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Multi-functional Power Meter
DPM-C530 Series Operation Manual

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Revision History

Version	Revision	Date
1st	The first version was published.	2018/08/24
2nd	Error correction.	2018/09/26
3rd	Add new content concerning DPM-C530E.	2020/11/12
4th	Add new content concerning DPM-C532.	2021/05/07
5th	Add multiple DI/DO metering functions for DPM-C532.	2023/07/05
6th	Add MID certification for DPM-C530EM/C532M models.	2024/11/30

Multi-functional Power Meter
DPM-C530 Series Operation Manual

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Chapter 1 Product Introduction

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1.1 Preface

Thank you for choosing this product. This manual provides installation instructions for the DPM-C530 series power meter. The multifunction power meter DPM-C530 series are an obvious choice for any application in terms of power monitoring and control. It also can be used for measurement category CAT III.

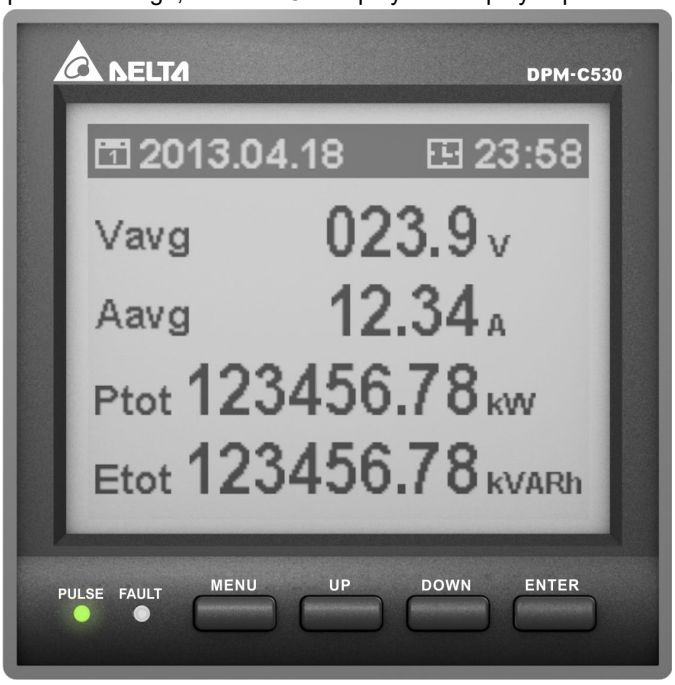
Before using the meter, read this manual carefully to ensure proper use of this meter. Please observe and follow the notes below prior to finishing reading this manual.

- The installation environment must be free of water vapor, corrosive and flammable gas.
- Follow the instructions on the diagram in this manual for wiring the device.
- Grounding must be performed correctly and properly according to provisions for related electric work regulations currently effective in the country.
- Do not disassemble the meter or alter its wiring when the power is on.
- When the power is on, do not touch the terminal area to avoid electric shock.

If you still experience issues when using the device, please contact your distributor or our customer service center. As the product is updated and improved, changes to the specifications will be included in the newest version of the manual which you can get by contacting your distributor or downloading it from the Delta Electronics website (Delta | Download Center).

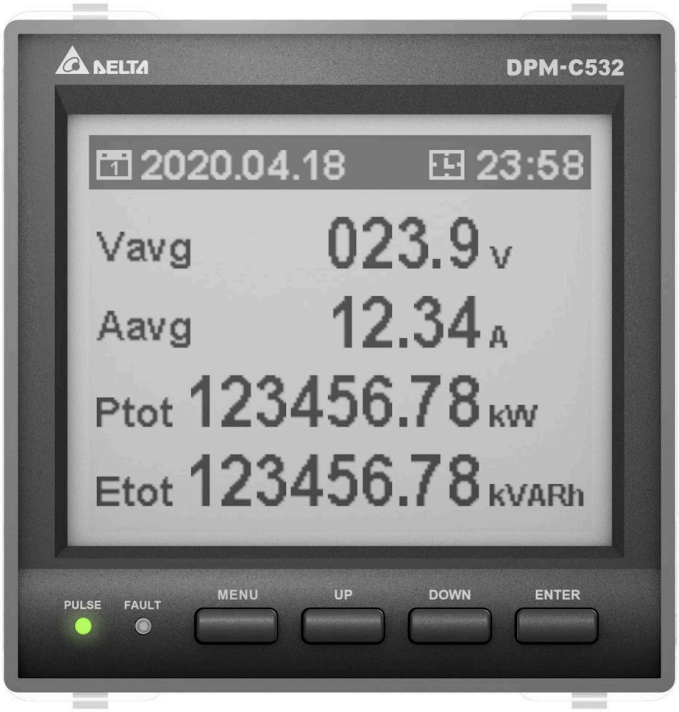
1.2 Overview

The DPM-C530 is equipped with a large, back-lit LCD display that displays up to four lines of information.



The DPM-C530E/C530EM is equipped with a large, back-lit LCD display that displays up to four lines of information.

The DPM-C532/C532M is equipped with a large, back-lit LCD display that displays up to four lines of information.



1.3 Safety Precautions

- **Installation Notes**

- Install the power meter according to instructions on the manual. Use appropriate personal protective equipment (PPE) and follow safe electrical work practices.
- Only qualified electrical workers should install this equipment. Such work should be performed only after reading the entire set of installation instructions.
- Operate the power meter according to instructions on the manual. Neglecting fundamental installation requirements may lead to personal injury as well as damage to electrical equipment or other property.
- This equipment should be installed in a suitable insulated and fireproof enclosure.

- **Operation Notes**

- DO NOT work alone.
- Before performing visual inspections, tests, or maintenance on this equipment, disconnect all electric power sources.
- Always use a properly rated voltage sensing device to confirm that power is off.
- Replace all devices, doors and covers before turning on power to this equipment.
- Carefully inspect the work area for tools and objects that may have been left inside the equipment.

- **Operation Notes**

- Never short the secondary of a Power Transformer (PT).
- Never open circuit a Current Transformer (CT)
- Ensure that the CT secondary winding is fixed securely on the equipment. It may damage the equipment if the secondary winding becomes loose during operation.
- When used with CTs, make sure the CTs are UL2808 listed in America and Canada as well as meeting the accuracy specifications for IEC61869-2 class or accepted by authority having jurisdiction (AHJ) in other areas.

- **Wiring Notes**

- When the measured current is higher than the rated specification for the device, consider using an external current transformer (CT).
- When the measured voltage is higher than the rated specification for the device, consider using an external potential transformer (PT) (line voltage: 35 to 690V AC L-L or phase voltage: 20 to 400V AC L-N).
- Connect only one cord to one plug on the quick connector.
- For the device is accidently unplugged, check the connecting cord and restart.

- **Maintenance and Inspection Notes**

- While cleaning the equipment, be sure to unplug all external power sources first. Use a dry cloth to clean the equipment's exterior. DO NOT open the equipment or touch the wiring inside to prevent personal injury as well as damage to electrical equipment or other property. DO NOT use aerosol sprays, solvents, or abrasives.

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Chapter 2 Product Specifications

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2.1 Electrical Characteristics

Measurement Accuracy					
Electric quantities	**Real power**	± 0.5%	**Electric energy**	**Real power**	± 0.5% complies with MID EN50470-3 Class C
	Reactive power	± 1%		**Reactive power**	± 1%
	Apparent power	± 2%		**apparent power**	± 2%
Voltage		± 0.5%	**Current**		± 0.5%
Power factor		±0.005% Count	**Total Harmonic Distortion for Current**		± 1%
Real power demand		± 0.5%	**Total Harmonic Distortion for Voltage**		± 1%
Reactive power demand		± 1%	**Frequency**		± 0.5%
Apparent power demand		± 2%	**Harmonic**		± 1%

Input		
Voltage Connection	1PH2W, 1 CT	3PH3W, Δ connection, 3 CT, 2 PT
	1PH3W, 2 CT	3PH4W, Y connection, 3 CT, No PT
	3PH3W, Δ connection, 3 CT, No PT	3PH4W, Y connection, 3 CT, 3 PT
	3PH3W, Δ connection, 2 CT, No PT	3PH4W, Y connection, 2 CT, 3 PT
Rated Voltage	Line voltage: 35–690 VAC (L-L) Phase voltage: 20–400 VAC (L-N)	
Rated Current	Nominal: 1 A / 5 A	
Measure Current	20 mA to 6 A	
Start Current	20 mA* (for C530EM/C532M: 5 mA)	
Frequency	50/60 Hz	
Harmonic Wave	31	
CAT Rating	Measuring Category: CAT III	
Power	Operating range	100–240 VAC (maximum power: 4.6 W) 100–300 VDC

Frequency	Operating frequency	50/60 Hz
Communication	RS-485 port	Modbus-RTU, Modbus ASCII, BACnet MS/TP
		Baud rate 9600 / 19200 / 38400/ 76800 bps
	Ethernet (Applicable only for DPM-C530E/ C530EM)	Modbus TCP, DHCP, HTTP
		10/100 Mbps
Mechanical Characteristics	Dimension (W x H x D)	96 x 96 x 95.4 mm
	IP Degree of Protection	IP52 (front display), IP20 (meter body)
Environment	Ambient operating temperature	-20°C to +50°C (-4°F to +122°F) for C530E, C532, C530EM, C532M -20°C to +60°C (-4°F to +140°F) for C530
	Storage temperature	-30°C to +60°C (-22°F to +140°F) for C530E, C532, C530EM, C532M -30°C to +70°C (-22°F to +158°F) for C530
	Relative Humidity	5–95% RH
	Altitude	Below 2000 meters

*Accuracy of measurements guaranteed according to IEC62053-22, accurate range starts from 50 mA.

