DH
	8		Reactive Energy Delivered(P2)	0.000	kVArh	90EH, 90FH
	9		Reactive Energy Received(P2)	0.000	kVArh	910H, 911H
	10		Apparent Energy Delivered(P2)	0.000	kVAh	912H, 913H
	11		Active Energy Delivered(P4)	0.000	kWh	914H, 915H
	12		Active Energy Received(P4)	0.000	kWh	916H, 917H
	13		Reactive Energy Delivered(P4)	0.000	kVArh	918H, 919H
	14		Reactive Energy Received(P4)	0.000	kVArh	91AH, 91BH

### 3.18 Time of Use Max Demand

This page displays values concerning time of use demands.

To enter the page, click “Time of Use Max Demand” in the project tree on the left hand side of the page as shown in the following figure.



DPM-DA530

Time of Use Max Demand						
	Index	Name	Description	Date	Time	Value
	1		Present Active Power Demand Maximum(P1)	2020/10/22	11:58:40	74691060.000 W
	2		Present Reactive Power Demand Maximum(P1)	2020/10/27	20:57:55	117556700.... VAR
	3		Present Apparent Power Demand Maximum(P1)	2020/10/27	20:57:55	138665900.... VA
	4		Current A Demand Maximum(P1)	2020/10/22	11:58:40	244.711 A
	5		Current B Demand Maximum(P1)	2020/10/22	11:58:40	244.333 A
	6		Current C Demand Maximum(P1)	2020/10/15	10:58:56	0.054 A
	7		Average Current Demand Maximum(P1)	2020/10/22	11:58:40	244.522 A
	8		Present Active Power Demand Maximum(P2)	2020/10/16	15:36:59	109497900.... W
	9		Present Reactive Power Demand Maximum(P2)	2020/10/16	16:03:59	163297000.... VAR
	10		Present Apparent Power Demand Maximum(P2)	2020/10/16	16:03:59	195952000.... VA
	11		Current A Demand Maximum(P2)	2020/10/16	16:03:59	231.615 A
	12		Current B Demand Maximum(P2)	2020/10/16	16:03:59	231.241 A
	13		Current C Demand Maximum(P2)	2020/10/16	16:03:59	231.434 A
	14		Average Current Demand Maximum(P2)	2020/10/16	16:03:59	231.430 A
	15		Present Active Power Demand Maximum(P4)	2020/10/18	17:58:59	64283630.000 W

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# Chapter 4 DPMSoft Settings

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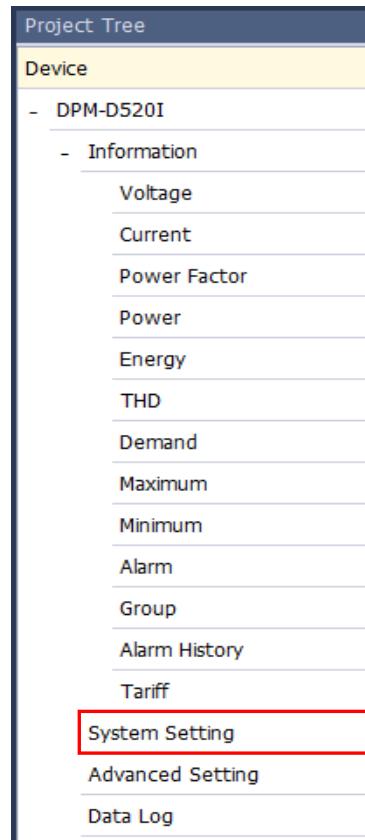
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DPMSoft contains options including System Setting, Advanced Setting and Data Log for power meter setup, which may differ from one model type to another. Please refer to the user manual of each product and the following explanations for more details.

## 4.1 System Setting

Click **System Setting** in the project tree on the left side of the page to start the configuration.



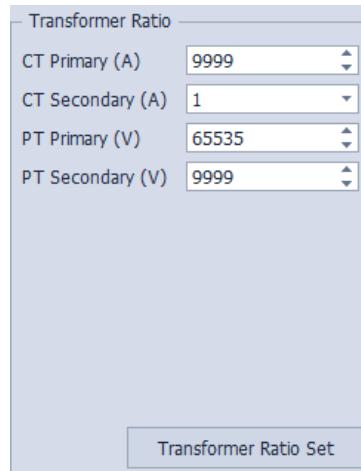
### 4.1.1 Meter Information

Displays including meter model name, firmware version, date and operation time.

– Meter Information	
Model Name	DPM-D520I
Firmware Version	1.0610
Firmware Date	2020/06/09
Meter Constant (Pluse/kWh)	3200
Operation Days	6439
Operation Time	04:06

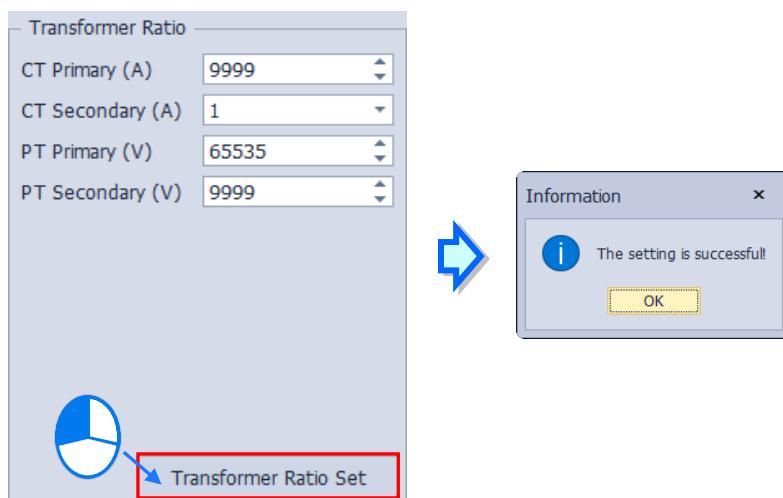
## 4.1.2 Transformer Ratio

Provides CT Primary, CT Secondary, PT Primary and PT Secondary setups.



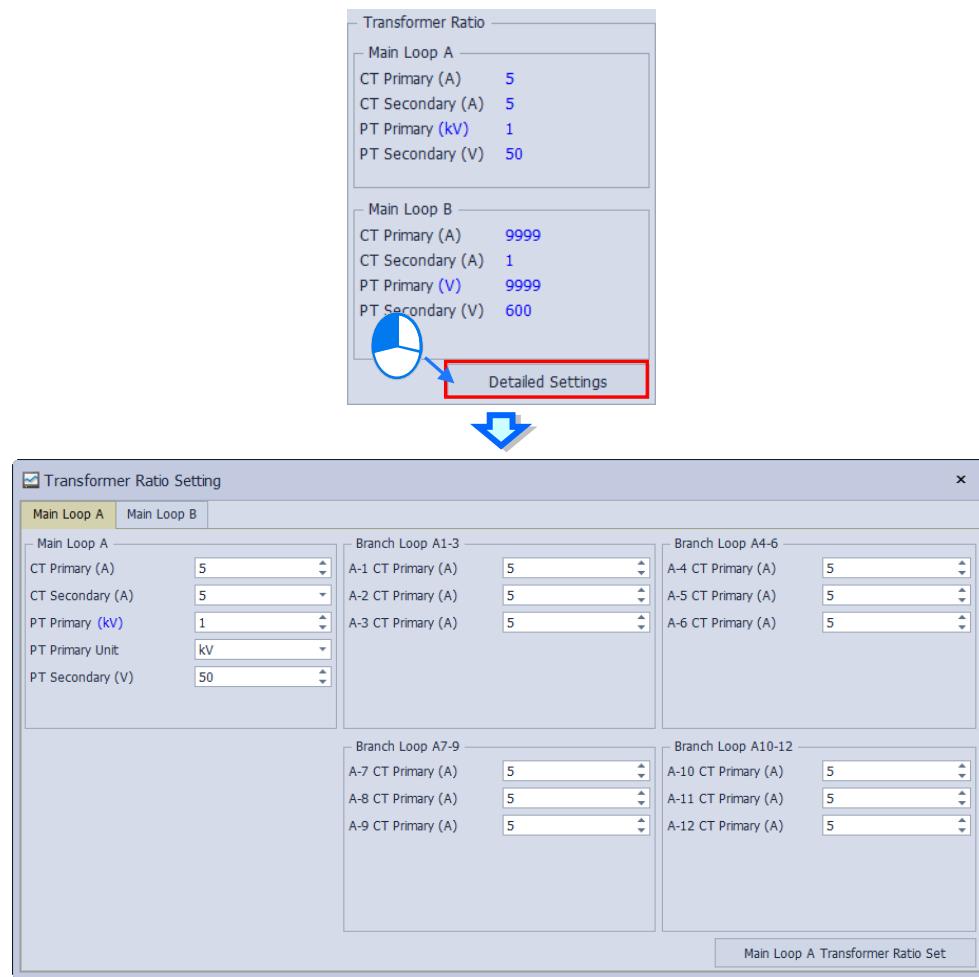
- CT Primary: Set the primary CT within the range of 1 to 9999 A.
- CT Secondary: Set the secondary CT within the available options of 1A, 5A and 2.5A.
- PT Primary: Set the primary PT within the range of 1 to 99999 V.
- PT Secondary: Set the secondary PT within the range of 1 ~ 9999 V.

Click **Transformer Ratio Set** when the setting is complete, and a pop-up window appears showing whether the setting is successful or not.

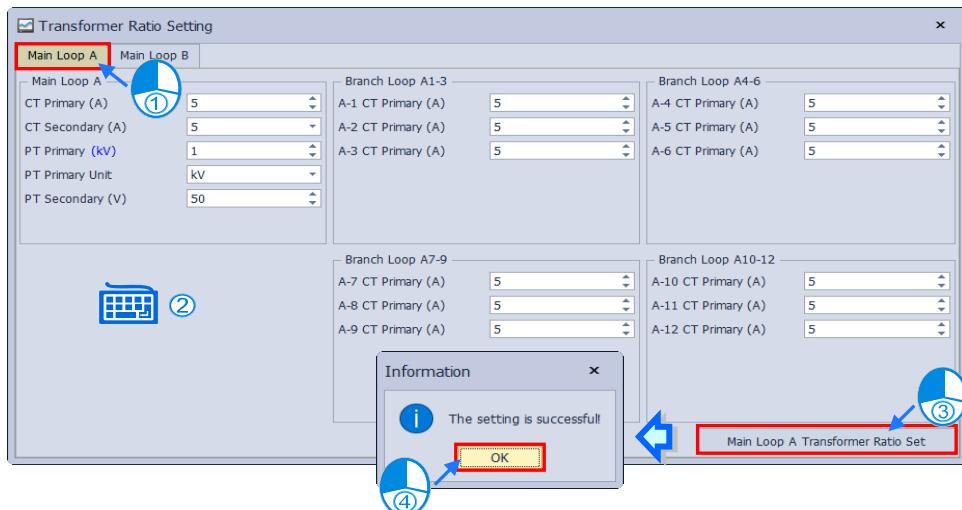


Via the setting window for multi-loop models, values of CT Primary, CT Secondary, PT Primary, PT Primary Unit and PT Secondary for the target main loop or branch loop can be configured.

Click **Detailed Settings** to pop up the transformer ratio setting window.

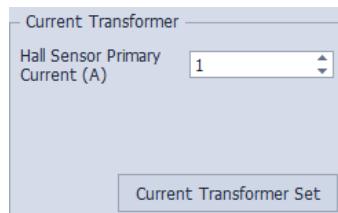


After selecting the target main loop, modify the relevant parameters of the main and branch loops, then click **Main Loop Transformer Ratio Set**. A pop-up window would appear showing whether the setting is successful or not.



### 4.1.3 Current Transformer

The setting range for CT primary current is from 1 to 9999 A with 50 A being the factory default setting.

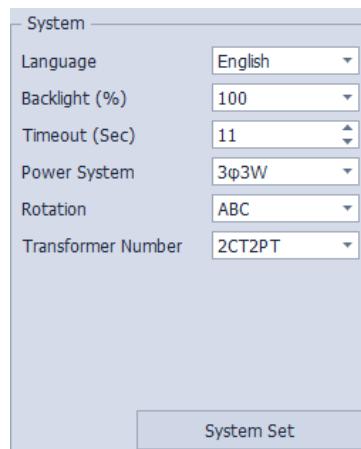


Click **Current Transformer Set** after finishing the primary current setting, then a pop-up window would appear showing whether the setting is successful or not.



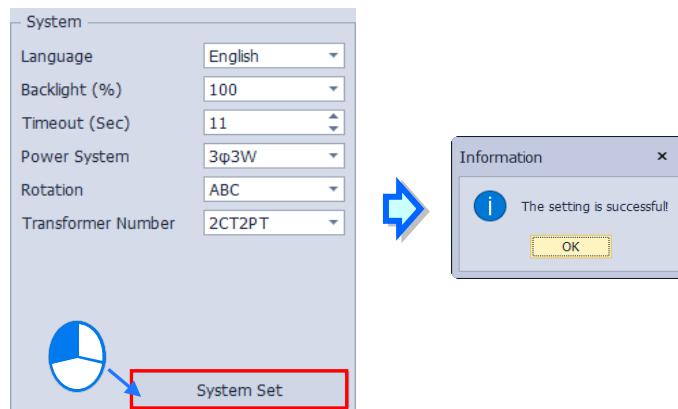
### 4.1.4 System

Please refer to the manual of each model for details on parameter settings of user interface and wiring.



- Language: The display language on the user interface of the power meter.
- Backlight: The brightness of the screen backlight.
- Timeout: When the user do not press the button on the power meter during the timeout, the brightness of the screen backlight is based on the previous percentage setup, but when the button is pressed, the brightness of the screen backlight is 100%.
- Power System: Power wiring.
- Rotation: When current A and C are incorrectly wired, set the rotation parameter and rewire is not necessary.
- Transformer Number: The number of CT & PT used in the system.

Click **System Set** when the setup is complete, and a pop-up window appears showing whether the setting is successful or not.

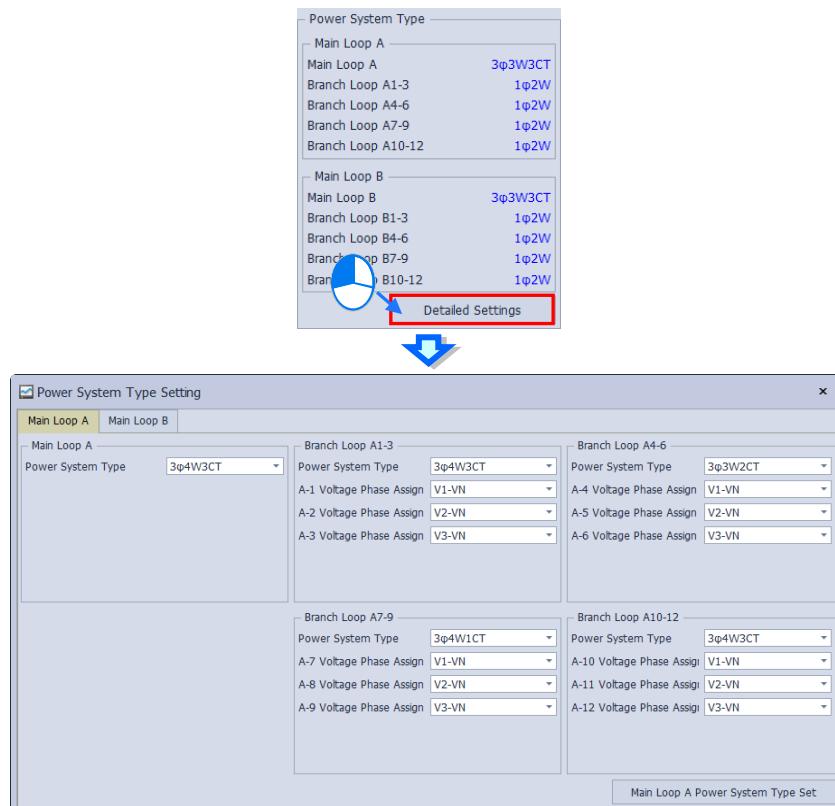


#### 4.1.5 Power System

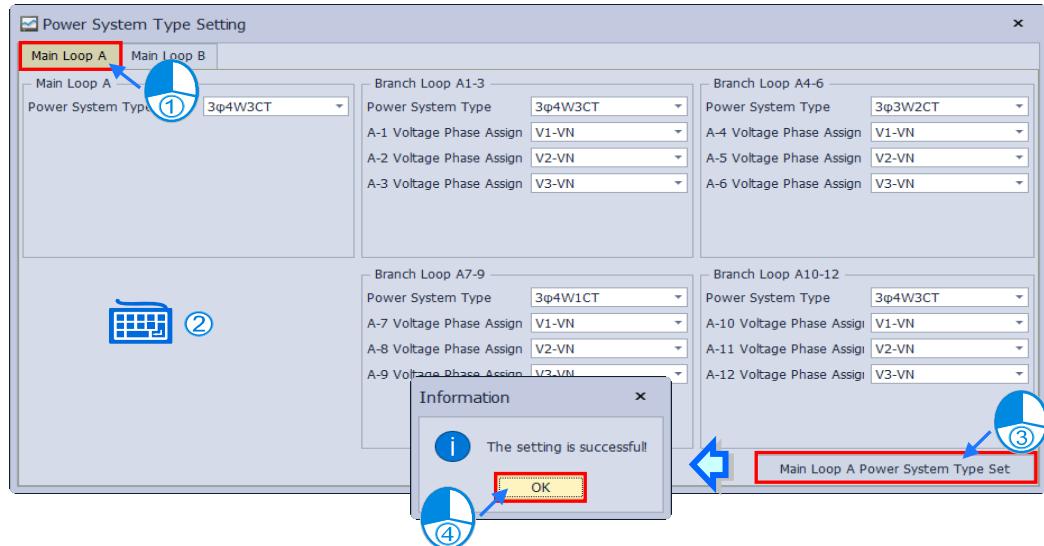
Configure parameters relevant to power system settings.

On the power system type setting window, select the desired power system type and assign voltage phases for main and branch loops.

Click **Detailed Settings** to pop up Power System Type Setting window.

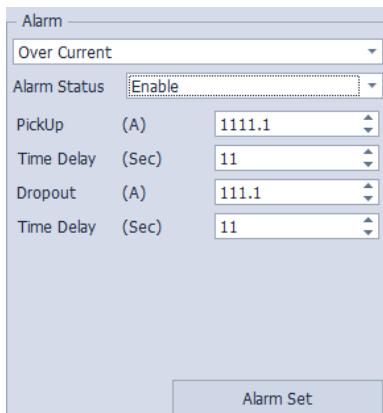


After completing the settings, click **Main Loop Power System Type Set**. A pop-up window would appear showing whether the setting is successful or not.



#### 4.1.6 Alarm

Setup the alarm parameters for the power meter.



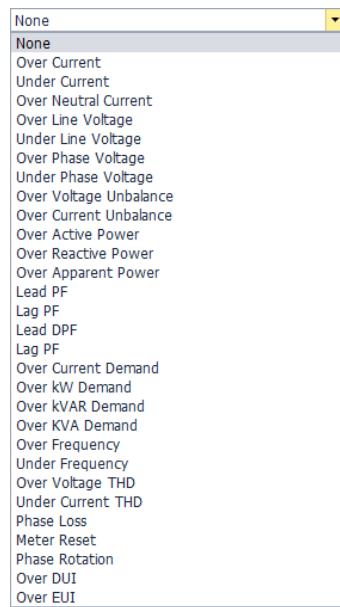
- Dropdown Menu: Select a required alarm from 29 alarm types.
- Alarm Status: Set the alarm status.
- Pickup: When higher than the pickup current, the alarm is enabled
- Time Delay: When higher than the pickup current and exceeds the time delay, the alarm is enabled.
- Dropout: When lower than the drop-out current, the alarm is disabled.
- Time Delay: When lower than the drop-out current and exceeds the time delay, the alarm is disabled.

**\*Note:**

- a.) Alarm Status: Options of **Enable for Relay 1 Output**, **Enable for Relay 2 Output** and **Enable for Relay 1 and 2 Output** are only supported by version v1.0010 or later in DPM-C501 model and DPM-C532. Set proper parameters in DIDO setting (please refer to section 4.1.13) and relay would output relevant signals when the triggering condition is reached.

**Steps to setting the alarm:**

- (1) Select an alarm type.



- (2) Set Alarm Status to **Enable**.

Over Current	
Alarm Status	Enable
PickUp (A)	1111.1
Time Delay (Sec)	11
Dropout (A)	111.1
Time Delay (Sec)	11

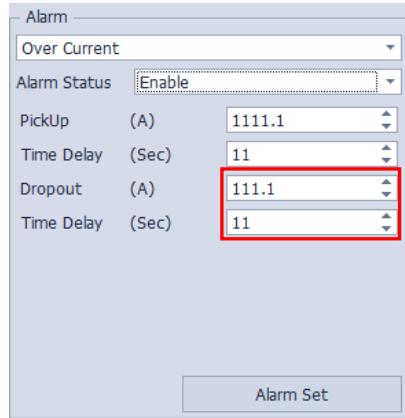
Alarm Set

- (3) Define the values of Pickup and Time Delay.

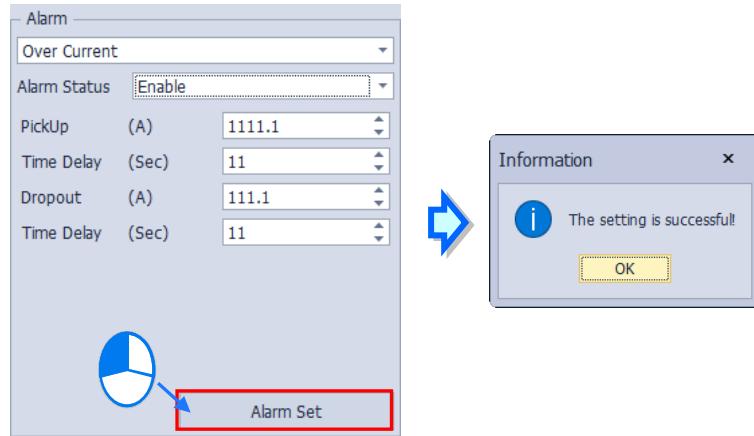
Over Current	
Alarm Status	Enable
PickUp (A)	1111.1
Time Delay (Sec)	11
Dropout (A)	111.1
Time Delay (Sec)	11

Alarm Set

(4) Define the values of Drop-out and Time Delay.



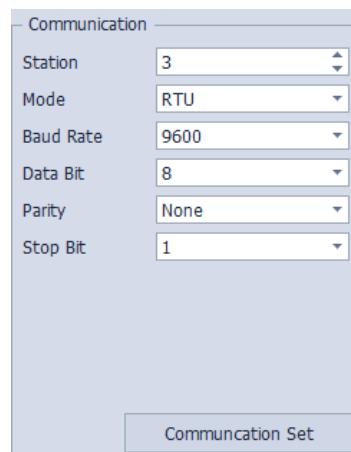
(5) Click "Alarm Set" when the setting is completed and a pop-up window appears showing whether the setting is successful or not.



(6) Repeat steps (1) ~ (5) for settings regarding all the other alarm types.

#### 4.1.7 Communications

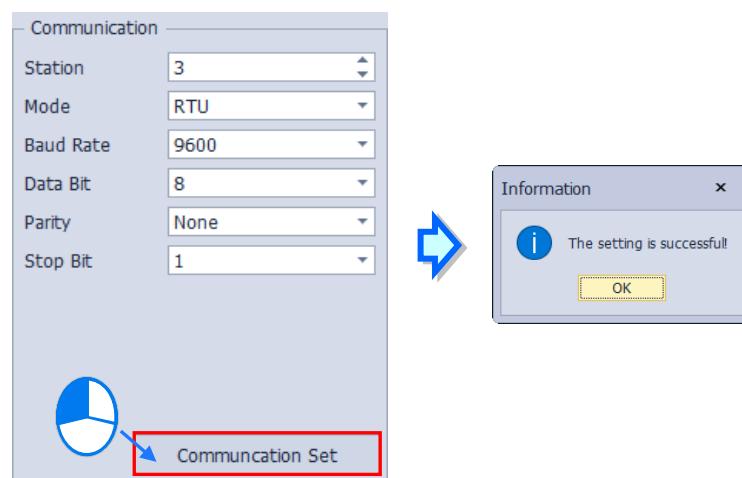
Setup the communications parameters for the power meter.



4

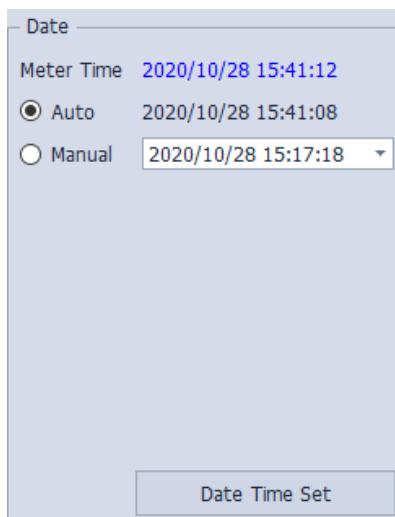
- Station: Modbus slave station ranges from 1~254. When using BACnet MS/TP as communication mode, the MAC ID ranges from 1~127.
- Mode: Supports RS-485 protocol.
- Baud Rate: Communication speed supports RS-485.
- Data bit: Data length of packets.
- Parity: The parity bit for RS485 communications.
- Stop bit: Signal to indicate the end of data transmission.

Click “Communication Set” when the setting is complete, and a pop-up window appears showing whether the setting is successful or not.



#### 4.1.8 Date

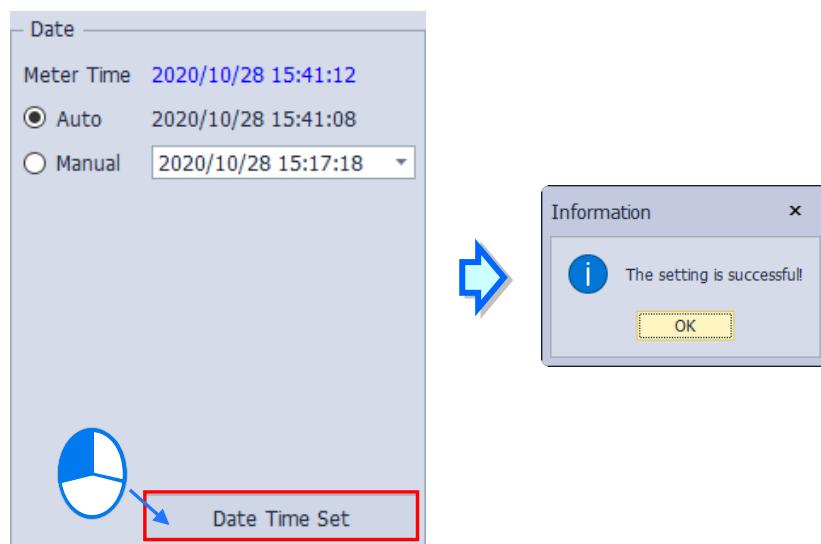
Provides date and time parameters for power meter setup.



4

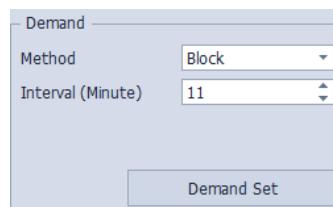
- Auto: Automatically sets the date and time based on the PC, no manual setting required.
- Manual: Manually select the time and date

Click "Date Time Set" when the setting is complete and a pop-up window appears showing whether the setting is successful or not.



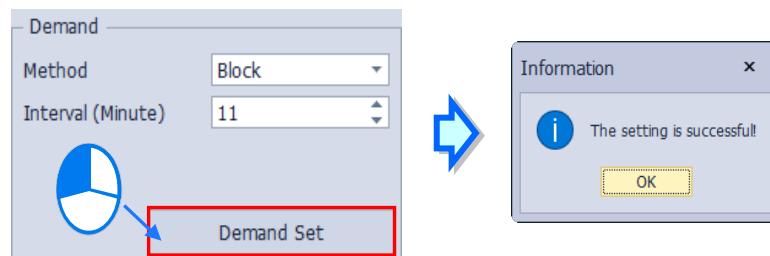
### 4.1.9 Demand

Setup methods for measuring power meter's demand, which may differ from the model types. Please refer to each model's user manual for more details.



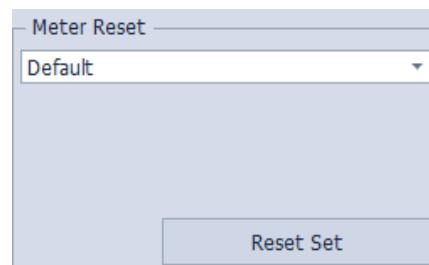
- Method: Method for measuring power meter's demands.
- Interval: Supports demand measuring interval time ranging from 1 to 60 min.

Click "Demand Set" when the setting is complete, and a pop-up window appears showing whether the setting is successful or not.

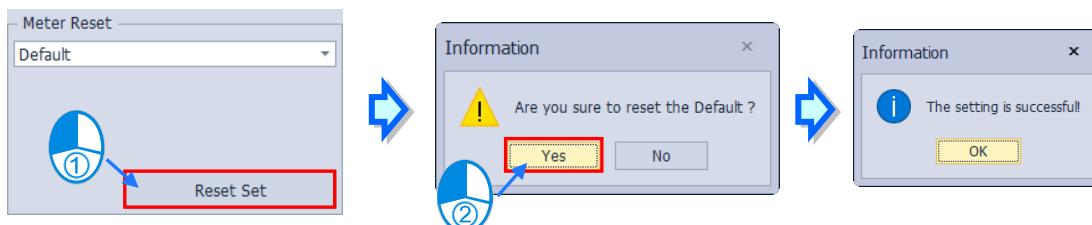


### 4.1.10 Meter Reset

Provides parameters regarding power meter reset.



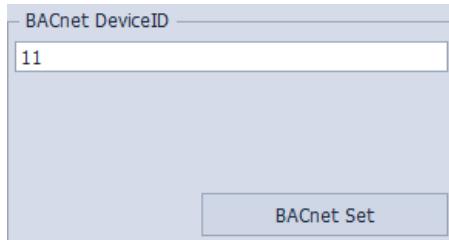
Click "Reset Set" when the setting is complete, and a pop-up window appears showing whether the setting is successful or not.



#### 4.1.11 BACnet Device ID

Supported models: DPM-C530, DPM-C530A

Setup the parameter for BACnet ID.



- BACnet Device ID: The device identifier in BACnet MS/TP include 0 ~ 4194303.
- Station: The MAC ID supports 1 ~ 127 stations for BACnet MS/TP mode.
- Baud Rate: The speed of RS485 communications. If the setup is BACnet MS/TP mode, the default setting is 38400 bps.
- Data bit: Data length of packets. For BACnet MS/TP mode, the default setting is 8 bit.
- Parity: The parity bit for RS485 communications. For BACnet MS/TP mode, the default setting is None.
- Stop bit: Signal to indicate the end of data transmission. For BACnet MS/TP mode, the default setting is 1 bit.

※ Note:

- a.) Switch to BACnet MS/TP mode, the baud rate, data bit, parity and stop bit automatically change to its default setting in the order of 38400 bps, 8 bit, None and 1 bit.
- b.) The BACnet MS/TP MAC ID and Modbus slave station shares the same parameter.

Click “BACnet Set” when the setting is complete, and a pop-up window appears showing whether the setting is successful or not.



### 4.1.12 Settings for Wi-Fi Routers

Supported models: DPM-C520W

The setting box is presented with router connection setups on the bottom right of the page.



Configure the settings of the target reuter you intend to connect, such as SSID and password, via DPMSoft with DPM-C520W model wireless power meter.

- SSID: Type the SSID name that connects the DPM-C520W to a router.
- Password: Display the SSID password for connecting DPM-C520W to a router.
- IP Address: The fixed IP address of DPM-C520W.
- Keep Alive Time: If an inactive connection between master device and DPM-C520W power meter maintains over the keep alive time, the network will be disconnected automatically.

Default values of wireless communication settings are shown below:

	SSID	Password	IP Address	Keep Alive Time
Default Value	WiFi_Modbus_001	1234567890	192.168.1.1	100sec

The Setting Range for wireless communication:

Version	SSID	Password	IP Address	Keep Alive Time
Prior to V1.0008 (Not including V1.0008 )	-	-	192.168.X.1	-
V1.0008 and above	1~32 characters	8~16 characters (or no-password )	AAA.BBB.XXX.YYY (Range : 1~255 )	5 ~ 9999

Explanation for IP Address Settings:

1. The hardware version of DPM-C520W is an earlier version before V1.0008:

Example A:

If the IP address is set to be 192.168.1.1 ; Station is 5, then the IP address for DPM-C520W would be 192.168.1.5

Example B:

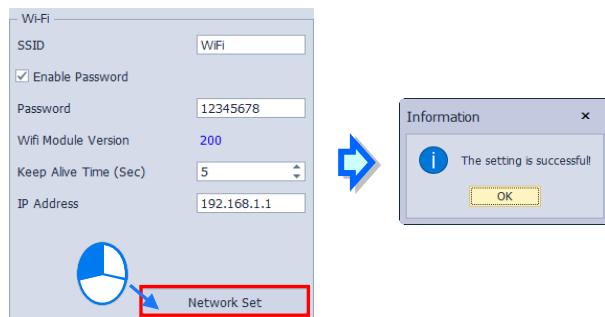
If the IP address is set to be 192.168.0.1 ; Station is 10, then the IP address for DPM-C520W would be 192.168.0.10

2.The hardware version of DPM-C520W is V1.0008 and above:

Example :

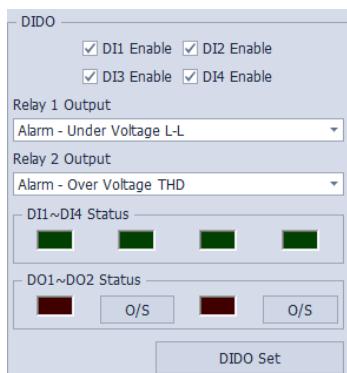
If the IP address is set to be 168.234.123.10 ; Station is 5, then the IP address for DPM-C520W would be 168.234.123.10

Click “Connection Set” when the connection settings for the router is complete and a pop-up window appears showing whether the setting is successful or not.

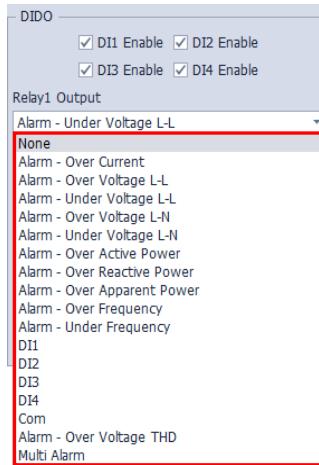


#### 4.1.13 DIDO Settings

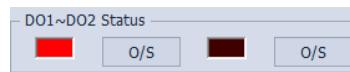
Configure the input and output settings of the power meter in DIDO setting box.



- Enable DI1~DI4: To enable or disable digital input function.
- Relay1~Relay2 Output: A high signal appears when DI enables or an alarm occurs.
  - None: The output function of relay 1 and 2 is disabled.
  - Alarm: The relevant relay output would be activated by an alarm condition.
  - DI1~DI4 : The relay output is activated by an input signal detected in the specific DI.
  - Com: The output function is controlled by the software.
  - Multi Alarm: When the set alarm conditions are triggered randomly, the relay output would be activated.



- DI1~DI4: DI status.
- DO1~DO2 Status: The DO status shows lights off for open circuit, lights on for short circuit. Select 'Com' in 'Relay Output' drop-list first or the following error window will appear.



Methods for relay control setting via computers:

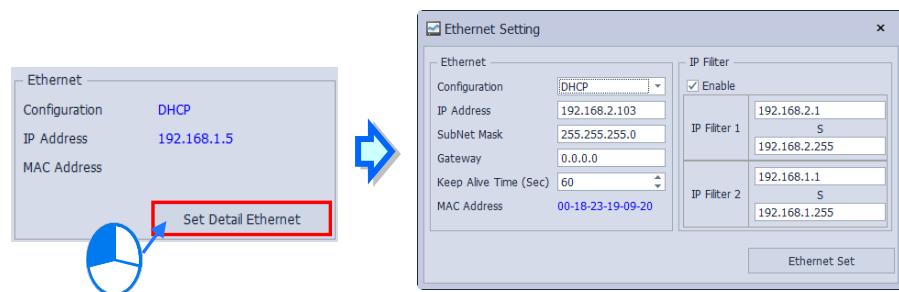
Select Com for Relay1 Ouput or Relay2 Out, then click “DIDO Set”.