Digital Input (Applicable only for DPM-C532/C532M)	
Input numbers	4
Breakover Voltage	11 to 40 VDC
Closed Circuit Voltage	0 to 4 VDC
Rated Voltage	24 VDC
Input Current	≦ 8 mA
Input Impedance	3 kΩ
Max. Frequency	20 Hz
Isolation Impedance	5 kVrms

Digital Output (Applicable only for DPM-C532/C532M)	
Output numbers	2
Output Voltage	40 VDC
Switching Current	20 mA

On resistance	50 Ω max
Switching Frequency	≦ 20 Hz
Pulse Width	50% duty cycle
Isolation Impedance	5 kVrms

Data Recording	
Maximum / Minimum Instantaneous Values	39 / 39
Alarm Type	29
Alarms History	500

Display	
Screen Type	LCD
Backlight	White LED
Resolution	198 x 160 pixels
LED Indicator	Green: pulse light ; Red: fault light

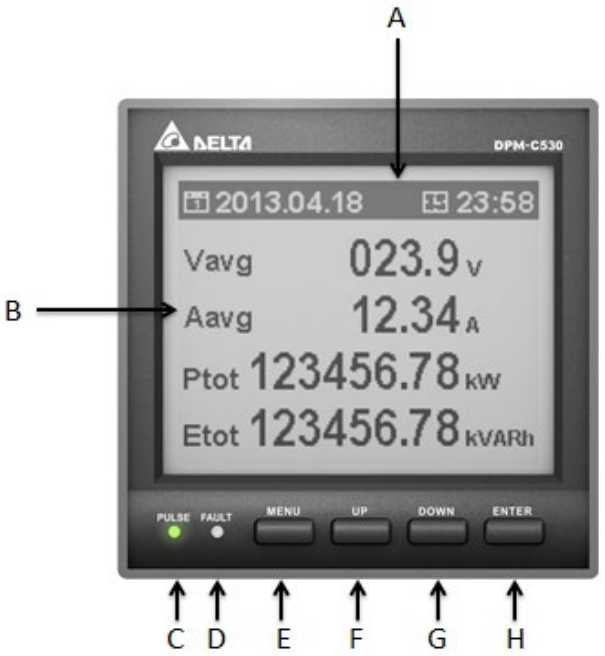
Electromagnetic Compatibility	
Electrostatic Discharge	IEC 61000-4-2
Immunity to Radiated Fields	IEC 61000-4-3
Immunity to Fast Transients	IEC 61000-4-4
Immunity to Impulse Waves	IEC 61000-4-5
Conducted Immunity	IEC 61000-4-6
Immunity to Magnetic Fields	IEC 61000-4-8
Immunity to Voltage Dips	IEC 61000-4-11
Radiated Emissions	FCC Part 15, EN55011 Class A
Conducted Emissions	FCC Part 15, EN55011 Class A
Harmonics	IEC 61000-3-2

2.2 Communications Specifications

Communications (Applicable only for DPM-C530, DPM-C532/C532M)	
RS-485	Modbus-RTU, Modbus ASCII, BACnet MS/TP
Baud rate	9600 / 19200 / 38400 / 76800 bps

Communications (Applicable only for DPM-C530E/C530EM)	
Ethernet	MODBUS-TCP
Baud rate	10/100 Mbps
Numbers of connection	16 (TCP/IP)

2.3 Operating the Display



A	Title
B	Display area
C	PULSE light
D	FAULT light
E	MENU key
F	UP Key
G	DOWN Key
H	ENTER Key

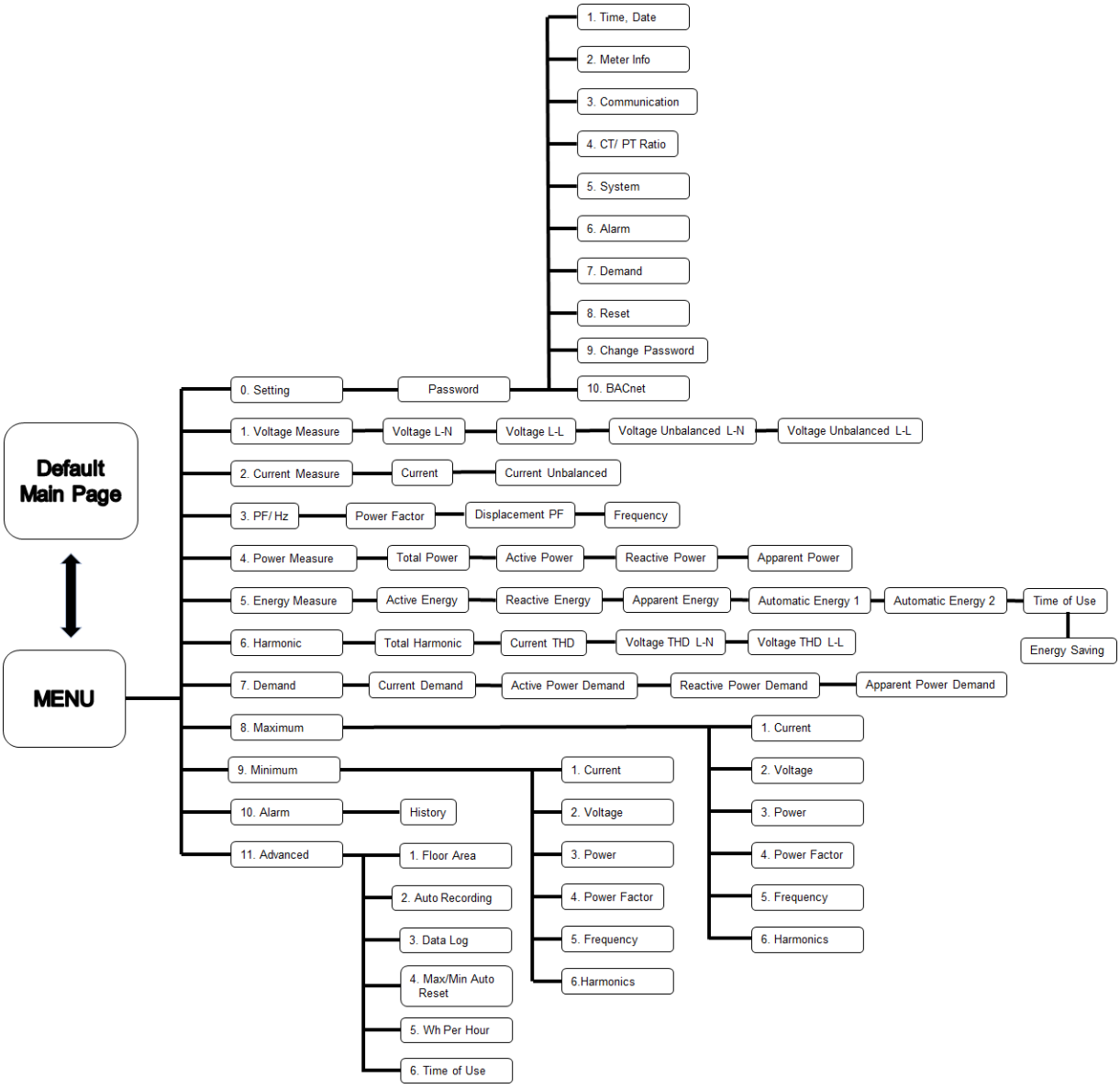
Button	Basic Mode	Setting Mode
MENU Key	Go to Menu or return to the previous screen	Return to the previous screen without saving the current setting
UP Key	To move between items and pages, use the UP key or the DOWN key.	Increment the number
DOWN Key		Decrement the number
ENTER Key	Enter the settings of selected item.	Enter the setting mode and move to the next setting.