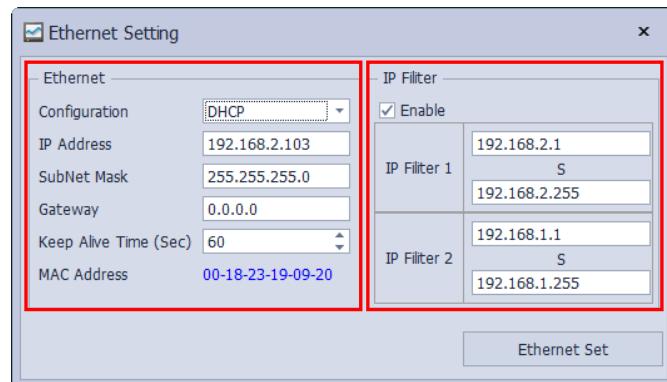
#### 4.1.14 Ethernet

Provides parameter settings regarding Ethernet.

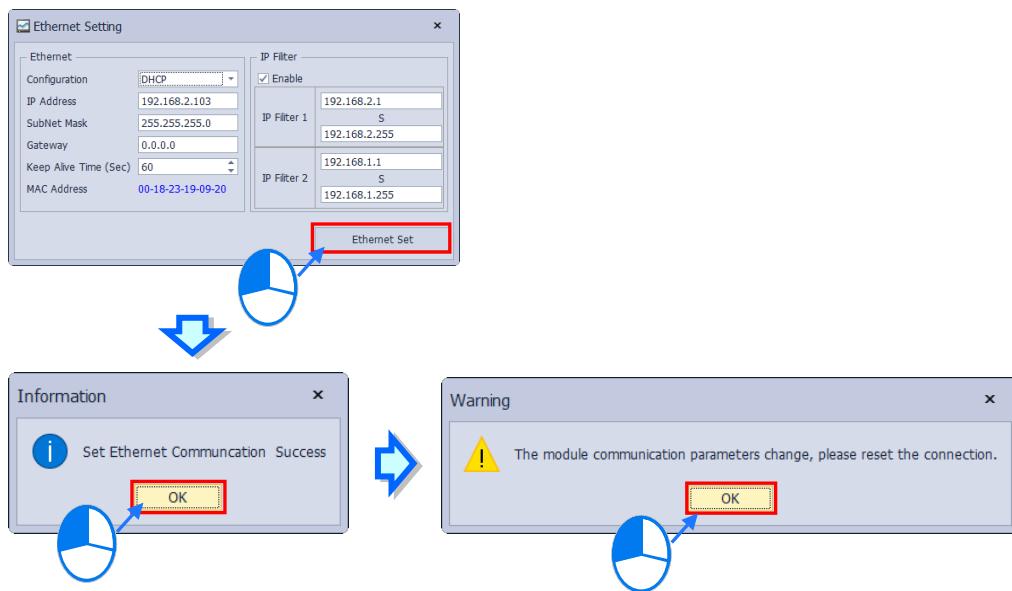
To connect model types supporting Ethernet via DPMSoft, configure Ethernet settings presented on the bottom right of the page. First, click “Set Detail Ethernet” then the Ethernet Setting window would pop up.



The Ethernet basic setting is on the left-hand half of the window, while the other half side gives the setting of IP Filter. Only if the device's IP address is in the range configured in the IP filter, it can be connected to the power meter.

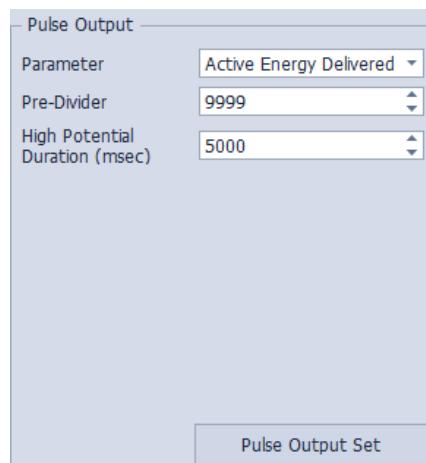


**4** Click "Ethernet Set" after the configuration is completed. In case that the configuration is successful, it is necessary to reconnect with the power meter.



#### 4.1.15. Pulse Output

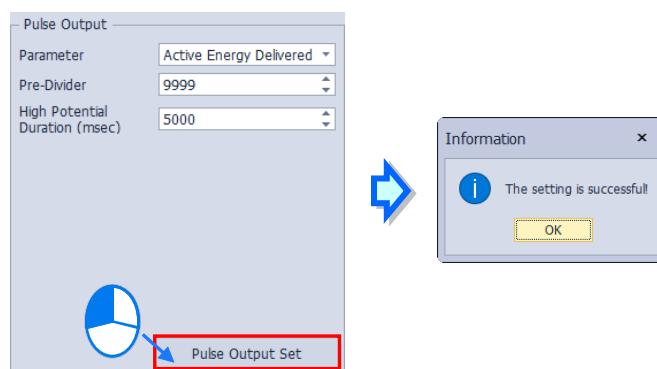
Provides parameter settings regarding pulse output.



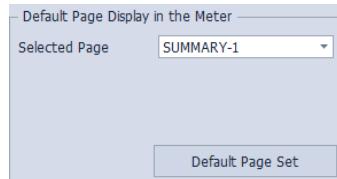
4

- **Parameter:** Options are Active Energy Delivered, Active Energy Received, Inactive Energy Delivered, Inactive Energy Received, and off.
- **Pre-Divider:** The setting range is from 1 to 9999.
- **High Potential Duration (msec):** The setting range is from 0 to 5000, which 0 represents that the proportions of high and low potential are 50 percent respectively

Click “Pulse Output Set” when the settings for pulse output is completed and then a pop-up window would appear showing whether the setting is successful or not.



#### 4.1.16 Default Page Display in the Meter



- **Selected Page:** Options are:

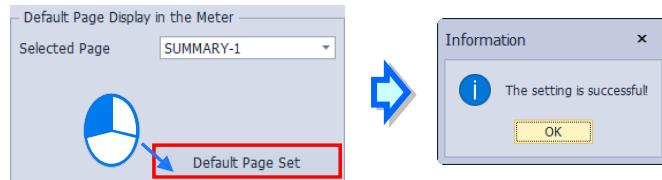
**Summary-1** (Voltage L-N average/ Current average/ Total effective power/ Power factor average/ Input effective energy)

**Summary-2** (Voltage L-L average/ Current average/ Total effective power/ Power factor average/ Input effective energy)

**Summary-3** (Total effective power/ Total ineffective power / Total apparent power / Power factor average/ Input effective energy)

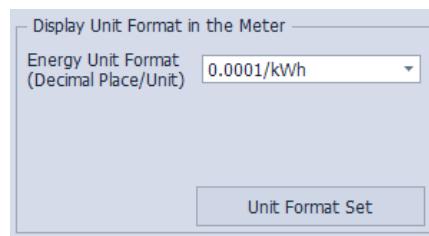
**Summary-4** (Total effective power/ Total ineffective power / Total apparent power / Frequency/ Input effective energy)

Click "Default Page Set" when the setting is completed and then a pop-up window would appear showing whether the setting is successful or not.

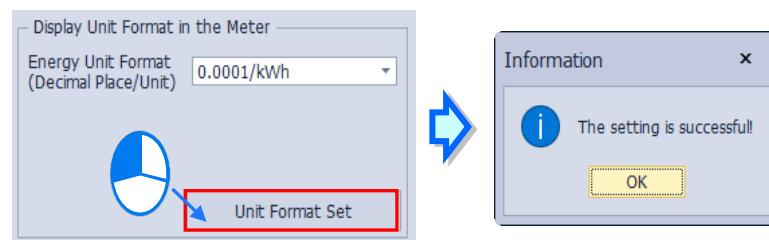


#### 4.1.17 Display Unit Format in the Meter

Provides parameter settings regarding unit displayed in the power meter.

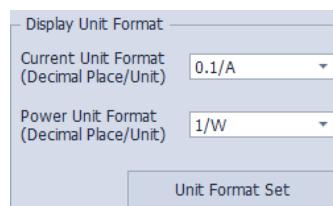


Click **Unit Format Set** when the setting is completed and then a pop-up window would appear showing whether the setting is successful or not.

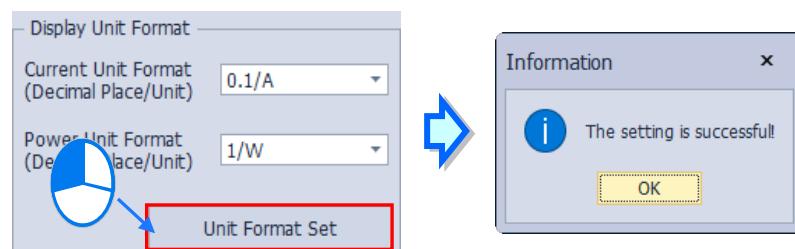


#### 4.1.18 Display Unit Format

Set the unit format displayed in the meter and DPMSoft.

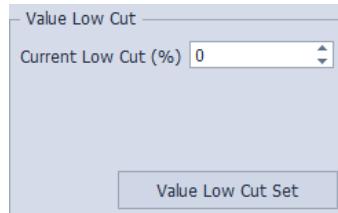


Click **Unit Format Set** when the setting is completed and then a pop-up window would appear showing whether the setting is successful or not.



#### 4.1.19 Value Low Cut

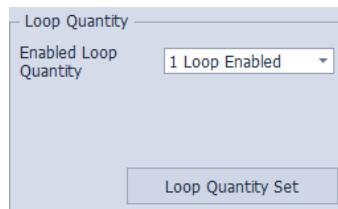
Set the percentage for current low cut. When the detected current value is lower than the set percentage, the current value would be 0. The setting range is from 0.0%~100% with 0.4% being the factory default setting.



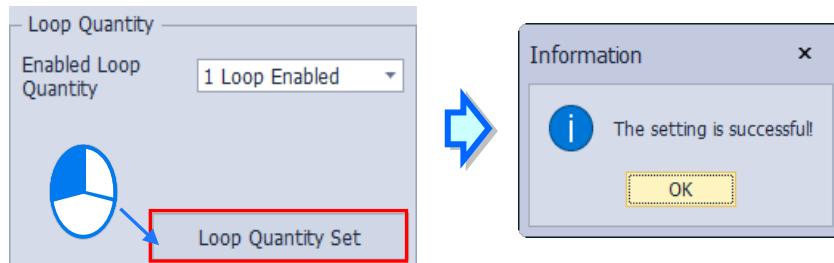
Click **Value Low Cut Set** when the setting is completed and then a pop-up window would appear showing whether the setting is successful or not.

#### 4.1.20 Loop Quantity

Enabled loop quantity set for power meter can be set from 1 to 5 loops with 5 being the factory default setting.

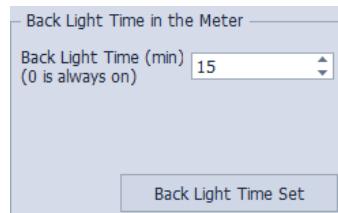


Click **Loop Quantity Set** when the setting is completed and then a pop-up window would appear showing whether the setting is successful or not.

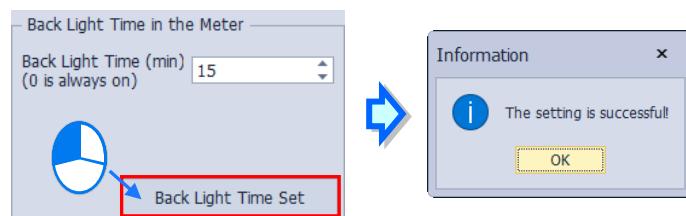


#### 4.1.21 Back Light Time in the Meter

Set back light time from 0 to 15 minutes with 1 being the factory default setting, which 0 represents always on.

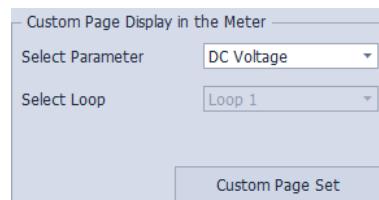


After set back light time based on your needs and click **Back Light Time Set**, a pop-up window would appear showing whether the setting is successful or not.



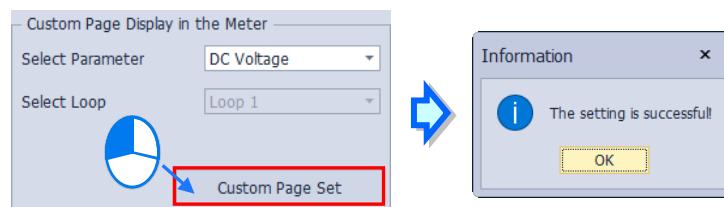
#### 4.1.22 Custom Page Display in the Meter

Select the desired parameter to display on the custom page in the meter.



- Select Parameter: Select the parameter to display for the selected loop in the meter with DC Voltage being the factory default setting.
- Select Loop: Select the loop to display in the meter.

After finish settings for custom page display, click Custom Page Set and a pop-up window would appear showing whether the setting is successful or not.

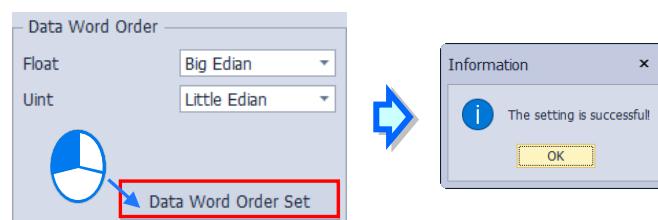


#### 4.1.23 Data Word Order

Set Modbus word order for float and uint data type.

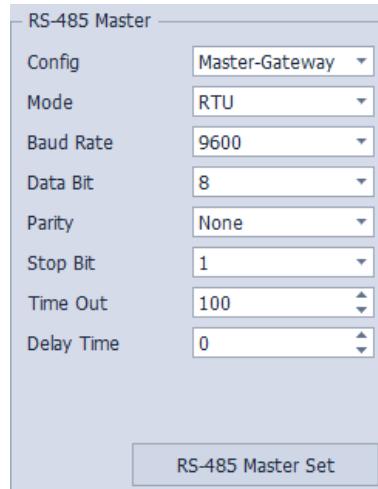


After finishing the settings, click **Data Word Order Set** and a pop-up window would appear showing whether the setting is successful or not.



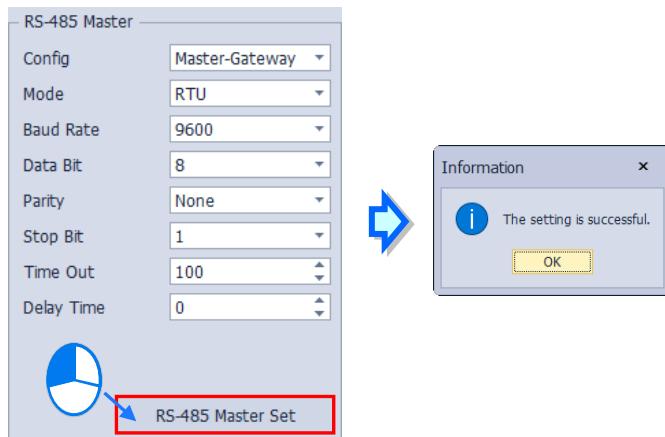
## 4.1.24 RS-485 Master

When using meters to connect to the slave station, you can set the mode and communication format of the master station here.

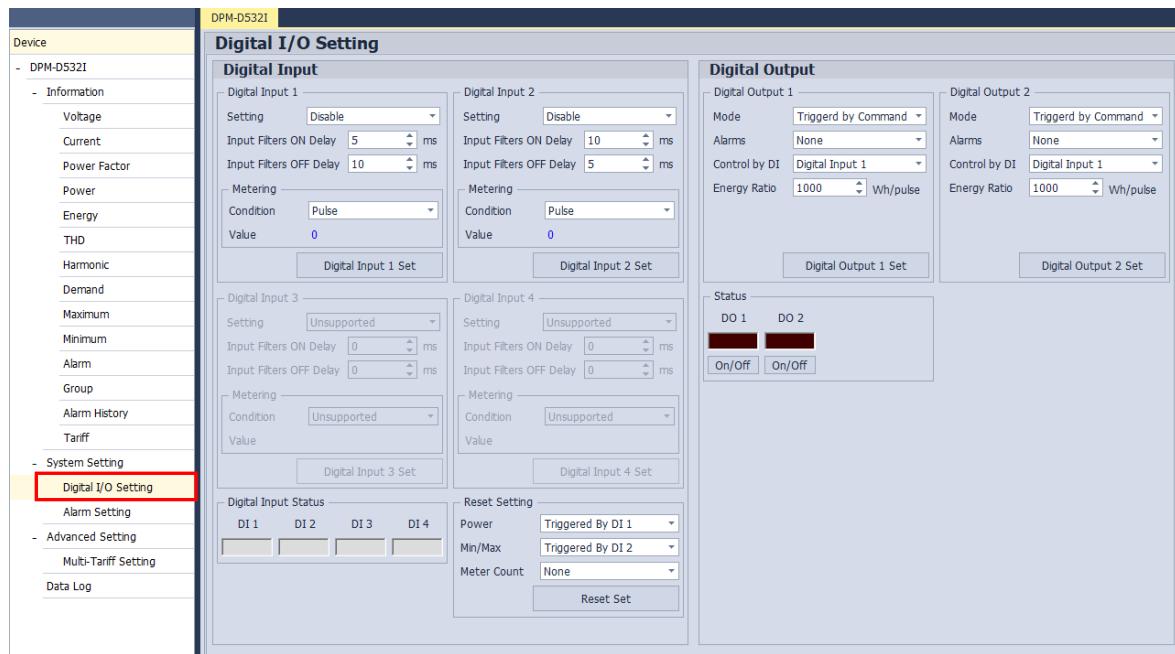


- Config:** the two types of setting are “**Master-Gateway**”, “**Master-Monitor**”, which will impact the setting page for slave stations accordingly. Please refer to section 4.4 for details.
- Mode:** RS485 communication protocol
- Baud Rate:** RS485 communication speed
- Data Bit:** data length of the packet
- Parity:** the parity check bit for RS485 communication
- Stop Bit:** The signal indicating that the packet has been sent
- Time Out:** Setting communication timeout period
- Delay Time:** Setting communication delay time

Click **RS-485 Master Set** after completing the Master configuration, a prompt window will pop up indicating whether the setup was successful or not.



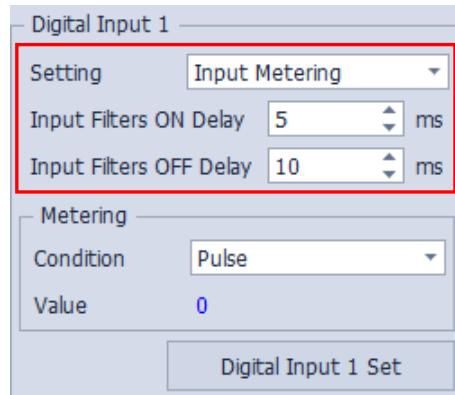
## 4.2 System Setting – Digital I/O Setting



### 1. Digital Input

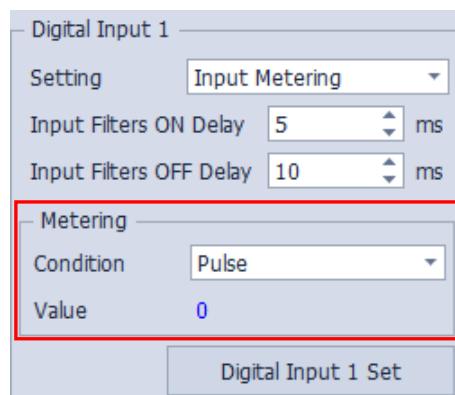
**Digital Input**

<b>Digital Input 1</b>	<b>Digital Input 2</b>		
Setting: Disable Input Filters ON Delay: 5 ms Input Filters OFF Delay: 10 ms Metering: Condition: Pulse, Value: 0  Digital Input 1 Set	Setting: Disable Input Filters ON Delay: 10 ms Input Filters OFF Delay: 5 ms Metering: Condition: Pulse, Value: 0  Digital Input 2 Set		
<b>Digital Input 3</b>	<b>Digital Input 4</b>		
Setting: Unsupported Input Filters ON Delay: 0 ms Input Filters OFF Delay: 0 ms Metering: Condition: Unsupported, Value:  Digital Input 3 Set	Setting: Unsupported Input Filters ON Delay: 0 ms Input Filters OFF Delay: 0 ms Metering: Condition: Unsupported, Value:  Digital Input 4 Set		
<b>Digital Input Status</b>			
DI 1	DI 2	DI 3	DI 4
<b>Reset Setting</b>			
Power: Triggered By DI 1 Min/Max: Triggered By DI 2 Meter Count: None  Reset Set	Digital Output 1		
<b>Digital Output 1</b>			
Mode: Triggered by Command Alarms: None Control by DI: Digital Input 1 Energy Ratio: 1000 Wh/pulse  Digital Output 1 Set	Mode: Triggered by Command Alarms: None Control by DI: Digital Input 1 Energy Ratio: 1000 Wh/pulse  Digital Output 2 Set		
<b>Digital Output 2</b>			
DO 1	DO 2		
On/Off	On/Off		

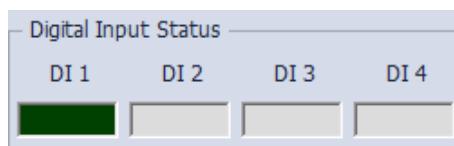


- **Setting:** Options are “Disable”, “Normal”, “Reset Meter Parameter”, “Input Metering”. The factory default value is **Disable**.
- **Input Filters Delay Time:** Set the Input Filters ON Delay and Input Filters OFF Delay separately, setting range is from 0000 to 3000ms, with 0000ms as factory default value.

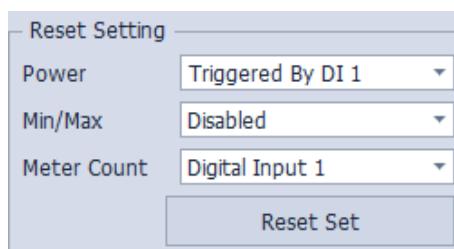
4



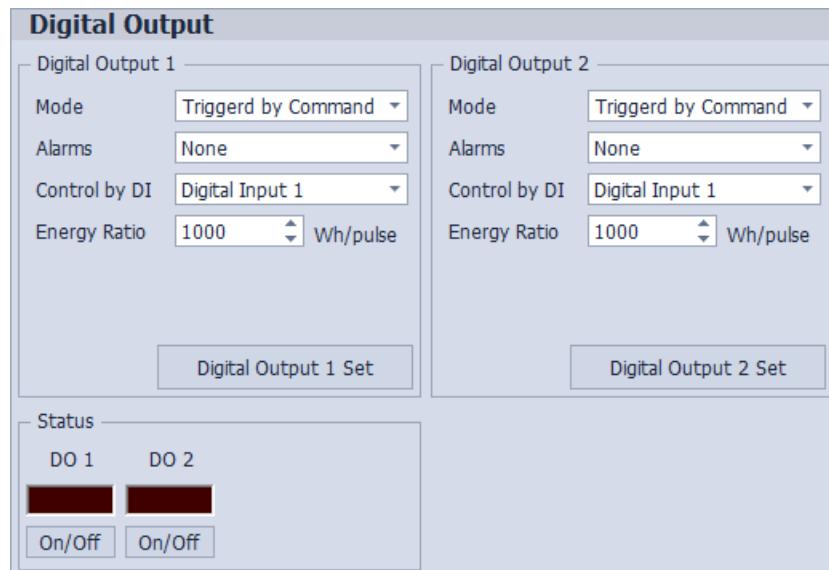
- **Metering:** Options are “Pulse”, “Transition”, with the factory default setting is **Pulse**. There are currently two modes: “Input Metering” and “Reset Meter Parameter”, the measurement counter will display the corresponding measurement values depending on the mode.



- **Digital Input Status:** Display the status of Digital Input.



- **Reset Setting:** Reset the parameters, including **Power**, **Min/Max**, **Meter Count**.
- 2. Digital Output**



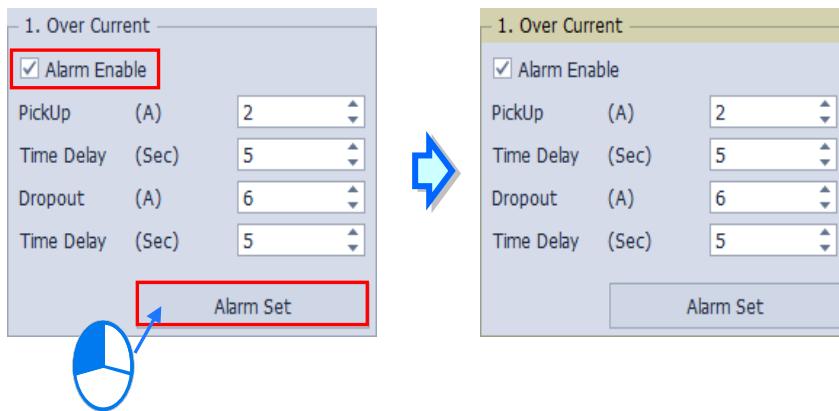
- **Mode:** Options are “**Disable**”, “**Triggered by Alarm**”, “**Triggered by Command**”, “**Triggered by DI**”, “**Pulse Output**”, with the factory default setting is **Disable**.
- **Alarm:** When **Mode** is set to **Triggered by DI**, you can define one or more alarms to monitor. When the alarm is triggered, the corresponding digital output port will continue to output until the alarm condition is cleared.
- **Control by DI:** When **Mode** is set to **Triggered by DI**, you can perform status monitoring and **On/Off** control from **Status** displayed below.
- **Energy Ratio:** Only supported when **Mode** is set to **Pulse Output**. Setting range is within 10 – 100000 Wh/pulse. The factory default value is 1000 Wh/pulse.

## 4.3 System Setting – Alarm Setting

This page displays all alarm items, and you can set alarm modes according to your needs.

The screenshot shows the 'Device' menu on the left with several sections: Information, Harmonic, Demand, Maximum, Minimum, Alarm, Group, Alarm History, Tariff, System Setting, Advanced Setting, Multi-Tariff Setting, and Data Log. The 'System Setting' section is expanded, and 'Alarm Setting' is highlighted with a red box. The main area is titled 'Alarm Setting' and contains 16 sub-sections, each with an 'Alarm Enable' checkbox and input fields for 'PickUp' and 'Time Delay'. Buttons for 'Alarm Set' are present in each section.

After checking **Alarm Enable** and setting the parameters, click **Alarm Set**. If the settings are successful, the title will turn yellow, indicating that the alarm is triggered. To cancel the setting, uncheck **Alarm Enable**, then click **Alarm Set**. If the setting is canceled, the title will not be yellow, indicating that the alarm setting has been cleared.



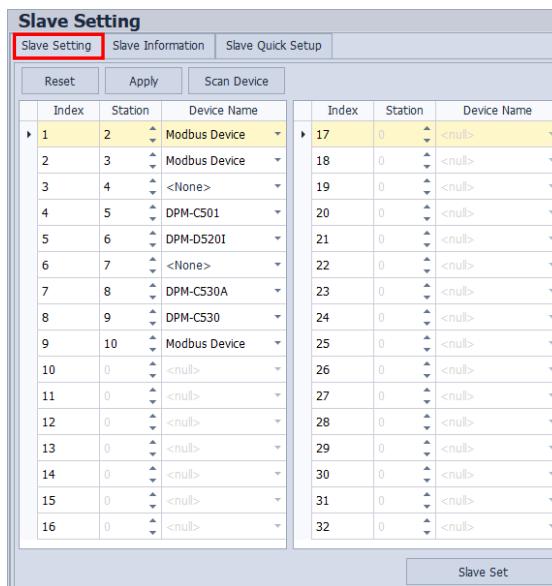
## 4.4 Slave Setting

Based on the configuration settings in section 4.1.24 RS-485, the following explanation is provided.

### 4.4.1 Master-Gateway

#### Slave Setting

Able to set up to 32 slave stations; support third-party devices with Modbus communication. The slave station number must not be the same as the master station number, and they must not be duplicated. The prompt message will pop up if the setting is incorrect.



The screenshot shows the 'Slave Setting' interface with two tables of slave station configurations. The first table (rows 1-16) includes columns for Index, Station, and Device Name. The second table (rows 17-32) also includes columns for Index, Station, and Device Name. Row 1 is highlighted with a yellow background. The 'Slave Setting' tab is selected at the top.

Index	Station	Device Name
1	2	Modbus Device
2	3	Modbus Device
3	4	<None>
4	5	DPM-C501
5	6	DPM-D520I
6	7	<None>
7	8	DPM-C530A
8	9	DPM-C530
9	10	Modbus Device
10	0	<null>
11	0	<null>
12	0	<null>
13	0	<null>
14	0	<null>
15	0	<null>
16	0	<null>
17	0	<null>
18	0	<null>
19	0	<null>
20	0	<null>
21	0	<null>
22	0	<null>
23	0	<null>
24	0	<null>
25	0	<null>
26	0	<null>
27	0	<null>
28	0	<null>
29	0	<null>
30	0	<null>
31	0	<null>
32	0	<null>

- **Reset:** Clear the settings of the slave station below
- **Apply:** Apply the slave station settings to software (without writing them to device)
- **Scan Device:** Perform scanning of slave stations based on the configured station number below. The function will update the device name for Delta-supported device. For non-Delta-supported device, 'Modbus Device' will be automatically filled in. The setting will be applied and written into device after the scanning is completed.
- **Slave Set:** Download slave station setting parameters to the device.

## **Slave Information**

Based on the Delta-supported devices in **Slave Setting**, this page will display the corresponding basic information of meters, including **Voltage L-N Avg**, **Voltage L-L Avg**, **Current Avg**, **Active Power Tot**, **Active Energy Del** (Real-time value will be updated only in online mode)

Slave Setting		
Slave Setting	Slave Information	Slave Quick Setup
ID: 5 (C501)	ID: 6 (D520I)	ID: 8 (C530A)
Name	Value	Unit
Voltage L-N Avg	0.000	V
Voltage L-L Avg	0.000	V
Current Avg	0.000	A
Active Power Tot	0.000	kW
Active Energy Del	0	Wh
ID: 6 (D520I)	ID: 8 (C530A)	ID: 9 (C530)
Name	Value	Unit
Voltage L-N Avg	0.000	V
Voltage L-L Avg	NaN	V
Current Avg	0.000	A
Active Power Tot	0.000	kW
Active Energy Del	1821643454	Wh
Voltage L-N Avg	120.186	V
Voltage L-L Avg	NaN	V
Current Avg	0.212	A
Active Power Tot	0.015	kW
Active Energy Del	49039740.00	kWh

## **Slave Quick Setup**

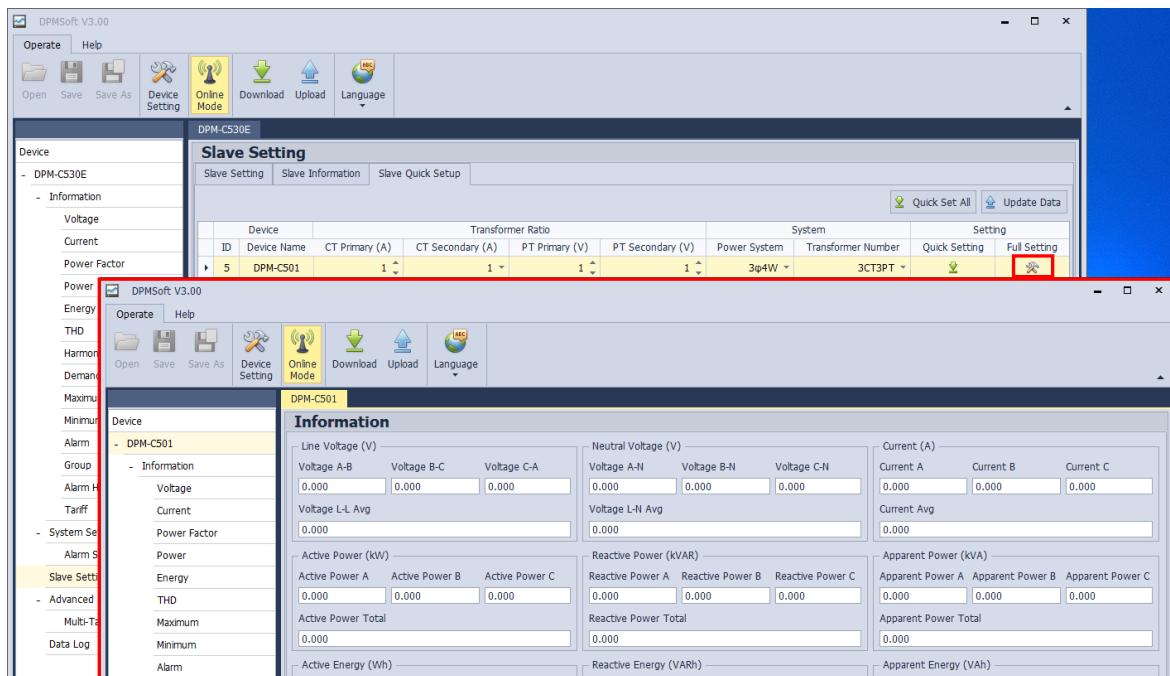
Based on the Delta-supported devices in **Slave Setting**, this page will display the corresponding configured parameters, including **Transformer Ratio** ‘**CT Primary(A)**’ ‘**CT Secondary(A)**’ ‘**PT Primary (V)**’ ‘**PT Secondary (V)**’and **System** ‘**Power System**’ ‘**Transformer Number**’.

Slave Setting									
Slave Setting		Slave Information		Slave Quick Setup					
<span style="float: right; border: 1px solid #ccc; padding: 2px;">Quick Set All</span> <span style="float: right; margin-right: 20px;">Update Data</span>									
Device		Transformer Ratio			System			Setting	
ID	Device Name	CT Primary (A)	CT Secondary (A)	PT Primary (V)	PT Secondary (V)	Power System	Transformer Number	Quick Setting	Full Setting
5	DPM-C501	1 ▲ 1 ▼	1 ▼	1 ▲ 1 ▼	1 ▲ 1 ▼	3φ4W ▼	3CT3PT ▼		
6	DPM-D520I	1 ▲ 1 ▼	1 ▼	1 ▲ 1 ▼	1 ▲ 1 ▼	1φ2W ▼	3CT3PT ▼		
8	DPM-C530A	1 ▲ 1 ▼	1 ▼	1 ▲ 1 ▼	1 ▲ 1 ▼	1φ2W ▼	1CT3PT ▼		
9	DPM-C530	2 ▲ 2 ▼	2.5 ▼	2 ▲ 2 ▼	2 ▲ 2 ▼	1φ2W ▼	3CT3PT ▼		

After the setting is completed, you can click on Quick Setting icon  to directly apply the parameter setting to slave station. Alternatively, you can click **Quick Set All** to set all slave stations at once.

The parameters displayed in this page will not refresh in real time, you can click **Update Data** to renew the value.

Click Full Setting  will open DPMSoft setting page corresponding to the slave station, enabling modify detailed setting for the slave staion.



It's important to confirm successful communication with the slave station before performing any of the operations to avoid encountering errors.

## 4.4.2 Master-Monitor

**Slave Setting**

Index	Station	Device Name
1	2	Modbus Device
2	3	Modbus Device
3	4	<None>
4	5	DPM-C501
5	6	DPM-D520I
6	7	<None>
7	8	DPM-C530A
8	9	DPM-C530
9	10	Modbus Device
10	0	<null>
11	0	<null>
12	0	<null>
13	0	<null>
14	0	<null>
15	0	<null>
16	0	<null>

Index	Station	Device Name
17	0	<null>
18	0	<null>
19	0	<null>
20	0	<null>
21	0	<null>
22	0	<null>
23	0	<null>
24	0	<null>
25	0	<null>
26	0	<null>
27	0	<null>
28	0	<null>
29	0	<null>
30	0	<null>
31	0	<null>
32	0	<null>

**Slave Set**

- **Reset:** Clear the settings of the slave station below
- **Apply:** Apply the slave station settings to software (without writing them to device)
- **Scan Device:** (Do not support)
- **Slave Set:** Download the slave station setting parameters to the device.