*Home page display:

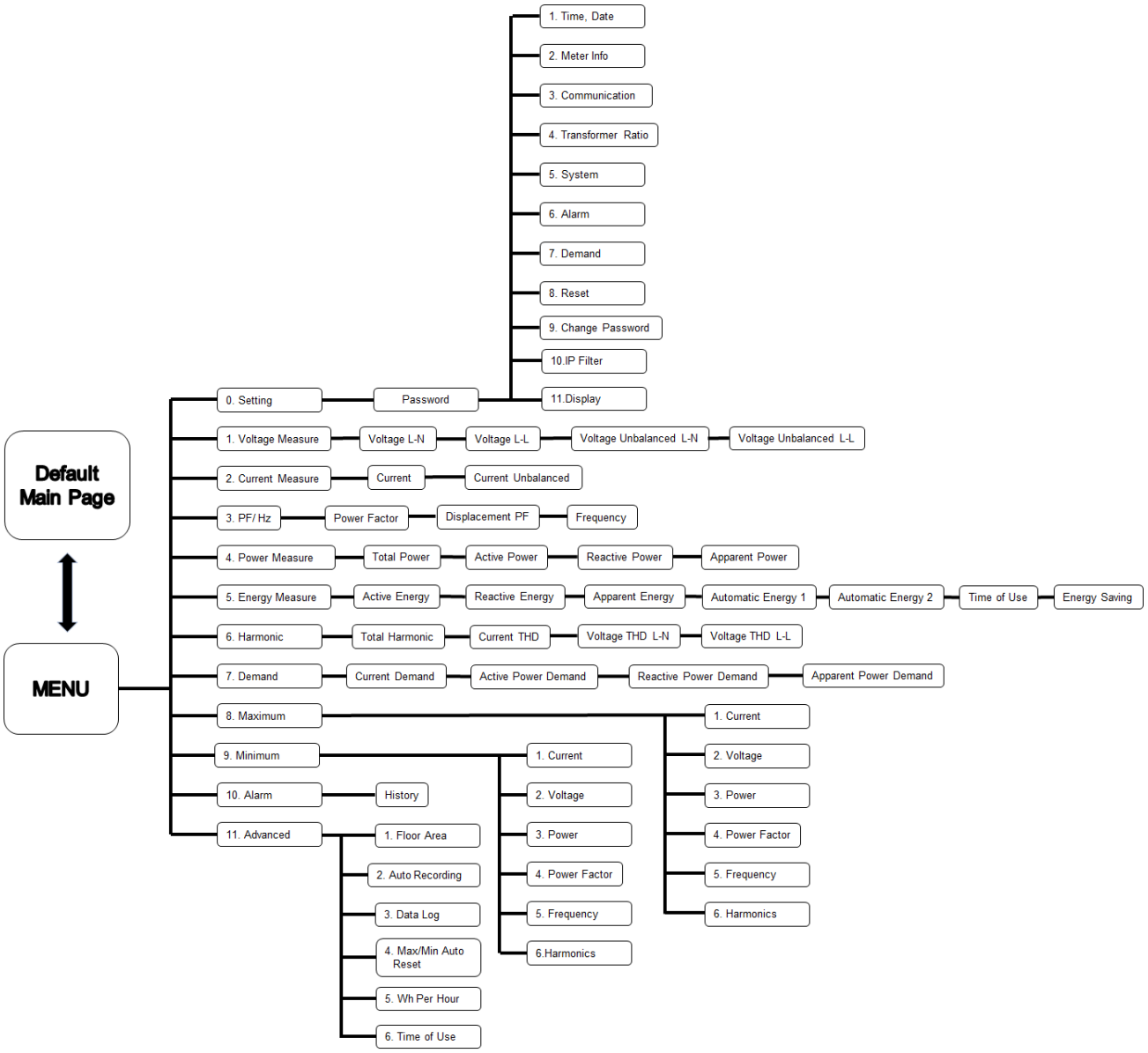
Parameter	Description
Vavg	Average voltage L-L: 1PH3W, 3PH3W
	Average voltage L-N: 1PH2W, 3PH4W
Aavg	Average current value
Ptot	Total real power
Etot	Positive active energy