### Slave Monitor

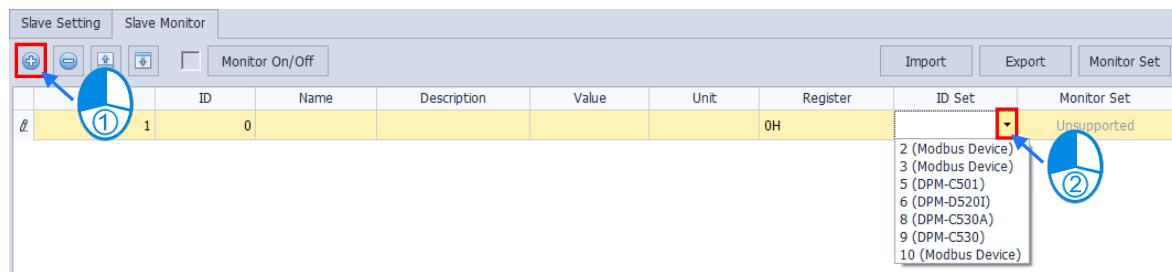
Monitoring slave station parameters in real time via Modbus communication, supports monitoring up to 80 parameters at once.

**Slave Monitor**

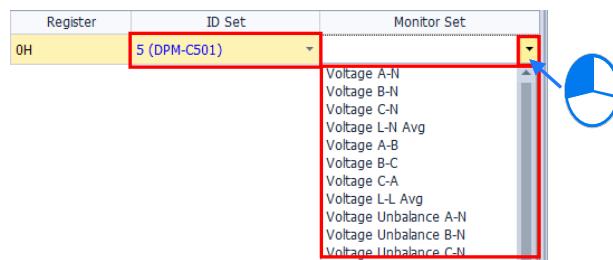
Index	ID	Name	Description	Value	Unit	Register	ID Set	Monitor Set
1	0					0H		Unsupported
2	0					0H		Unsupported
3	0					0H		Unsupported

- : Add one parameter for monitoring.
- : Delete the selected parameter.
- : Move the selected parameter up one line in the monitoring list.
- : Move the selected parameter down one line in the monitoring list.
- : Turn on/off monitoring (need to enter online mode first)
- : Import the monitored parameter file, and set it to the host.
- : Export the monitored parameter file.
- : Set the monitored parameter to the host.

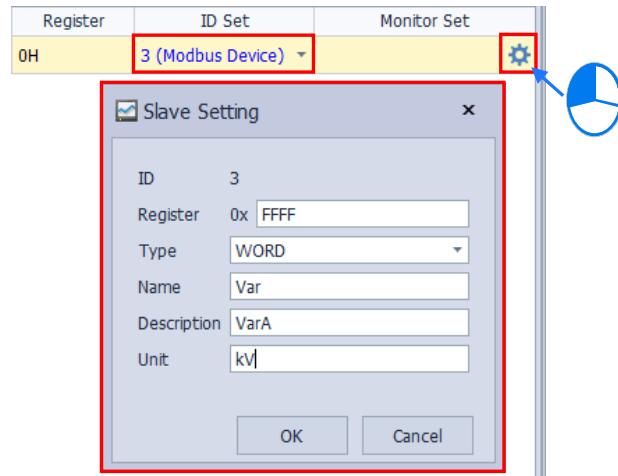
After clicking , you can select the configured slave station from **ID Set** on the right side.



If selecting Delta-supported slave station, you can directly set the corresponding parameters in **Monitor Set**.



You can click  to set the monitored parameters if choosing 'Modbus Device'.



4

Slave Setting									Slave Monitor			
									Monitor On/Off	Import	Export	Monitor Set
	Index	ID	Name	Description	Value	Unit	Register	ID Set	Monitor Set			
	1	3	Var	VarA	0H	kV	FFFFH	3 (Modbus Device)	FFFF			

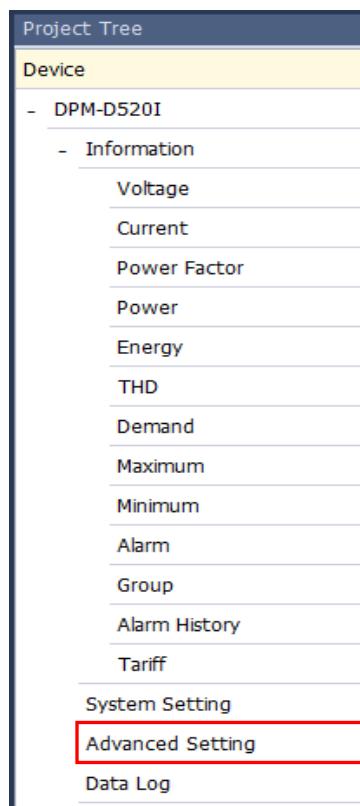
- Register: In Hex format
- Type: Support BYTE、WORD、FLOAT、UINT、INT、Unknown
- Name: Self-defined, and it will be displayed in the field
- Description: Self-defined, and it will be displayed in the field
- Unit: Self-defined, and it will be displayed in the field

After completing the monitoring setting, click  to apply the parameter settings to the device. Click  to enter monitoring mode when you need to monitor the parameter values. Successful reads of monitored parameters will be displayed in green, while failed reads will be displayed in red, as shown in the image below.

Slave Setting											Slave Monitor		
											Monitor On/Off		
	Index	ID	Name	Description	Value	Unit	Register	ID Set	Monitor Set		Import	Export	Monitor Set
	1	3	Var	VarA	0	kV	FFFFH	3 (Modbus Device)	FFFF				
	2	5	Vbn	Voltage B-N	0.000	V	102H, 103H	5 (DPM-C501)	Voltage B-N				
	3	6	Et+	Active Energy Delivered	1821643454	Wh	15CH, 15DH	6 (DPM-D520I)	Active Energy Delivered				

## 4.5 Advance Setting

Click “Advanced Setting” in the project tree on the left side of the page to start the configuration.



### 4.5.1 Auto Recording

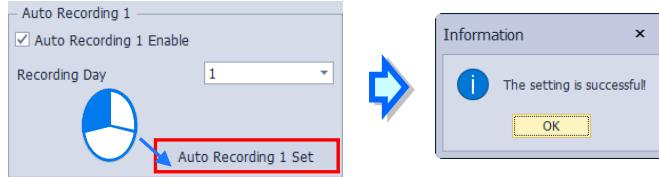
Auto recording monthly power usage.

<div style="border: 1px solid #ccc; padding: 5px;"> <p>Auto Recording 1</p> <p><input checked="" type="checkbox"/> Auto Recording 1 Enable</p> <p>Recording Day <input type="text" value="1"/></p> <p><input type="button" value="Auto Recording 1 Set"/></p> </div>	<div style="border: 1px solid #ccc; padding: 5px;"> <p>Auto Recording 2</p> <p><input type="checkbox"/> Auto Recording 2 Enable</p> <p>Recording Day <input type="text" value="2"/></p> <p><input type="button" value="Auto Recording 2 Set"/></p> </div>
--	---

- **Auto Recording 1 Enable:** Check the checkbox to enable or disable auto recording 1.
- **Recording Day:** Schedule a day (Day: 1~31) in a month to measure monthly power usage regarding group 1.
- **Auto Recording 2 Enable:** Check the checkbox to enable or disable auto recording 2.
- **Recording Day:** Schedule a day (Day: 1~31) in a month to measure monthly power usage regarding group 2.

**Steps for auto recording:**

- (1) Choose a day (1~31) of a month to start recording.
- (2) Click “Auto Recording1 Enable” and choose “Auto Recording 1 Set” (see below) to start auto recording 1.



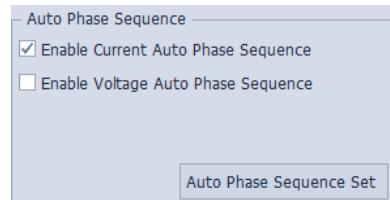
- (3) Repeat the same steps (1) ~ (2) for setting Auto Recording2.

※ Note:

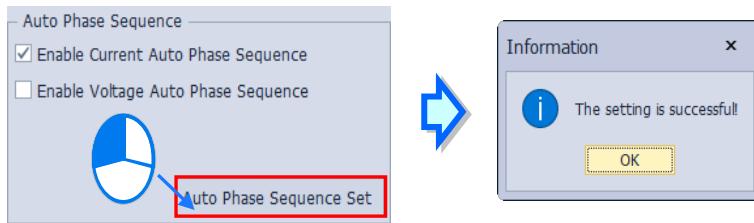
- a.) If the setting day exceeds the last day of that month, use the last day of that month instead.
- b.) Calculation: Assume the calculation starts from on the 1st of this month, 0 hr 0 min 0 sec and record the data to the last day of this month, 23 hr 59 min 59 sec. (The end day of the month varies and is set on the 28th, 30th or 31st based on the month.)

#### 4.5.2 Auto Phase Sequence

Enable Auto Phase Sequence function for current or voltage based on users' needs.

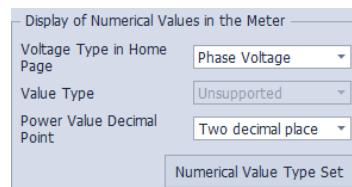


When the settings completed, click “Auto Phase Sequence Set” and you will get a pop-up to show whether the setting is successful or not.

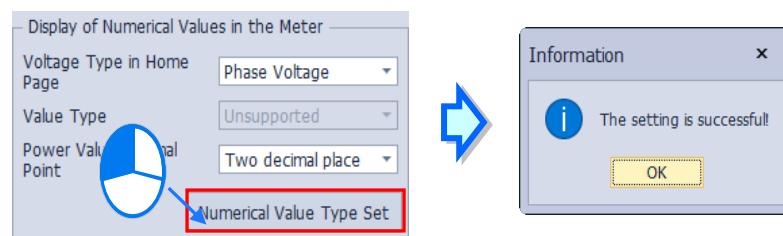


### 4.5.3 Display of Numerical Values in the Meter

Set the number of decimal places for values displayed in the meter.



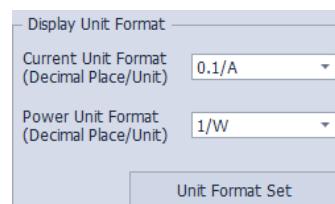
When the settings completed, click “Decimal Place Value Set” and a pop-up window would appear showing whether the setting is successful or not.



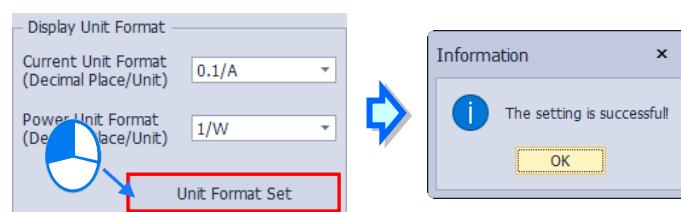
4

### 4.5.4 Display Unit Format

Set the unit format displayed in the meter and DPMSoft.



When the settings completed, click “Unit Format Set” and a pop-up would be shown whether the setting is successful or not.



#### 4.5.5 EUI Setting

Calculate EUI values (kWh / floor area ( $m^2$ )) which represent electricity consumption per square meter.



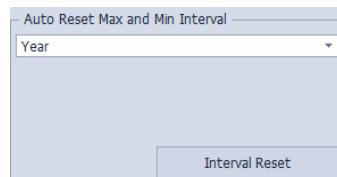
- **Floor Area ( $M^2$ ):** The space size of indoor area.

After finishing the setting of floor area, click “Area Set” and a pop-up window would be shown whether the setting is successful or not.



#### 4.5.6 Auto Reset Max and Min Interval

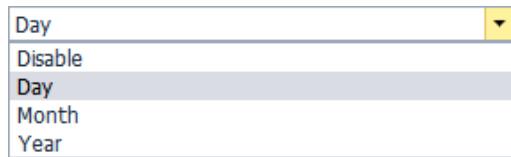
The software automatically reset the max and min records base on a specific period (per day, month or year).



- **Auto Reset Max and Min Interval:** Reset the records of maximum and minimum values at a specific interval.

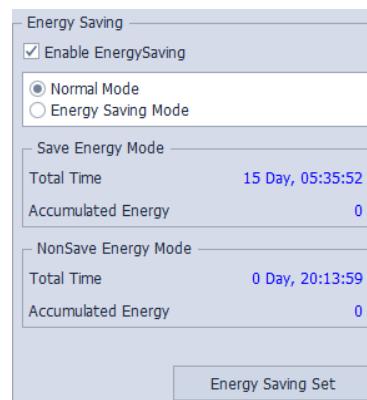
Item	Function Description
Disable	Close the function, manual reset required
Day	Reset daily
Month	Resets on the first day of every month
Year	Resets on the first day of January in every year

When setups for auto reset maximum and minimum interval is completed, click “Interval Reset” and a pop-up window will show whether the setting is successful or not.



#### 4.5.7 Energy Saving

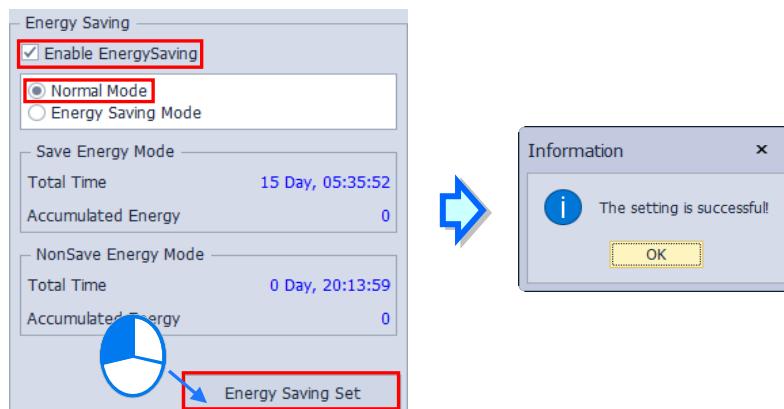
The current accumulated energy is categorized into normal or energy saving mode.



- **Enable Energy Saving:** Select  to enable or  to close energy saving / non-energy saving mode.
- **Normal/ Energy Saving Mode:** Switch the accumulated energy to either energy saving or non-energy saving mode.

The following describe the energy saving mode settings:

Choose “Enable Energy Saving” and “Normal Mode”. Then, click “Energy Saving Set” to enable this function.



#### 4.5.8 Tariff

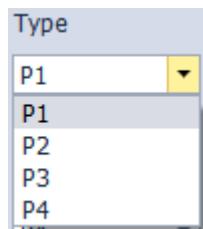
Record energy based on the off-peak times.



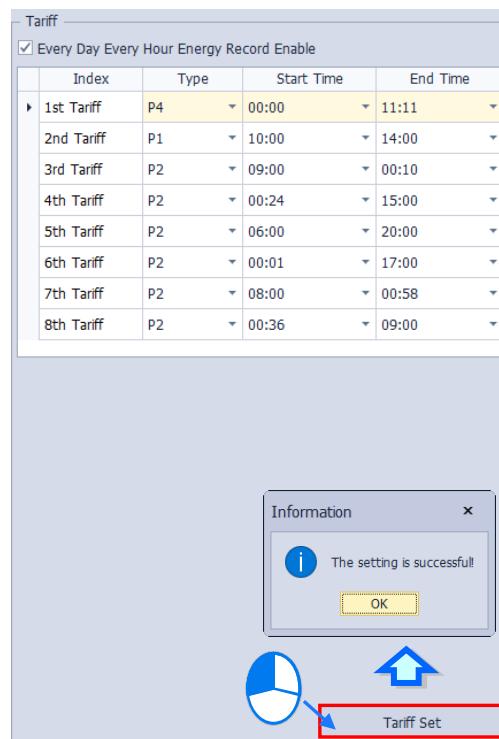
- Every Day Every Hour Energy Record Enable: Record accumulated energy per hour by day.
- Type: Select from the 4 types of tariffs during a day including point (P1), peak (P2), plateau (P3) or valley (P4).
- Start Time: The starting time to record accumulated energy.
- End Time: The ending time to record accumulated energy.

The following steps describe the tariff settings:

- (1) Select the desired “point (P1), peak (P2), plateau (P3) or valley (P4)” and setup the start and end time.



- (2) Repeat step (1) regarding tariff setups for the 2nd to 8th group.
- (3) When the setups are complete, click “Tariff Set”.



※ Note:

- When the start and end time are set to be the same, the tariff function is disabled.
- If the start time exceeds the end time (see below), this means the tariff is calculated till the next day.

#### 4.5.9 Carbon Dioxide Emissions

Set the CO<sub>2</sub> emission (kg) for each unit of electricity. The setting values range is from 0 to 60.000 with 0.638 being the factory default setting.

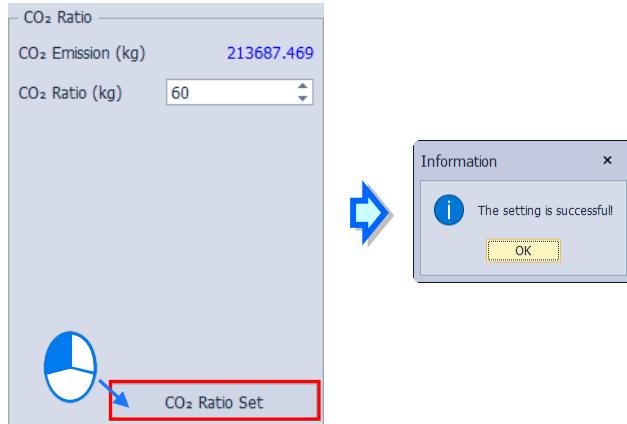
CO<sub>2</sub> Ratio

CO <sub>2</sub> Emission (kg)	213687.469
CO <sub>2</sub> Ratio (kg)	60

CO<sub>2</sub> Ratio Set

- CO<sub>2</sub> Emission (kg): Calculates the total emissions of carbon dioxide.
- CO<sub>2</sub> Ratio (kg): Set the CO<sub>2</sub> emission for each unit of electricity.

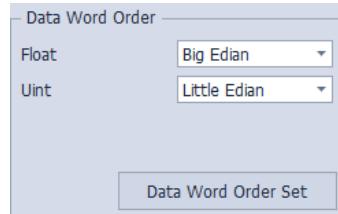
When the setting for CO<sub>2</sub> Ratio is completed, click “CO<sub>2</sub> Ratio Set” and a pop-up window will show whether the setting is successful or not.



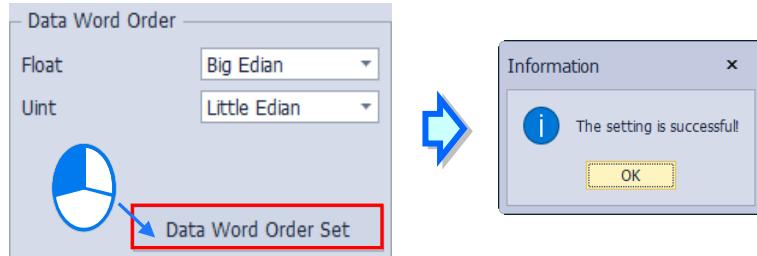
4

#### 4.5.10 Data Word Order

Set the Float and Uint data word order for Modbus transmission.



When the setting for Data Word Order is completed, click “Data Word Order Set” and a pop-up window will show whether the setting is successful or not.

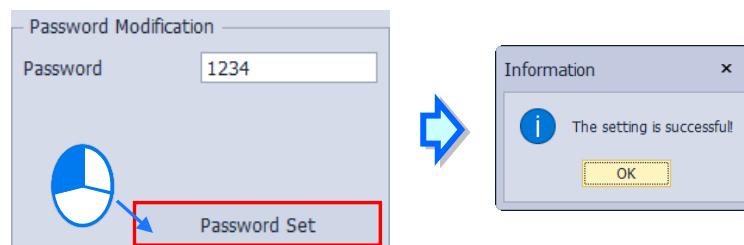


#### 4.5.11 Password Modification

Modify the password for the password lock with 1000 being the factory default setting.

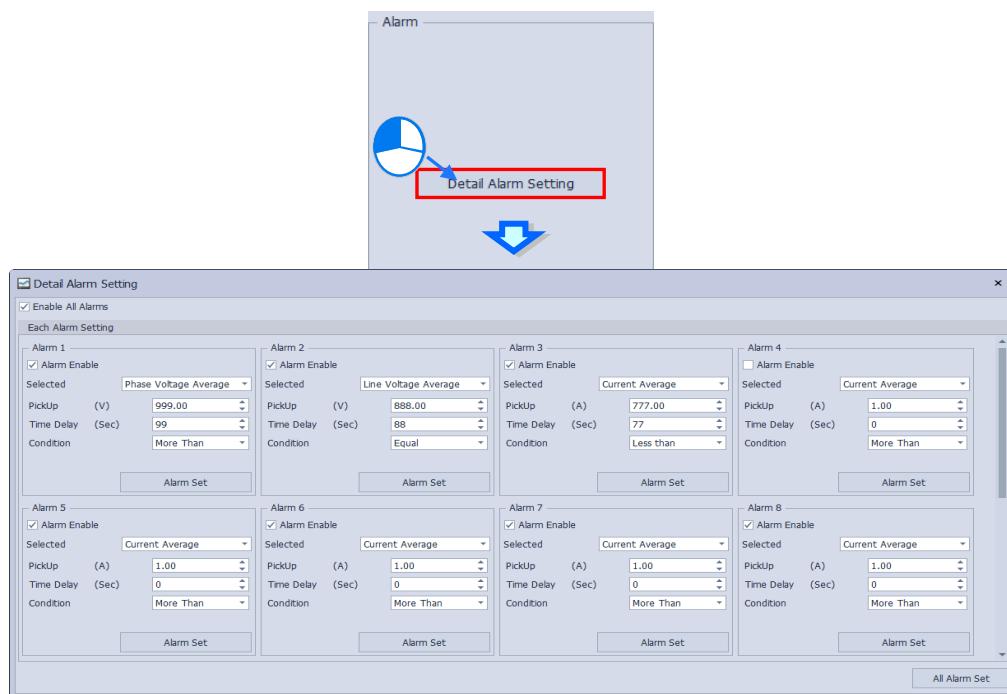


When the setting for password is completed, click “Password Set” and a pop-up window will show whether the setting is successful or not.



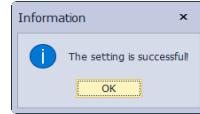
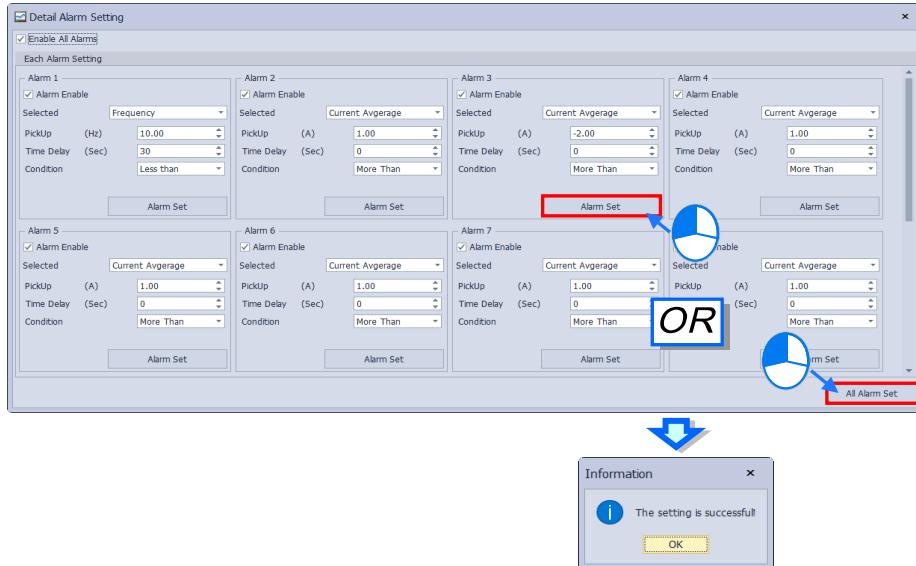
#### 4.5.12 Alarm

Configure alarm conditions by clicking “Detail Alarm Setting”, then the detail alarm setting window will pop up.



- **Alarm Enable:** Check the box  to enable or uncheck  to disable the function.
- **Selected:** Choose the desired alarm option from the drop-down list.
- **Pickup:** The alarm is triggered when the condition and the pickup value is fulfilled.
- **Time Delay:** After the pickup value is reached as well as the time delay being exceeded, the alarm will be shown.
- **Condition:** Set the triggering condition. Once the condition is fulfilled, the alarm will be triggered.

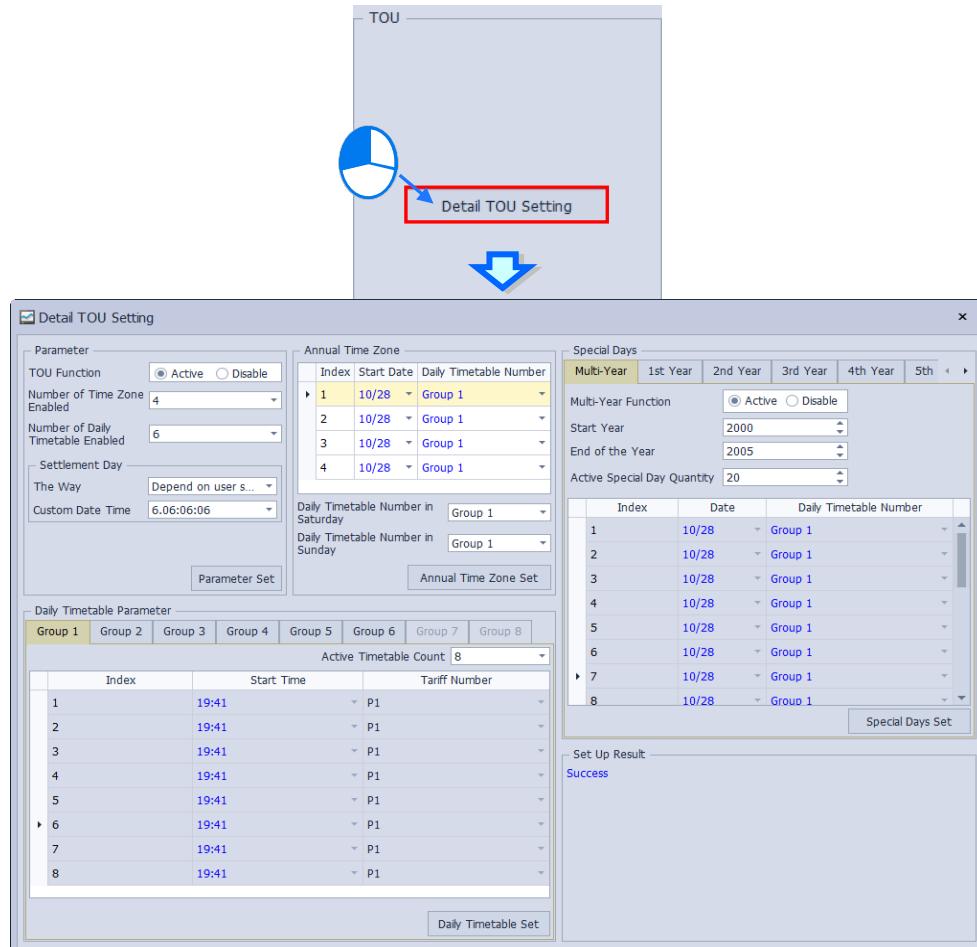
When the alarm setting is completed, click “Alarm Set” or “All Alarm Set” and a pop-up window will show whether the setting is successful or not.



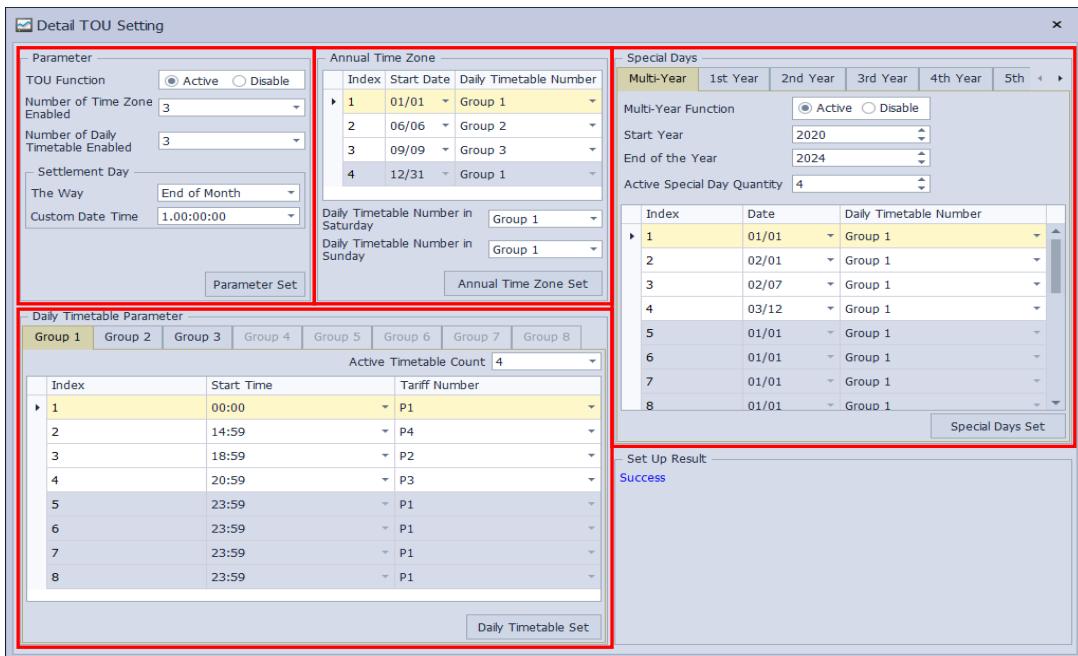
### 4.5.13 TOU

Divide a certain time into consecutive time periods. Each period can point to the same or different tariffs (point, peak, plateau or valley). The power meter respectively measures electricity based on different types of tariffs, which is determined by the internal clock inside the power meter, so as to meet the requirement of TOU measurement and charge.

To set the TOU conditions, click “Detail TOU Setting” and then the detail TOU setting window would pop up.



There're four sections on the detail TOU setting window as the following shows:



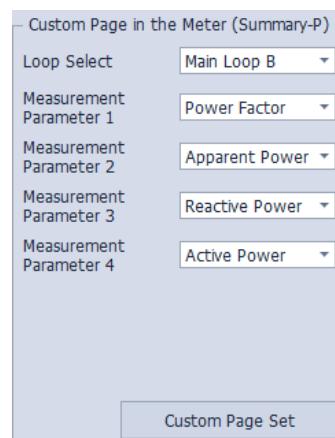
- Parameter:** Enable or disable the TOU function. A maximum number of 4 can be set for enabled time zone, while a maximum number of 8 can be set for enabled daily timetable. After complete the settings for time zone, daily timetable and settlement day, click "Parameter Set" to confirm successful save of configuration.
- Annual Time Zone:** A year can be divided into four-time intervals at most, which must be configured in closed-loop. Make sure the setting of start date matches the setting in day timetable parameter. Furthermore, daily timetable number in Saturday and Sunday can also be configured here. After completing all the settings, click "Annual Time Zone Set" to confirm successful save of configuration.

For example, in case of three time zones being chosen, the first time zone is set to January 1<sup>st</sup> and group1 as the daily timetable, while the second time zone is set to September 9<sup>th</sup> and group3 as the daily timetable, as well as setting the third time zone to June 6<sup>th</sup> and group2 as the daily timetable, error occurs.

- Daily Timetable Parameter:** A day can be divided into eight-time intervals at most, which must be configured in closed-loop. Make sure each interval matches a proper tariff number. After completing all the settings, click "Daily Timetable Set" to confirm successful save of configuration.
- Special Days:** Can be configured with multi-year or single-year setting. Up to 20 special days can be configured in a setting, while a maximum of 5 years can be set for multi-year. After completing all the settings and make sure to match the daily timetable, click "Special Days Set" to confirm successful save of configuration.

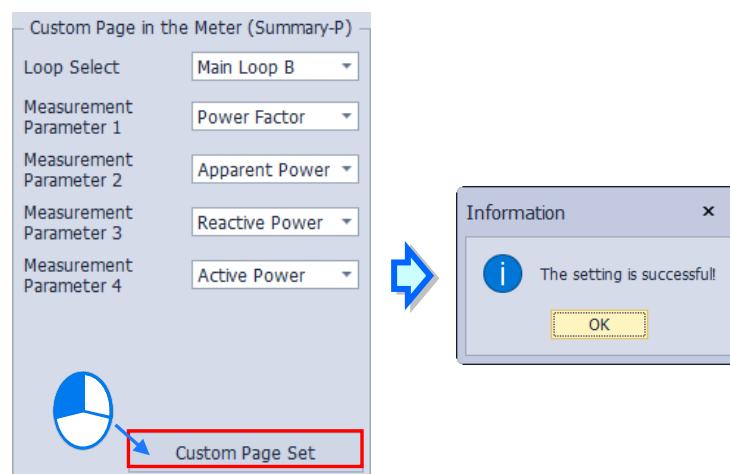
#### Priority of TOU: Special days > Weekends > Annual Time Zone

#### 4.5.14 Custom Page in the Meter (Summary-P)



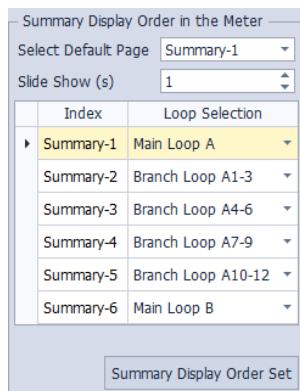
- Loop Select: Set the loop to display on the custom page in the power meter.
- Measurement parameter 1: Set the measurement parameter of the selected loop.
- Measurement parameter 2: Set the measurement parameter of the selected loop.
- Measurement parameter 3: Set the measurement parameter of the selected loop.
- Measurement parameter 4: Set the measurement parameter of the selected loop.

Set parameters to display on Summary-P page in the meter based on your needs and click **Custom Page Set**, then a pop-up window will show whether the setting is successful or not.



#### 4.5.15 Summary Display Order in the Meter

Set the orders of parameters displayed on summary page.



- Select the default summary page: Configure loops and parameters displayed on the meter screen, options are:

Summary-1 (Average L-L voltage/Average three-phase current/Transient total actual power/ Frequencies)

Summary-2 (Transient total actual power/ Transient total virtual power/ Transient total apparent power/ Total real power factor)

Summary-3 (Average L-L voltage/Average three-phase current / Transient total apparent power/ Total real power factor)

Summary-4 (Average L-L voltage/Average three-phase current/Transient total actual power/ Frequencies)

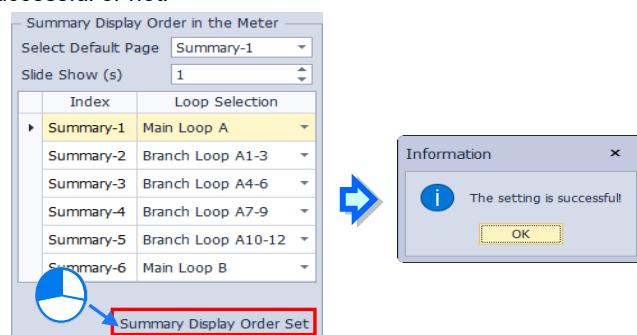
Summary-5 (Transient total actual power/ Transient total virtual power/ Transient total apparent power/ Total real power factor)

Summary-6 (Average L-L voltage/Average three-phase current/Transient total actual power/ Total real power factor)

Summary-P (User-defined page); slide shows.

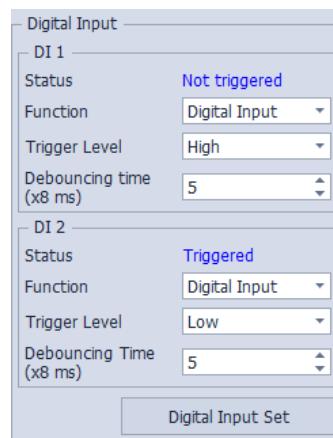
- Slide Show (s): Set screen display length for slide shows.
- Summary-1: Configure the parameter value of the selected loop displayed for Summary-1.
- Summary-2: Configure the parameter value of the selected loop displayed for Summary-2.
- Summary-3: Configure the parameter value of the selected loop displayed for Summary-3.
- Summary-4: Configure the parameter value of the selected loop displayed for Summary-4.
- Summary-5: Configure the parameter value of the selected loop displayed for Summary-5.
- Summary-6: Configure the parameter value of the selected loop displayed for Summary-6.

Configure the default display based on your needs and click **Summary Display Order Set**, then a pop-up window will show whether the setting is successful or not.