2.3.1 Menu Tree

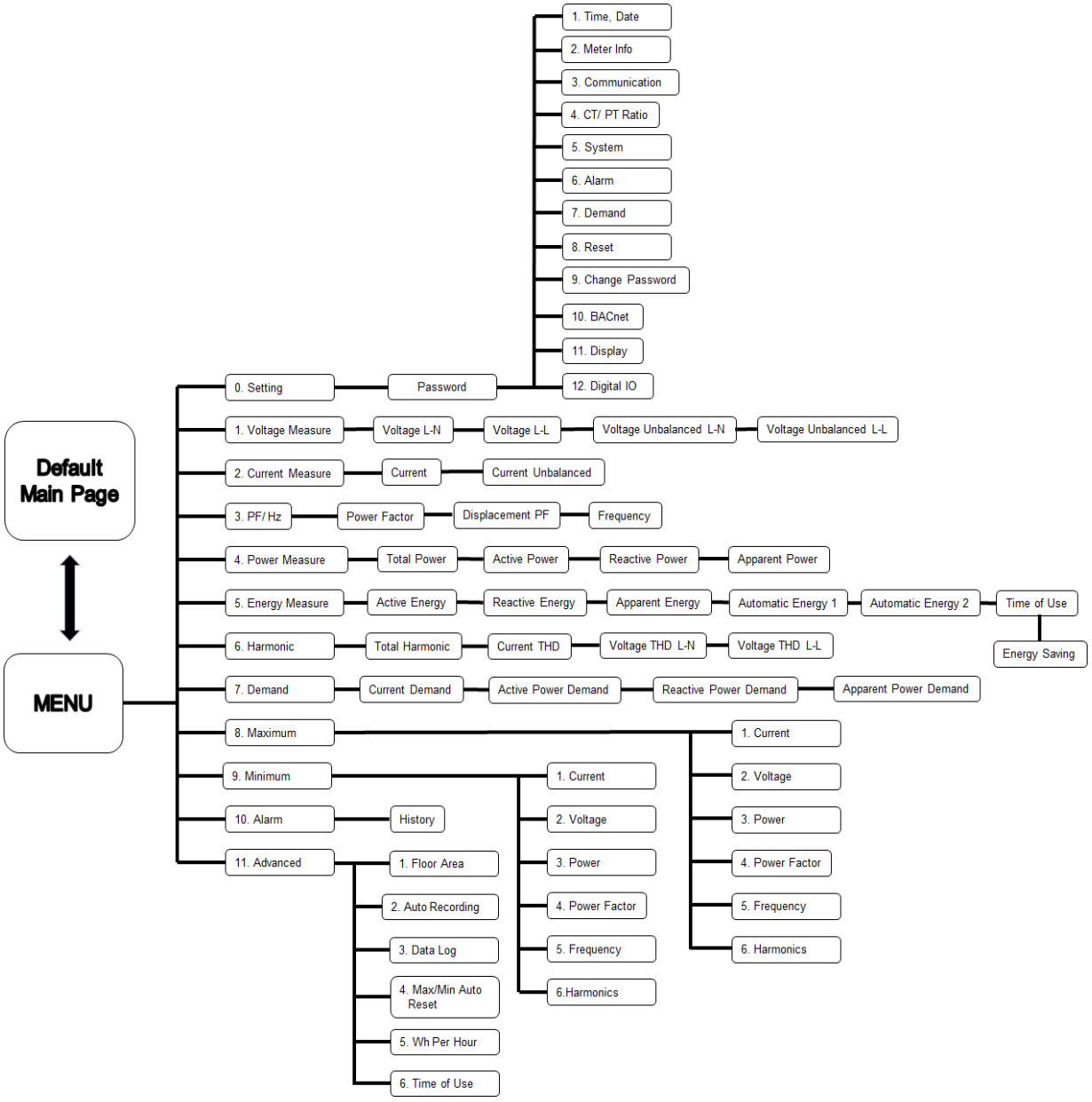
- **DPM-C530**



- **DPM-C530E/C530EM**

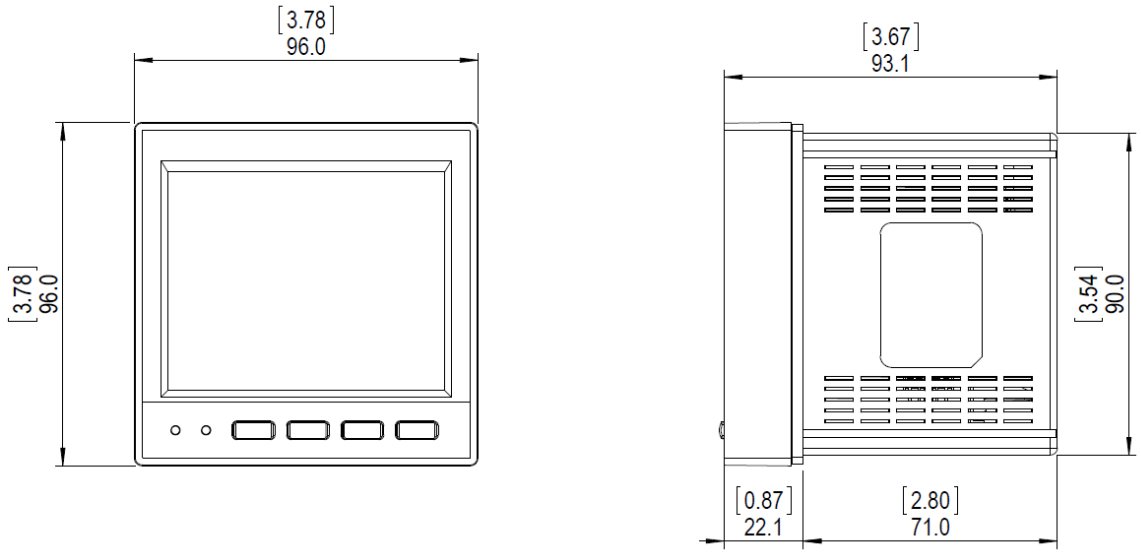


- **DPM-C532/C532M**



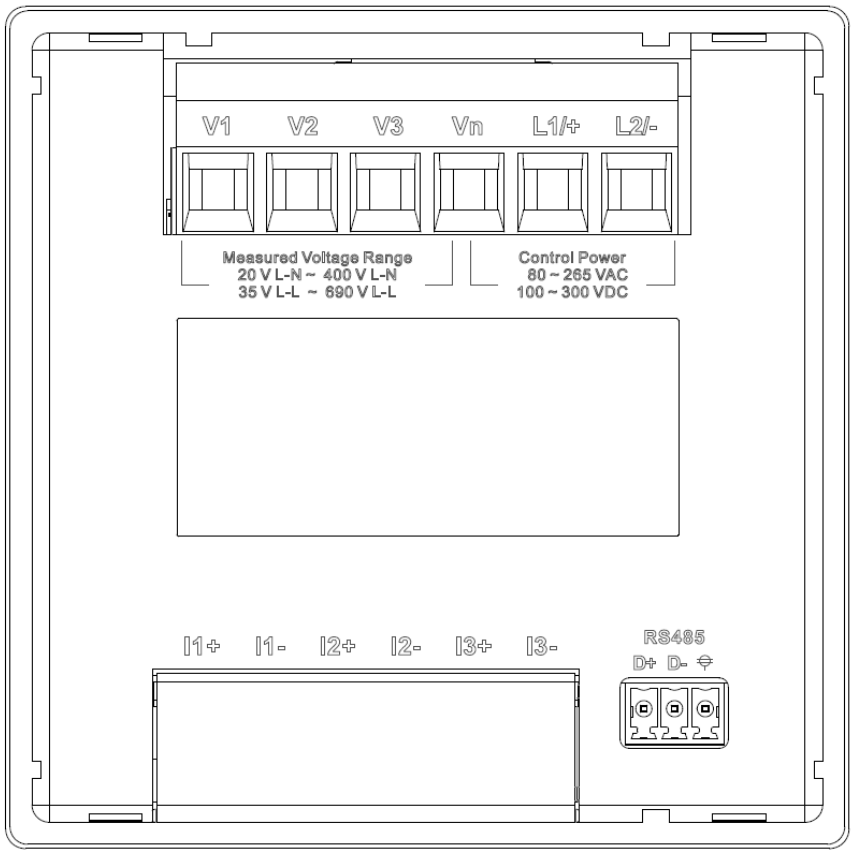
2.4 Dimensions

- **DPM-C530 Front**



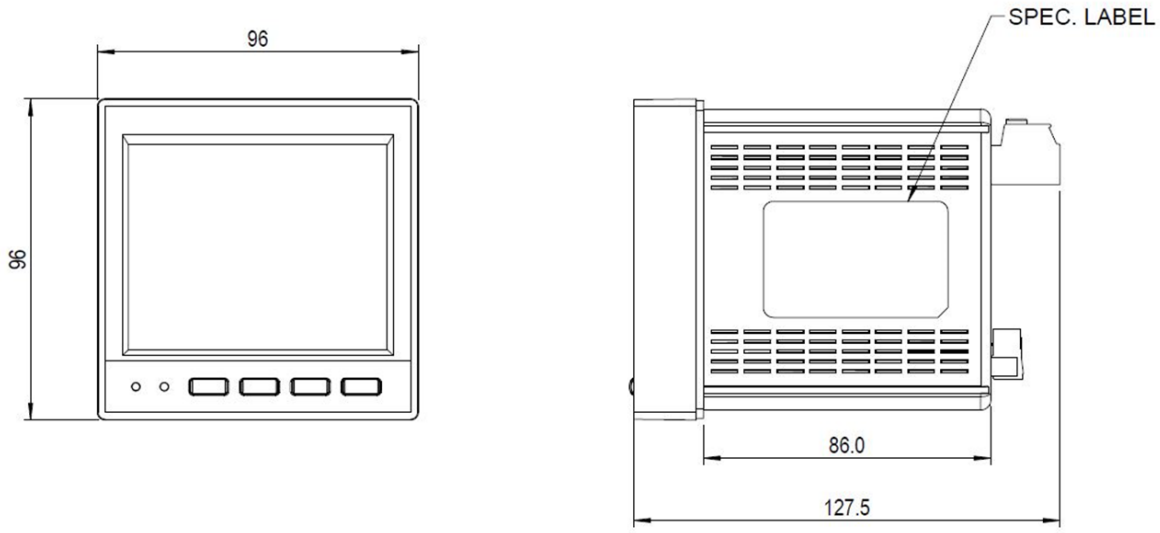
Unit: mm (Inch)

- **DPM-C530 Back**



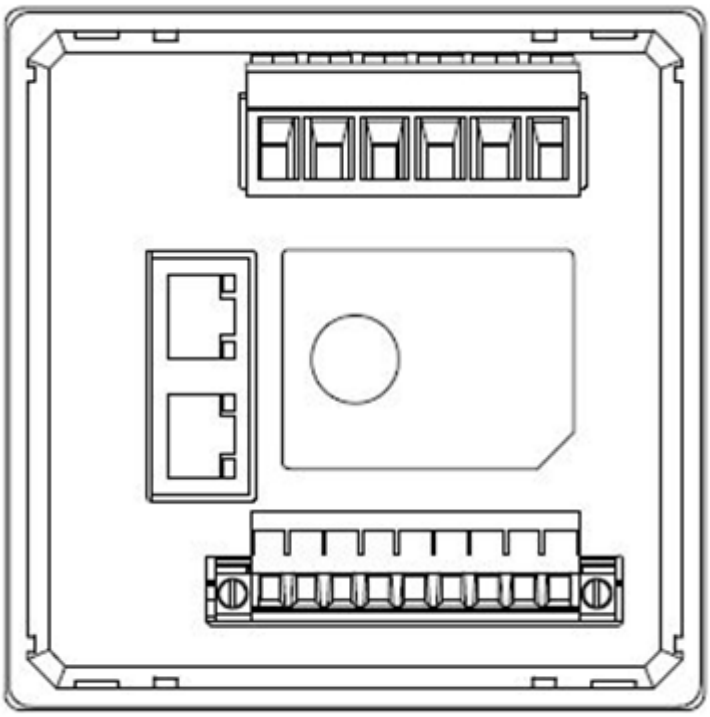
Unit: mm (Inch)

- **DPM-C530E/C530EM Front**

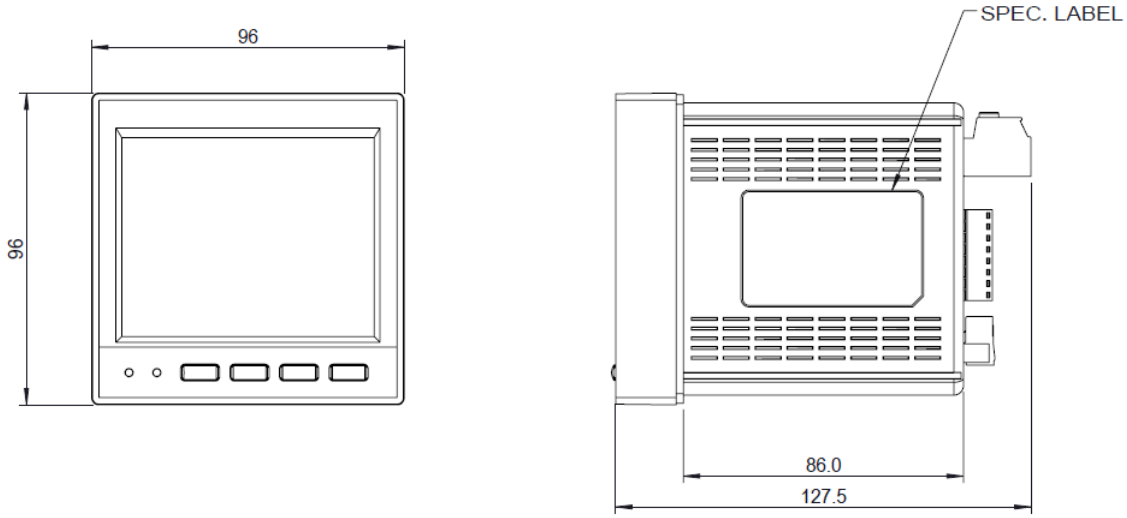


Unit: mm (Inch)

- **DPM-C530E/C530EM Back**

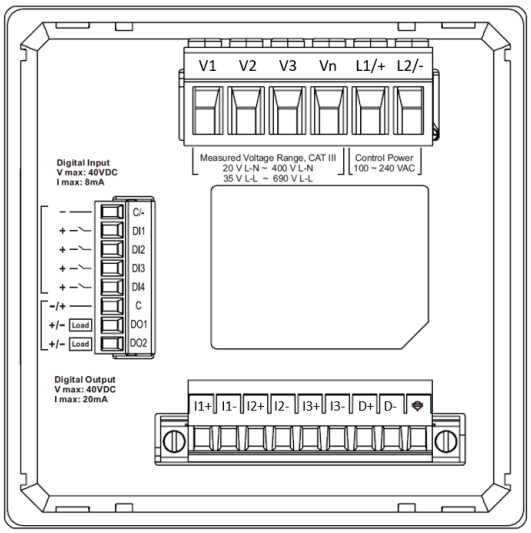


- **DPM-C532/C532M Front**



Unit: mm (Inch)

- **DPM-C532/C532M Back**



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Chapter 3 Installation

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3.1 Installation

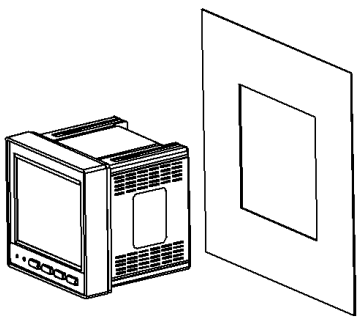
3.1.1 Installation Environment

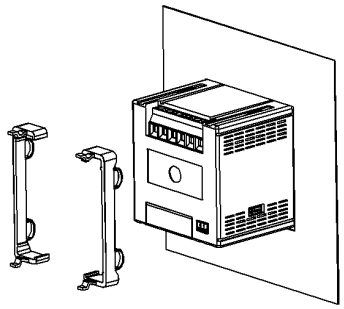
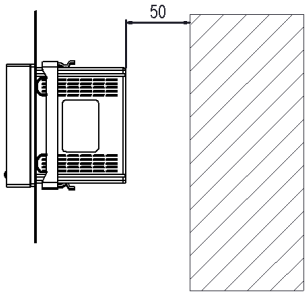
Keep the product in the shipping carton before installation. Store the product properly when it is not to be used for an extended period of time to retain the warranty coverage. Some storage suggestions are listed below.

- Store the power meter in a clean, dry, and controlled environment.
- Store in an ambient temperature range of -30 to 60°C (-22 to 140°F).
- Store in a relative humidity range of 5–95%, non-condensing.
- Do not store the product in a place subjected to corrosive gases or liquids.
- Place the product on a solid and durable surface.
- Do not mount the product near heat-radiating elements; or in a location subjected to corrosive gases, liquids, airborne dust or metallic particles; or where it can be subjected to high levels of electromagnetic radiation.

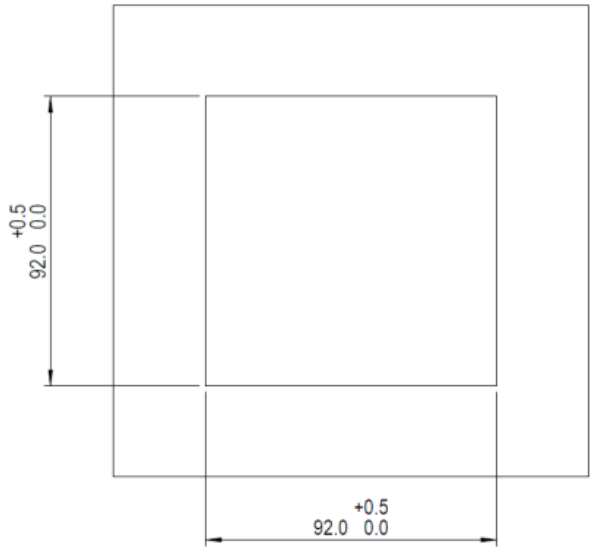
3.1.2 Installation Notes

- Follow the instruction when installing the product to prevent equipment breakdown.
- To increase the cooling efficiency, install the product with sufficient space between adjacent objects and baffles and walls to prevent poor heat dissipation.
- The maximum panel thickness should be 4.0 mm.
- **Installation Steps**

Step 1: Before installing the power meter, open the square hole on the metal plate.


Step 2: Push the meter into the hole and then slide the securing bracket into the metal plate.

Step 3: Allow 50 mm (2 inches) of clearance at the back of the meter for heat dissipation.


- **Mounting Hole Dimensions**



Panel Hole
Thickness : 0.8~4.0mm

Unit: mm

3.2 Basic Checks

Items	Contents
General Check	■ Regularly check for mounting looseness where the power meter and device are connected. ■ Prevent foreign objects, such as oil, water, or metal powder entering the device through the ventilation holes. Prevent drill shavings or other debris entering the power meter. ■ If the power meter is installed at a location with harmful gas or dust, prevent those materials from entering the power meter.
Pre-operation Check (not supplied with power)	■ Insulate the connections at the wiring terminals. ■ Communications wiring should be done properly to prevent abnormal operations. ■ Check for the presence of conducive and flammable objects, such as screws or metal pieces in the power meter. ■ If electronic devices near to the power meter experience electromagnetic interference, take steps to reduce the electromagnetic interference. ■ Check for the correct voltage level for the power supplied to the power meter.
Pre-running Check (supplied with power)	■ Check if the power indicator light is lit. ■ Check if communication between every device is normal. ■ If there is any abnormal response from the power meter, contact your distributor or our customer service center.