#### 4.5.16 Digital Input

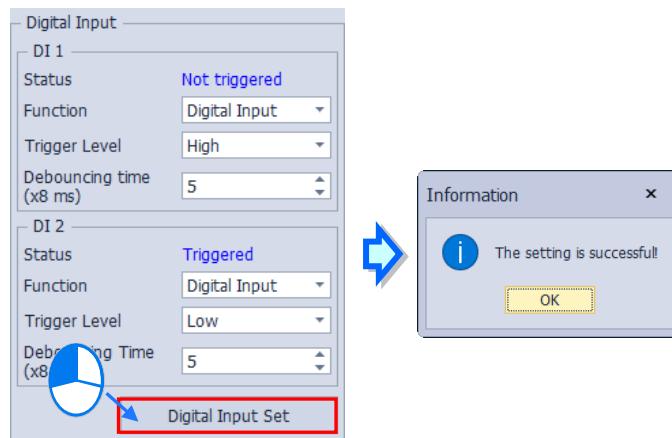
The meter comes standard with two digital inputs, including DI1 and DI2. Apart from being digital inputs, you can also configure the conditions for them.



The upper section is to configure DI1 digital input settings, and the lower section is to set DI2 digital input.

- Function: Digital Input, Demand Reset, Max Demand Reset, Energy Reset, Max/ Min Reset/ Relay Reset with Digital Input being the default factory setting.
- Trigger Level: The input signal can be set to either ON (High) or OFF (Low).
- Debouncing Time (x8 ms): Set the debounce time to avoid errors with a setting range from 0 to 99 (x 8mS), while 5 (40mS) being the default factory setting.

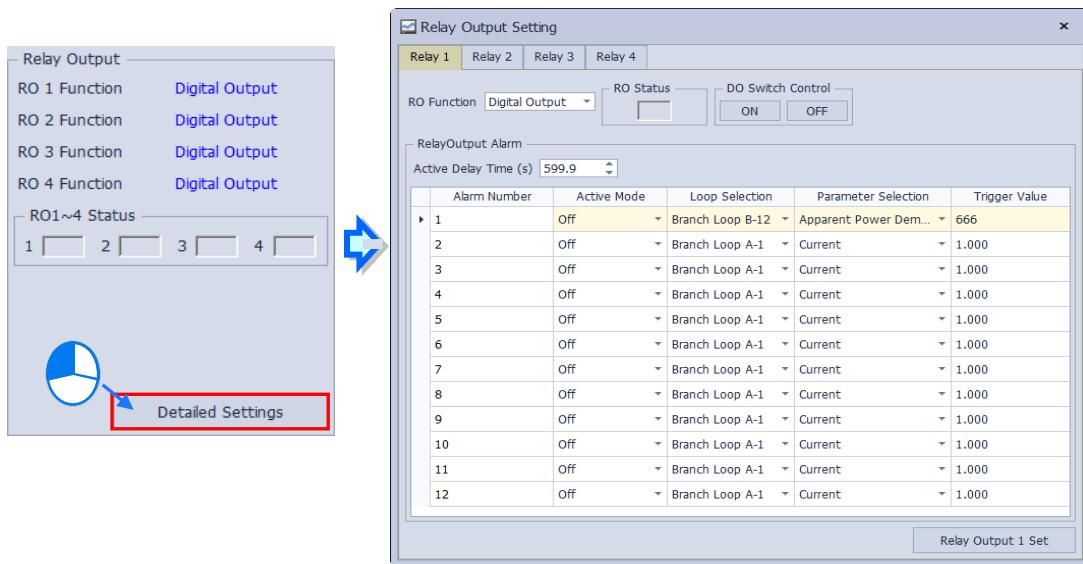
Configure the digital input settings based on your needs and click **Digital Input Set**, then a pop-up window will show whether the setting is successful or not.



#### 4.5.17 Relay Output Setting

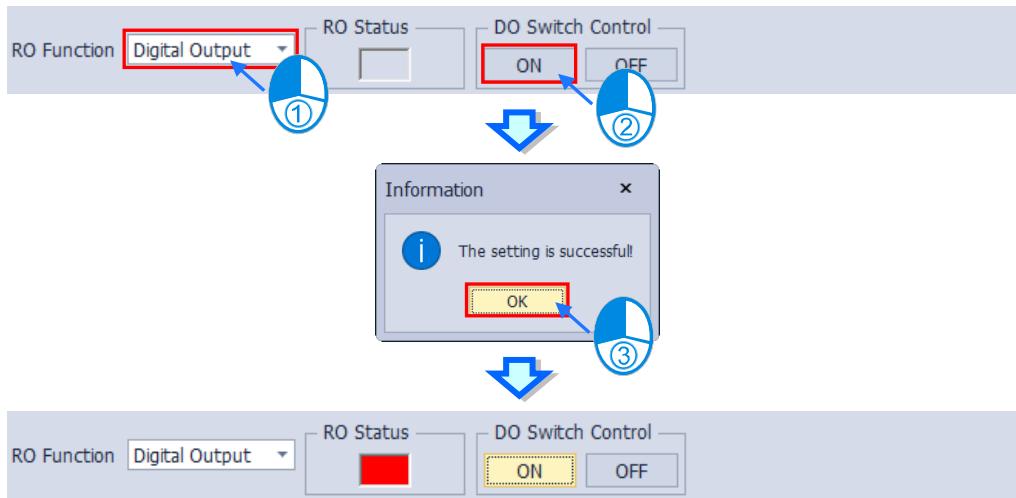
The meter comes standard with four relay outputs, including RO1, RO2, RO3, and RO4. Apart from being relay outputs, you can also set it to **Alarm** mode with Digital Output being the default setting.

Click **Detailed Settings**, Relay Output Setting window would pop up.



##### Digital Output:

Digital outputs can only be controlled by DPMSoft while using Digital Control mode.



##### Alarm:

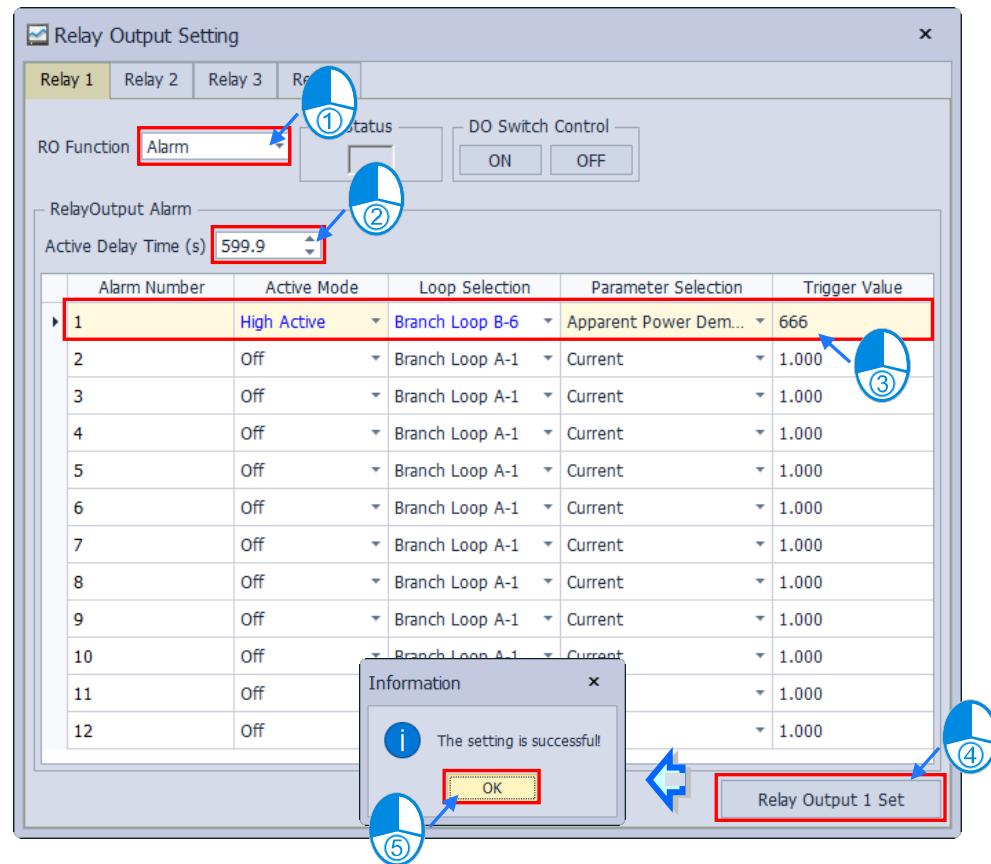
You can set the active delay time from 0 to 599.9 with 0 being the default factory setting.

A maximum of 12 conditions can be set for each relay output, which include Active Mode, Loop Selection, Parameter Selection and Trigger Value.

- Active Mode: Set a proper condition with options: Off, Low Active, High Active, Low Active and Remain, High Active and Remain.

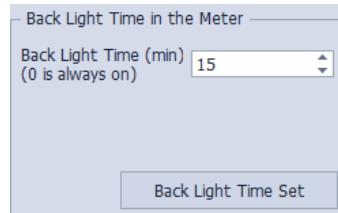
- Loop Selection: Set the alarm loops.
- Parameter Selection: Set the parameters of alarm loops.
- Trigger Value: Set the alarm trigger values.

Configure the relay output settings based on your needs and click **Relay Output Set**, then a pop-up window will show whether the setting is successful or not.

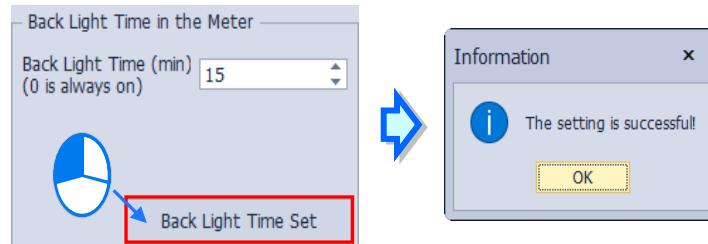


#### 4.5.18 Back Light Time in the Meter

Set the desired backlight time setting with values ranging from 0 to 15 minutes. 0 represents always ON and the default factory setting is 1.

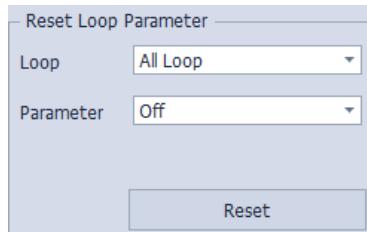


Configure the backlight time settings based on your needs and click **Back Light Time Set**, then a pop-up window will show whether the setting is successful or not.



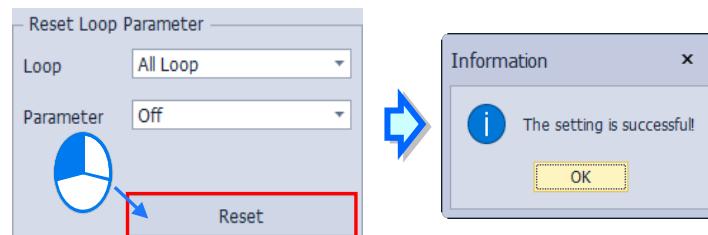
#### 4.5.19 Reset Loop Parameter

Reset loop parameter settings.



- Loop: Select the target loop to reset.
- Parameter: Select the target parameter.

Configure the reset loop parameter settings based on your needs and click **Reset**, then a pop-up window will show whether the setting is successful or not.

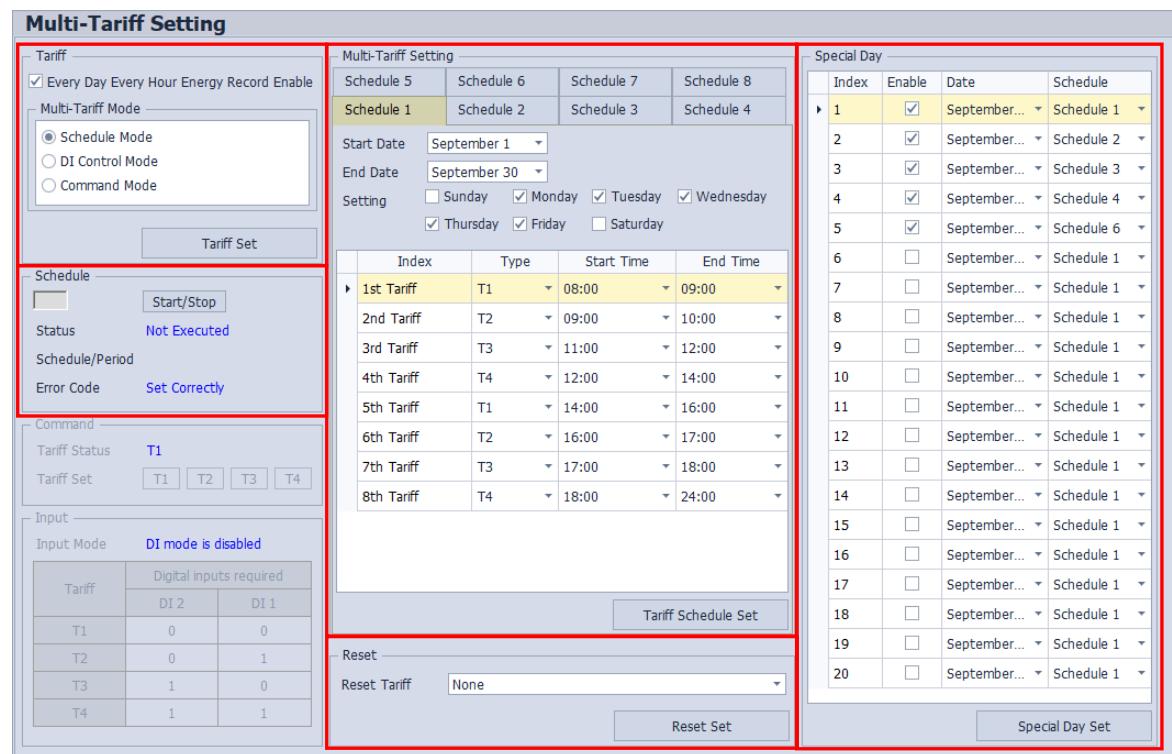


## 4.6 Advanced Setting – Multi-Tariff Setting

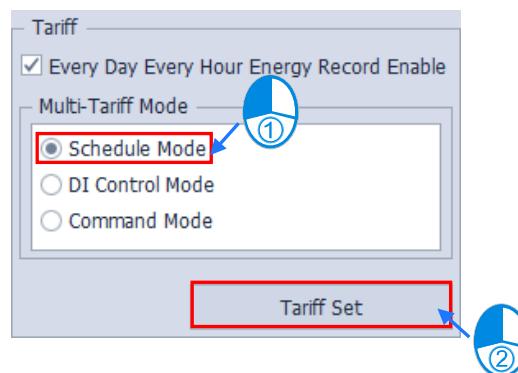
Multi-Tariff Setting: includes **Schedule Mode**, **DI Control Mode**, **Command Mode**. The factory default setting is **Schedule Mode**.

Public Utility will regulate different tariff schedule based on the date and time of energy consumption; this function enables users to store multiple tariffs of energy usage. Multi-Tariff function supports 4 different tariff(T1~T4) and 3 different modes of tariff setting, allowing users to measure and monitor the energy consumption. Multi-Tariff latched feature stores data every minute. The three different tariff settings include:

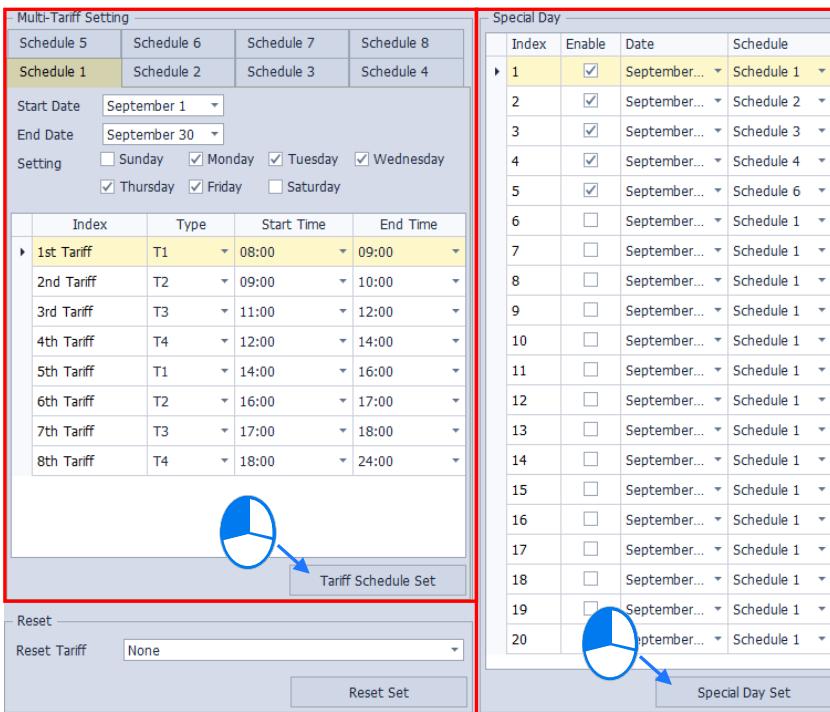
### Schedule Mode



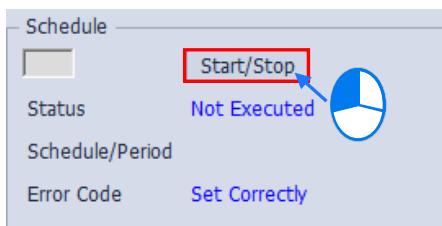
After clicking **Schedule Mode** in **Multi-Tariff Mode**, then click **Tariff Set** to enter the setting page,



**Multi-Tariff Setting** supports 8 sets of date schedules(S1~S8), and each set of date schedules supports 8 sets of time schedule (P1~P8), and 20 sets of **Special Day**. With **Multi-Tariff Setting**, you can specify the month-date range (month and date), time range (hour and minute), and date type (every day, weekends, weekdays or specified weekdays). When executing the time schedule, the special days have the highest priority, and the priority of date schedules decrease from S1 to S8. After modifying the settings, click **Tariff Schedule Set**, then **Special Day Set**.