3.3 Wiring

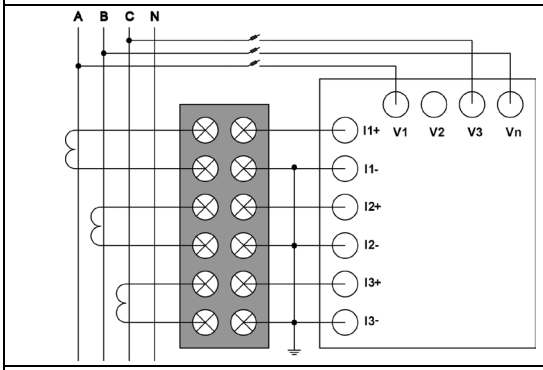
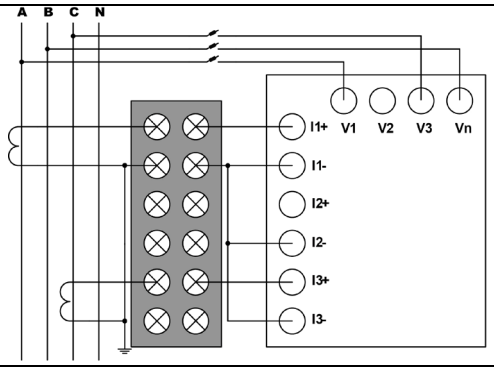
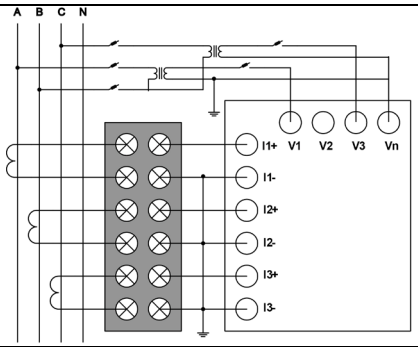
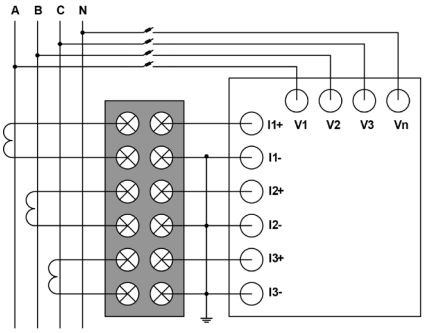
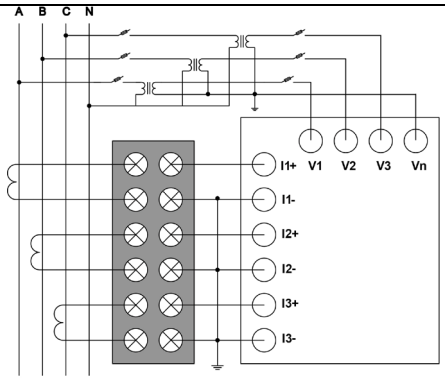
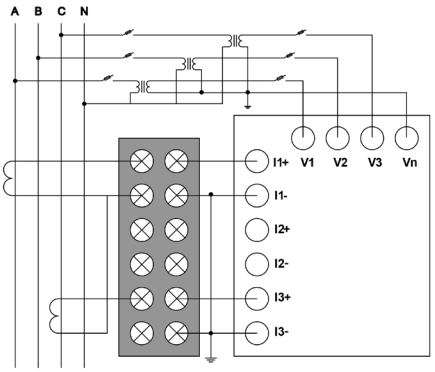
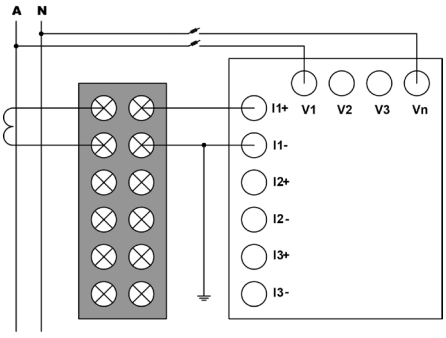
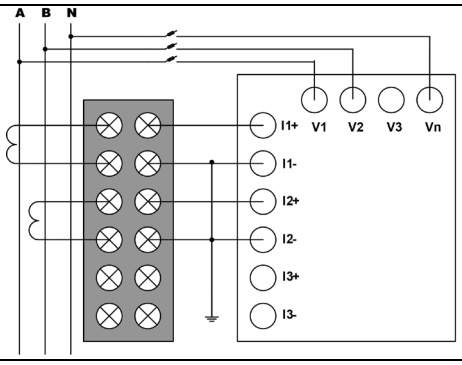
3.3.1 Wiring Diagrams

- To avoid electric shock, do not change the wiring when the power is on.
- It is necessary to install a breaker switch on the power cord of the meter due to no power switch on the power meter.
- When the measured voltage is higher than the rated specification for the device, it is necessary to use an external potential transformer (PT).
- When the measured current is higher than the rated specification for the device, it is necessary to use an external current transformer (CT).

The following table shows the recommended wiring materials.

Connecting Terminals	Wire Diameters	Screw Turning Torque	Temperature rating
Operating Power	AWG 10–24	7.14 kgf-cm (0.7 N·m)	above 70°C
Voltage Measurement	AWG 10–24	7.14 kgf-cm (0.7 N·m)	above 70°C
Current Measurement	AWG 14–22	8.0 kgf-cm (0.79 N·m)	above 70°C
RS-485	AWG 14–28	2.04 kgf-cm (0.2 N·m)	above 70°C
DI/DO	AWG 12–28	5.0 kgf-cm (0.5 N·m)	above 70°C
Ethernet	Cat 5/Cat 5E/Cat 6	-	-

Connection Diagrams

3PH3W, Δ connection, 3 CT, No PT	3PH3W, Δ connection, 2 CT, No PT
	
3PH3W, Δ connection, 3 CT, 2 PT	**3PH4W, Y connection, 3 CT, No PT**
	
3PH4W, Y connection, 3 CT, 3 PT	**3PH4W, Y connection, 2 CT, 3 PT**
	
1PH2W, 1 CT	**1PH3W, 2 CT**
	

The following table lists the symbols used in the diagram.

Symbol	⏚	⊂	▮	3⊂	⌇
Description	Grounding	Current transformer	Terminal block	Voltage transformer	Fuse

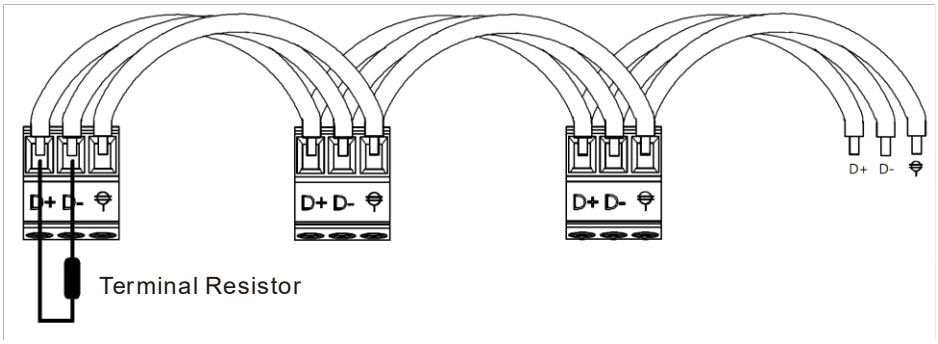
3.3.2 Communication Characteristics

- **Communications Specifications (DPM-C530/ DPM-C532/C532M):**

Max. Communication Distance	1200 m	Baud Rate	9600, 19200, 38400, 76800 bps
Max. Connection Number	32	Data Length	7, 8-bits
Communication Protocols	Modbus RTU/ASCII, BACnet MS/TP	Parity	None, Odd, Even
Function Code	03, 06, 10, FE	Stop Bits	1, 2

Note: The 7-bit data length is not available for the Modbus RTU protocol.

- Use shielded twisted-pair cables for RS485 communication. When connecting multiple devices in series, use the wiring method in the following diagram.



- Connect the D+ communication terminal for all devices on the same twisted pair cable. Connect the D- terminals on another twisted pair cable. Ground the cable shield. Install a terminal resistor on the terminal device as shown.
- Use cables with a diameter of 14–28 AWG.

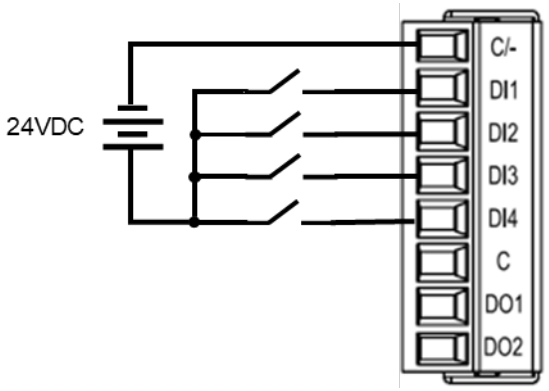
- **Communications Specifications (DPM-C530E/C530EM):**

Max. Communication Distance	100 m	**Baud Rate**	10/100Mbps
Communication Protocols	MODBUS TCP	**Function Code**	03, 06, 10, FE
Topology	Daisy Chain (without Ring topology)		

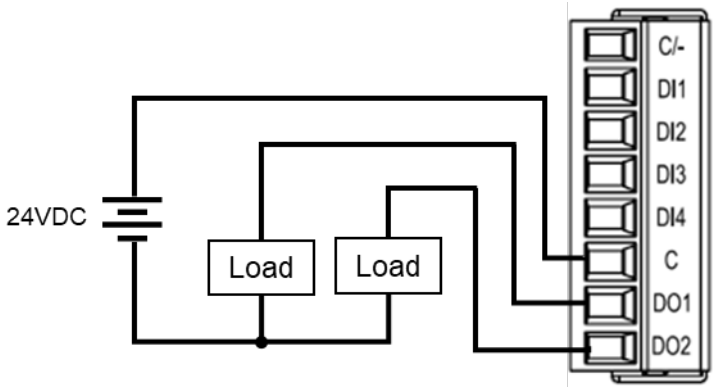
Note: The Ethernet communication uses standard network cables to connect multiple devices (NOT including ring topology).

3.3.3 DI/ DO Wiring Diagram (Only applicable to DPM-C532/C532M)

- **Digital Input**



- **Digital Output**



MEMO

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Chapter 4 Operation

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4.1 General Operation

1. Use the UP and DOWN keys to switch among setting pages.
2. Use the MENU key to go back to Menu page.

   Note 1: Use the ENTER key to enter a setting page and confirm the setting.

4.1.1 Setting Menu

- **Voltage Measurement:** Voltage values measured by the power meter, including voltage L-N, voltage L-L, voltage L-N unbalance, and voltage L-L unbalance.
- **Current Measurement:** Current values measured by the power meter, including current and current unbalance.
- **Power Factor, Frequency (PF, Hz):** Power factor and frequency values measured by the power meter, including power factor, displacement power factor, and frequency.
- **Power Measurement:** Power values measured by the power meter, including active power, reactive power, and apparent power in each phase and in total.
- **Energy Measurement:** Energy values measured by the power meter, including active, reactive, and apparent electrical energy delivered and received.
- **Harmonic:** Harmonic values measured by the power meter, including total harmonic distortion for voltage and current in each phase and in total.
- **Demand:** Demand values measured by the power meter, including demands for active power, reactive power, apparent power and current of the last, present, predicted or peak demands.
- **Maximum:** Maximum values measured by the power meter, including voltage, current, power factor, frequency, power, harmonic, and demand.
- **Minimum:** Minimum values measured by the power meter, including voltage, current, power factor, frequency, power, harmonic, and demand.
- **Alarm:** Power meter alarm parameters

  1. Press MENU to display the setting menu.
  2. Select a setting item.
  3. Use UP and DOWN to switch among setting pages.
  4. Press MENU to return to the setting menu.

  Example: When you enter the option 1, you see the Voltage L-N setting page. Press DOWN to display the Voltage L-L setting page. Press DOWN again to display the Voltage Unbalanced L-N setting page. And when you press UP from here, you display the Voltage L-L setting page.

  Note: Press ENTER in the demand settings pages of current, active power, reactive power and apparent power to switch to the peak values date and time setting page. Press ENTER to return to the previous page. The other keys have no function here.

4.2 Basic Setups

4.2.1 Set up the Time and Date

- **Time:** Present power meter time; the time format includes the hour, minute, and second.
- **Date:** Present power meter date; the date format includes the last two digits of the year, month, date, and day.
- **Set up Steps**
  1. Press MENU to display the setting menu.
  2. Select 0 and press ENTER to enter the Setup menu.
  3. Select 1 and press ENTER to enter the Date menu.
  4. Select Date or Time and then press ENTER to set the date or time.
  5. After you select the target option, use UP and DOWN to set the time and date.
  6. Press ENTER to confirm the number and move to the next number.
  7. Repeat steps 5–6 until you complete the date and time settings. Press ENTER to save the setting or press MENU to cancel without saving the changes.
  8. Press MENU to go back to the setting menu.

4.2.2 Meter Information

Meter related information:

- **Model:** DPM-C530 / C530E / C530EM / C532 / C532M
- **FW Version:** Firmware version; x.xxxx
- **FW Date:** Firmware release date; XXXXYYZZ (XXXX: year, YY: month, ZZ: day)
- **Meter Const:** Meter constant, amount of kWh used
- **Operation Time:** Total operation time by days and by clock.
- **Set up Steps**
  1. Press MENU to display the setting menu.
  2. Select 2 and press ENTER to enter the Setup menu.
  3. Select 3 and press ENTER to enter the Meter Information page.
  4. Press MENU to go back to the setting menu.

4.2.3 RS485 Communication
(Applicable only for DPM-C530/DPM-C532/C532M)

- **Address (ID):** Device ID; the address range is 1–254 (default: 1). 255 is the broadcast ID.
- **Protocol:** Transmission modes; options are RTU (default) and ASCII.
- **Baud Rate (BR):** Transmission speed; the default setting is 9600 kbps.
- **Data Bit:** Packed data length; options are 7- and 8-bit (default). 8-bit is the only option for RTU mode.
- **Parity setting (PA):** Odd and even checking bit for communication; options are None (default), Even and Odd.
- **Stop Bit:** The transmission complete signal; options are 1- (default) and 2-bits.
- **Set up Steps**

1. Press MENU to display the setting menu.
2. Select 0 and press ENTER to enter the Setup menu.
3. Select 3 and press ENTER to enter the Communication menu.
4. Select Address and then press ENTER to set communication parameters.
5. After you select an option, use UP and DOWN to select the desired number.
6. Press ENTER to confirm the setting and move to the next setting.
7. Repeat steps 5–6 until you complete the settings. Press ENTER to save the setting or press MENU to cancel without saving the changes.
8. Select Protocol and then press ENTER to set the protocol parameters.
9. After you select an option, use UP and DOWN to select the mode (RTU or ASCII) for the address and press ENTER to confirm the setting.
10. Press ENTER to save the setting or press MENU to cancel without saving the changes.
11. Repeat the above steps for the Baud Rate, Data Bit, Parity, and Stop Bit settings.
12. Press MENU to go back to the setting menu.

4.2.4 Ethernet Communication
(Applicable only for DPM-C530E/C530EM)

- **Address:** Device ID; the address range is 1–254 (default: 1). 255 is the broadcast ID.
- **IP setting:** IP access mode; options are Static (default) and DHCP.
- **IP:** IP address of the device, the default is set to 192.168.1.5.
- **Mask:** Determine whether the IP address of the target device situates in the same subnet with the local device. The default is set to 255.255.255.0.
- **Gateway:** Help devices in different subnets to communicate with each other. The default is set to 192.168.1.1.
- **Keep Alive Time:** TCP idle timeout. The default is set to 30 seconds.
- **Ethernet setting:** Load the setting values mentioned above after confirm the correctness of all Ethernet parameter settings

- **Set up Steps:**
  1. Press MENU to display the setting menu.
  2. Select 0 and press ENTER to enter the Setup menu.
  3. Select 3 and press ENTER to enter the Communication menu.
  4. Select Address and then press ENTER to set communication parameters.
  5. After you select an option, use UP and DOWN to select the desired number.
  6. Press ENTER to confirm the setting and move to the next setting.
  7. Repeat steps 5–6 until you complete the settings. Press ENTER to save the setting or press MENU to cancel without saving the changes.
  8. Select IP setting and then press ENTER to set the parameters.
  9. After you select an option, use UP and DOWN to select the mode (Static or DHCP) and press ENTER to confirm the setting.
  10. Press ENTER to save the setting or press MENU to cancel without saving the changes.
  11. Repeat the above steps for the Mask, Gateway, and Keep alive time settings.
  12. Then select Ethernet setting and press ENTER.
  13. Choose “Enable” and press ENTER to load all the Ethernet parameter values.
  14. Once Enable of Ethernet setting shifts to Disable, the loading task is completed, and the communication would be performed with the new setting values.
  15. Press MENU to go back to the setting menu.