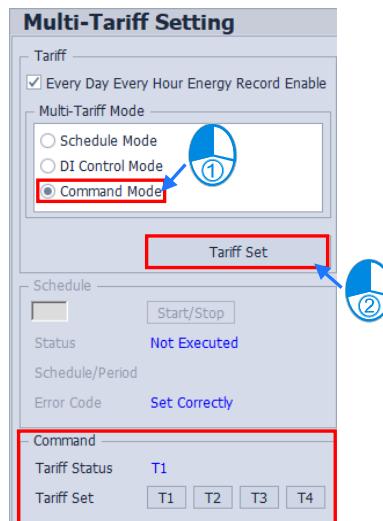


You can start or stop schedule mode in **Schedule**. When multi-tariff schedule starts, the left indicator light will show green, indicating that the meter is conducting parameters verification. If the multi-tariff time settings are incorrect, it will remind you to modify the input information and stop the schedule mode. Please refer to product manual instruction for error codes related to schedule settings.



## Command Mode

After clicking **Command Mode** in **Multi-Tariff Setting**, click **Tariff Set** and set the **Tariff Status** in **Command** field.



4

## DI Control Mode

After clicking **DI Control Mode** in **Multi-Tariff Mode**, click **Tariff Set**. With **DI Control Mode**, digital input 1 and 2 must be set to ON state, please refer to section **4.2 System Setting – Digital I/O Setting** for details. Digital Input can be used as binary counter and can switch corresponding tariffs.

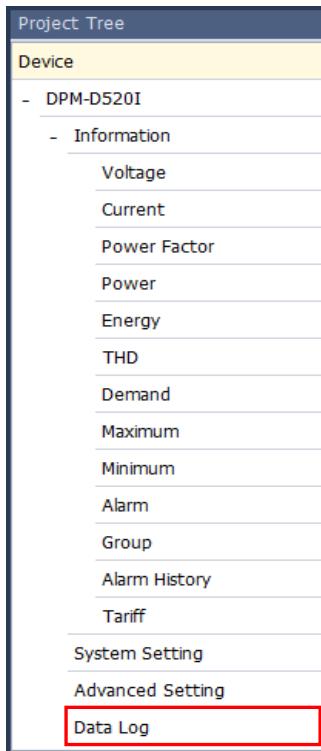
In this system, low voltage=0, high voltage=1, MSB (most significant bit) =digital input 2, LSB (least significant bit)=digital input 1. As shown in the table below, the software will display the current input mode.

The screenshot shows the 'Multi-Tariff Setting' window with 'DI Control Mode' selected in the 'Multi-Tariff Mode' section (highlighted with a red box and arrow). The 'Tariff Set' button is also highlighted with a red box and arrow. The 'Command' section shows 'T1' as the tariff status. The 'Input' section at the bottom displays a table showing the digital input requirements for each tariff:

Tariff	Digital inputs required	
	DI 2	DI 1
T1	0	0
T2	0	1
T3	1	0
T4	1	1

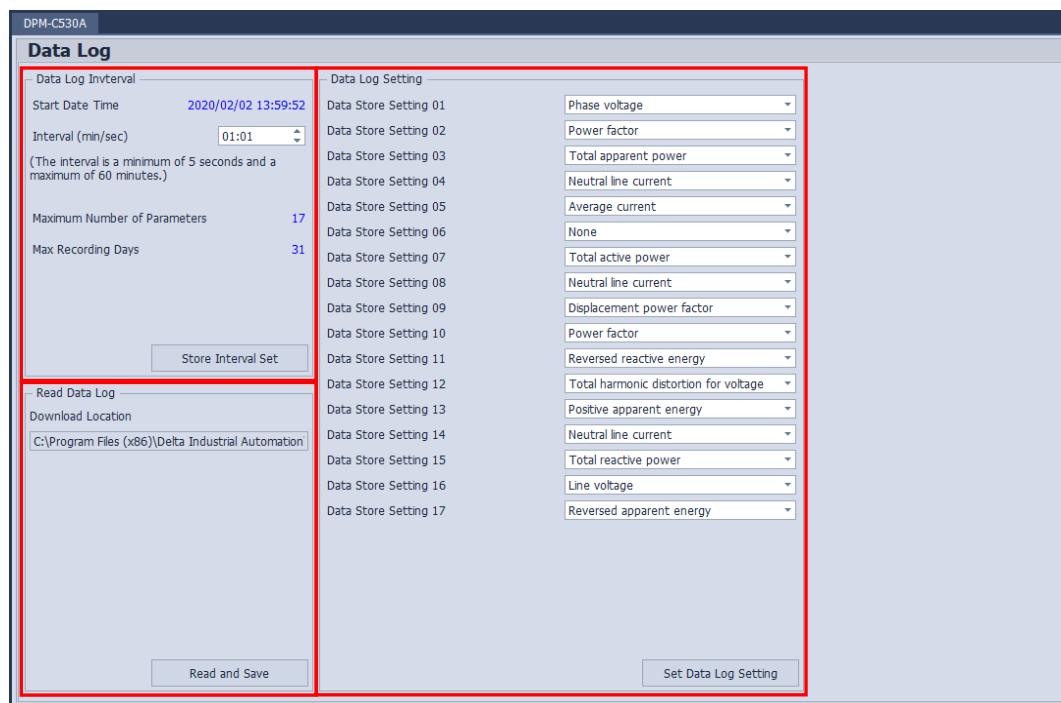
## 4.7 Data Log

Store the logs regarding parameters in the non-volatile memory (NVM) and download the data logs via RS-485 communications.



There're three sections on the data log window:

- Data Log Interval
  - Start Date Time: The time and date to enable data log.
  - Interval: Record the interval of the power meter, with the minimum interval as 0 (min) : 5 (sec), the maximum interval as 60 (min) : 0 (sec). If the interval is set as 0 (min) : 0 (sec), this means the interval function is disabled.
- Read Data Log
  - Read and Save: The exported logs are in CSV format and select a download location.
- Data Log Setting
  - Data Log Setting 01~17: Choose from up to 17 content parameters and sequence for data storage.

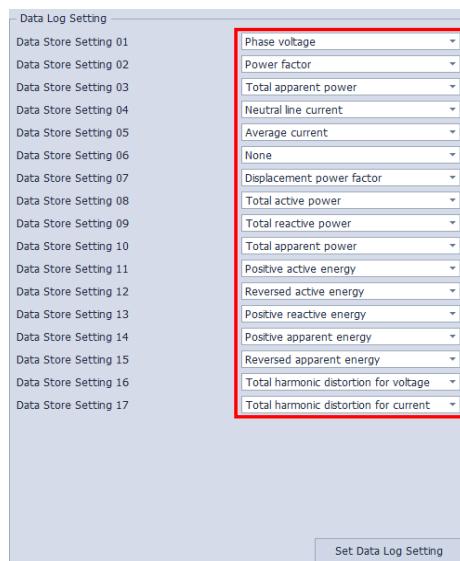


■ Data Log Specification:

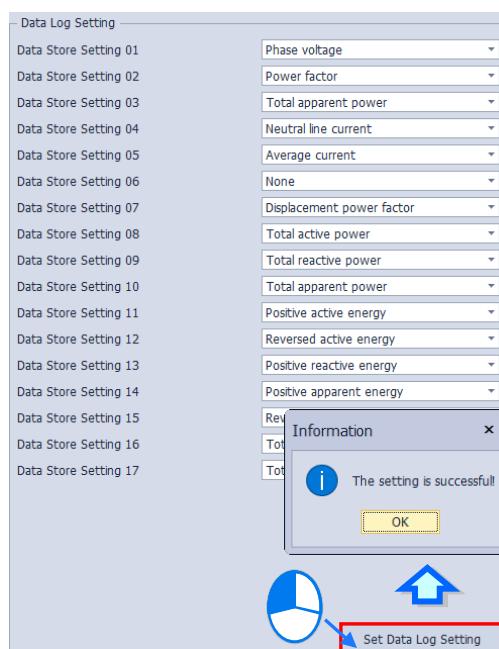
Item \ Interval	0 min 0 sec ~ 0 min 59 sec	1 min 0sec ~ 4 min 59 sec	5 min 0 sec ~ 60 min 0 sec
Maximum Parameters (number)	6	17	17
Maximum Capacity (Day)	7	31	62

Setup data log through the following steps:

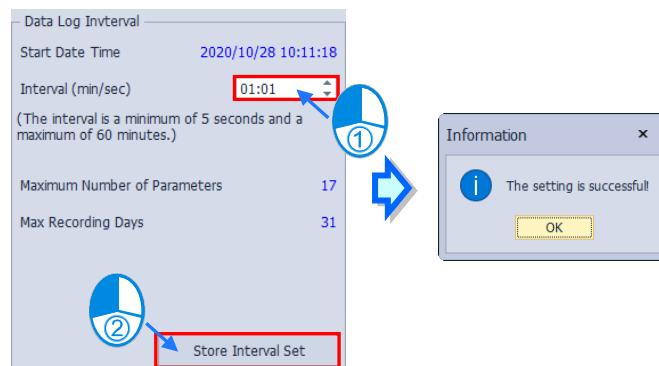
- (1) Select the desired parameters in the order 01 to 17 from the data log setting section and base on the above specifications for data storage.



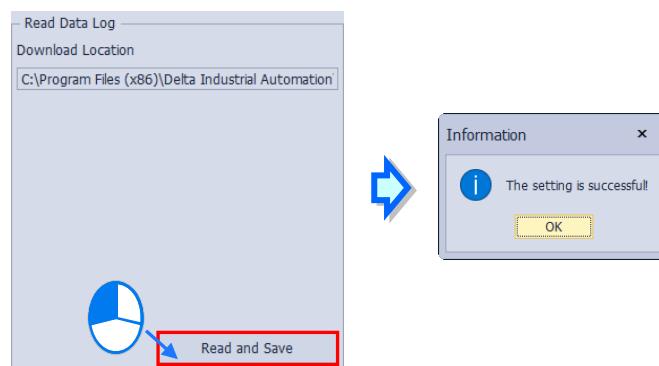
- (2) Click “Set Data Log Setting” (see below) to complete the setting.



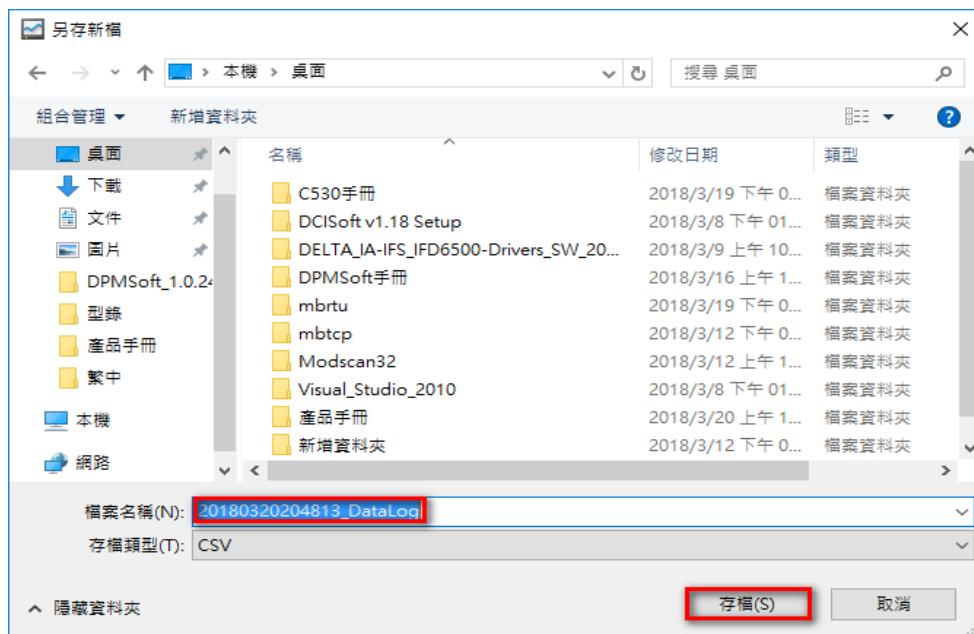
- (3) Select the desired data log interval and click “Store Internet Set” to complete the settings.



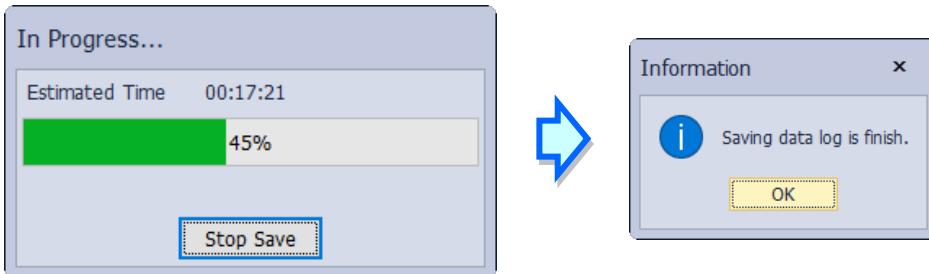
- (4) You can click “Read and Save” to download the data log onto your PC.



- (5) Choose the data log file and download location, then click “Save”.



- (6) A successful message would appear at the bottom of the page when the download is complete.



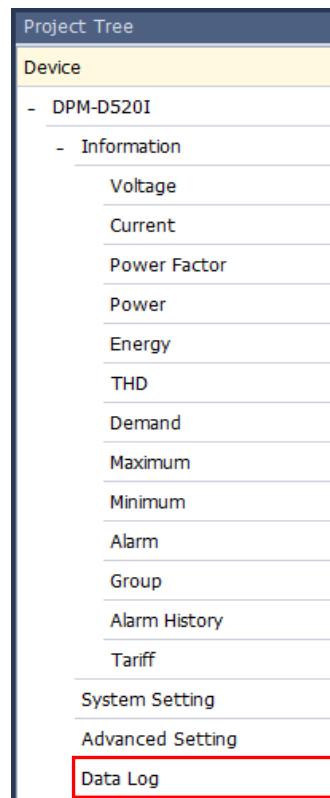
※ **Note:**

- a.) First complete the "Data Log Setting 01~17" to setup the sequence and then select the "Interval". If "Interval" is set first, then "Data Store Setting 01~17" cannot be setup. ("Set Data Log Setting" button cannot be clicked.)
- b.) When the data store setting exceeds the specification, the exceeding content is ignored. In other words, if the interval is set at 5 sec, the data store setting from 07 and more are automatically ignored.

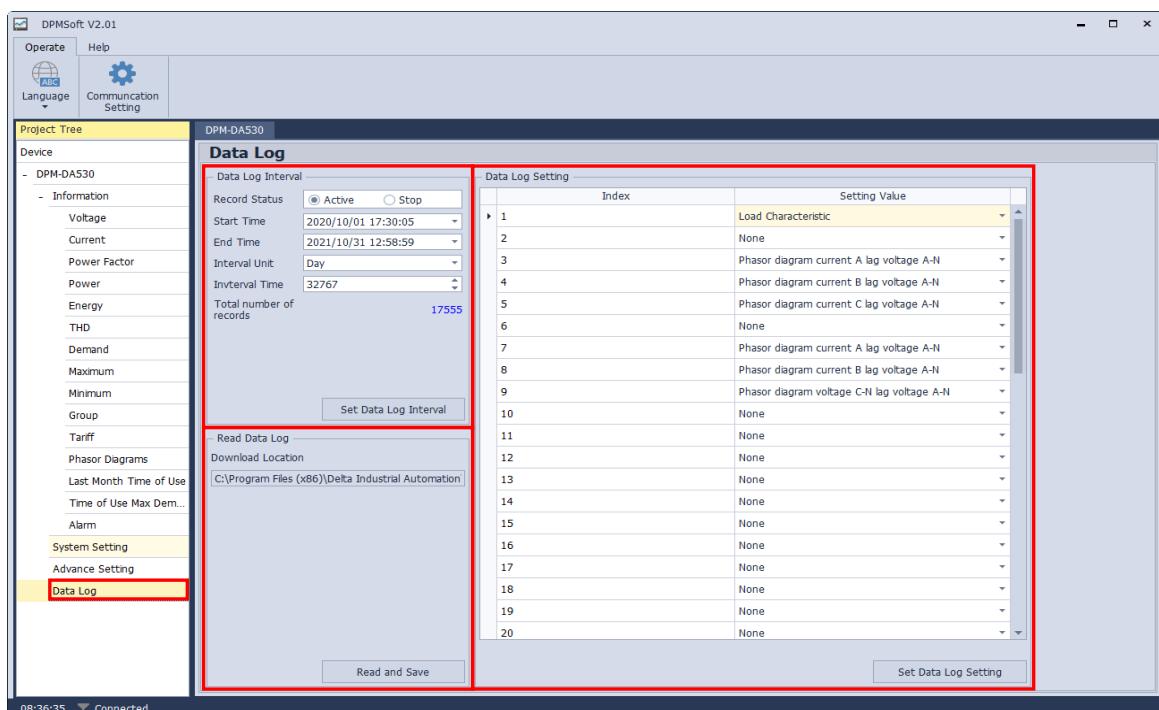
## 4.8 Data Log-DA Series/MA Series

As the data log configuration for DA and MA Series power meter is different from other model types, a further introduction is given in this section.

Click “Data Log” to enter the page as shown in the figure below.



There're three sections on the data log page for DA and MA series power meter.



### 3. Data Log Internal

- **Record Status:** Active or stop recording status.
- **Start Time:** Set the time to start storing records.
- **End Time:** Set the time to stop storing records.
- **Interval Unit:** Set the unit of interval between two records, which can be set to Second, Minute, Hour and Day.
- **Interval Time:** Set the interval time between two records, the setting range is from 1 to 32767.
- **Total Number of Records:** Display the current number of records. °

### 4. Read Data Log

- **Download Location:** Select the desired storage path before export the data log to a CSV file.

### 5. Data Log Setting :

- **Data storage setting 01~50:** Select the desired contents and sequences for parameters to be stored, with 90 sets of parameters at maximum.

4  
※ **Note:** Make sure that the condition setting has been completed as well as the record function being enabled before using the data log function. Any incomplete or incorrect configuration may result in recording errors ultimately. The configuration should be completed through the corresponding register, while the register must be configured via communication protocols. By following first-in-first-out principle, the earlier records would be covered sequentially when the number of records reaches the limit. Therefore, we suggest you read and save all the record data before the maximum limit of records is reached so as to prevent data loss.

When the parameter setting of data log internal is changed, all the current record data would be erased and immediately begin a new recording. In case that you intend to modify the data log internal setting, it is necessary to turn off record function by setting "Record Status" to "Stop".



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