4.2.5 Serial Master (Applicable only for DPM-C530E/C530EM)

- Config: Device ID; the options are Gateway and Monitor. The default is set to Gateway.
- Protocol: Transmission modes; the default is set to RTU.
- Baud Rate: Transmission rate; the default setting is 9600 kbps
- Data Bit: Packed data length; option is 8-bit (default). 8-bit is the only option for RTU mode.
- Parity: Odd and even checking bit for communication; options are None (default), Even and Odd.
- Stop Bit: The transmission complete signal; options are 1- (default) and 2-bits
- Time Out: Set the communication timeout for Modbus mode, the default is set to 3000 ms. (unit: ms)
- **Set up steps**：
  1. Press MENU to display the setting menu.
  2. Select 0 and press ENTER to enter the Setup menu.
  3. Select 3 and press ENTER to enter the Communication menu.
  4. Press Up to enter the Serial Master menu.
  5. Select Time Out and press Enter to set the parameters.
  6. After you select an option, use UP and DOWN to select the desired number.
  7. Press ENTER to confirm the setting and move to the next setting
  8. Repeat steps 5–7 until you complete the settings. Press ENTER to save the setting or press MENU to cancel without saving the changes.
  9. Repeat the above steps for the Config, Protocol, Baud Rate, Data Bit, Parity and Stop Bit settings.
  10. Press MENU to go back to the setting menu

4.2.6 IP Filter (Applicable only for DPM-C530E/C530EM)

- **Filter:** Perform IP filtering function. The default setting is 0.0.0.0.
- **Confirm:** Confirm the correctness of all parameter settings and load the setting values.
- **Set up steps:**
  1. Press MENU to display the setting menu.
  2. Select 0 and press ENTER to enter the Setup menu.
  3. Select 10. IP Filter and press ENTER to enter the selected item.
  4. After you select an option, use UP and DOWN to select the desired number.
  5. Press ENTER to confirm the setting and move to the next setting.
  6. Repeat steps 4-5 until you complete the settings. Press ENTER to save the setting or press MENU to cancel without saving the changes.
  7. Then select Confirm and press ENTER after the settings of IP Filter are completed.
  8. Choose “Enable” and press ENTER to load all the IP Filter parameter values.
  9. Once Enable of Ethernet setting shifts to Disable, the loading task is completed. Press MENU to go back to the setting menu.

4.2.7 Set up the Transformer Ratio

- **CT Primary:** Primary-side current transformer amperes; 1–9999 A, 1 A is default.
- **CT Secondary:** Secondary-side current transformer amperes; options are 1 A (default), 2.5A and 5 A.
- **PT Primary:** Primary-side potential transformer voltage; 1–65535 V, 1 V is default.
- **PT Secondary:** Secondary-side potential transformer voltage; 1–9999 V, 1 V is default.
- **Set up Steps**

  1. Press MENU to display the setting menu.
  2. Select 0 and press ENTER to enter the Setup menu.
  3. Select 4 and press ENTER to enter the Transformer Ratio menu.
  4. Select CT Primary and press ENTER to set the CT Primary settings.
  5. After you select the target option, use UP and DOWN to select the number for ampere or voltage.
  6. Press ENTER to confirm the setting and move to the next setting.
  7. Repeat steps 5–6 until you complete setting the latest digit. Press ENTER to save the setting or press MENU to cancel without saving the changes.
  8. Repeat the above steps to set up the other settings.
  9. Press MENU to go back to the setting menu.

4.2.8 Set up the System

- **Language:** Language displayed on the power meter LCD; options are English (default), Japanese, Simplified Chinese, and Traditional Chinese.
- **Back Light:** Brightness of the power meter LCD; options are 100% (default), 50%, and 25%.
- **Timeout:** Time remaining before the backlight dims; options are 0–90 seconds or always on when you select 100% for the BackLight. When you select 50% or 25%, the Timeout value is the time before the backlight starts to dim. Press any key and the backlight brightens to 25% or 50% based on the selected BackLight percentage. The default is 30 seconds.
- **System:** Options are one-phase two-wire (1PH2W), one-phase three-wire (1PH3W), three-phase three-wire (3PH3W), and three-phase four-wire (3PH4W; default).
- **Rotation:** Options are ABC mode (default) and CBA mode. When the phase A wiring is connected to the meters phase C and phase C wiring is connected to the meter's phase A, you can use CBA mode without having to reconnect the wiring. For general situations (phase A wiring to phase A of the meter, and phase C wiring to phase C of the meter), you can use ABC mode.
- **Number CT:** The number of CTs on the system; options are 0, 1, 2 and 3 (default).
- **Number PT:** The number of PTs on the system; options are 0, 2 and 3 (default).
- **Set up Steps**
  1. Press MENU to display the setting menu.
  2. Select 0 and press ENTER to enter the Setup menu.
  3. Select 5 and press ENTER to enter the System menu.
  4. Select Language and then press ENTER to select the language.
  5. After you select the target option, use UP and DOWN to set the option. Press ENTER to save the setting or press MENU to cancel without saving the changes.
  6. Repeat the above steps to set up Backlight, Timeout, System, Rotation, Number CT and Number PT.
  7. Select Timeout and then press ENTER to set the timeout.
  8. After you select the target option, use UP and DOWN to select the value.
  9. Press ENTER to save the setting and move to the next setting.
  10. Repeat steps 9–10 until you complete the settings. Press ENTER to save the setting or press MENU to cancel without saving the changes.
  11. Press MENU to go back to the setting menu.

4.2.9 Set up the Alarms

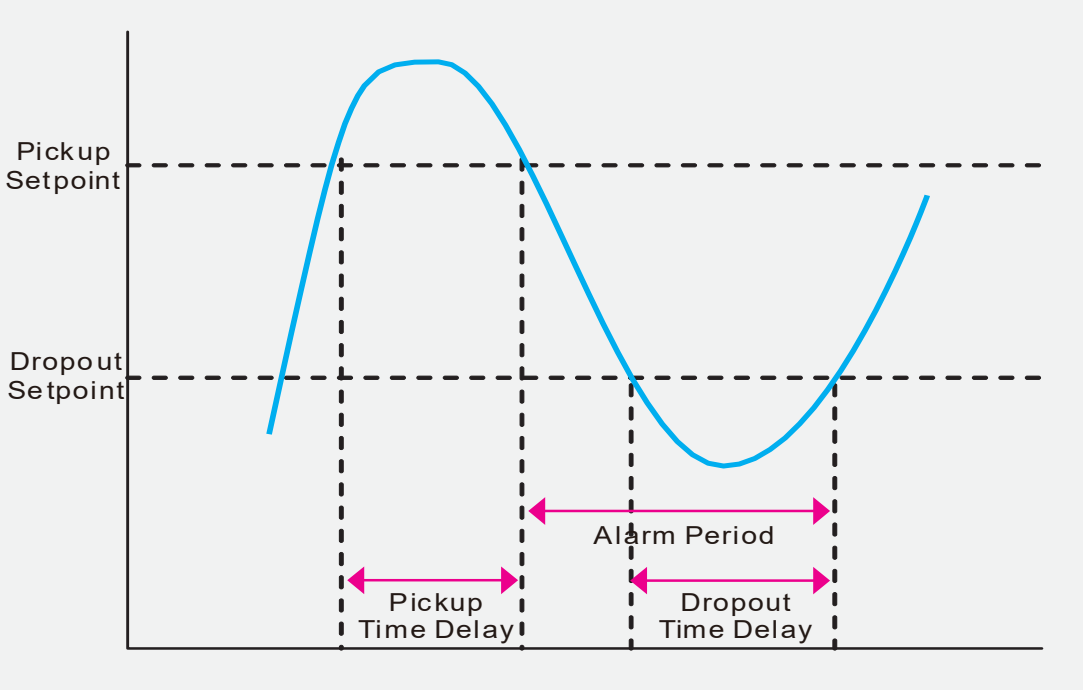
There are 29 types of supported alarm, including Over Current, Under Current, Over Neutral Current, Over Voltage LL, Under Voltage LL, Over Voltage LN, Under Voltage LN, Over Volt Unbalance, Over AMP Unbalance, Over Active power, Over Reactive Power, Over Apparent Power, LEAD PF, Lag PF, Lead DPF, Lag DPF, Over Current Demand, Over kW Demand, Over kVAR Demand, Over kVA Demand, Over Frequency, Under Frequency, Over Voltage THD, Over Current THD, Phase Loss, Meter Reset, Phase Rotation, Over DUI and Over EUI.

The setting options for each alarm type are listed below.

- Alarm: Options are Enable and Disable (default).
- Pickup: When the meter exceeds the Pickup value (default: 0), it triggers the alarm.
- Time Delay (establish): When you set this time delay, even when the meter exceeds the Pickup value, the alarm is not triggered after the Time Delay (establish) setting.
- Dropout: When the meter is below the Dropout value (default: 0), the alarm is disabled.
- Time Delay (cancel): When you set this time delay, even when the meter is below the Dropout value, the alarm is disabled after the Time Delay (cancel) setting.
- **Set up steps**

  1. Press MENU to display the setting menu.
  2. Select 0 and press ENTER to enter the Setup menu.
  3. Select 6 and press ENTER to enter the Alarm menu.
  4. Select the setting item and then press ENTER to set the item.
  5. After you select the target option, use UP and DOWN to set the option.
  6. Press ENTER to save the setting. Press MENU to cancel without saving the changes.
  7. Select Pickup and then press ENTER to set the alarm trigger value.
  8. After you select the target option, use UP and DOWN to select the value.
  9. Press ENTER to save the setting and move on to the next digit.
  10. Repeat steps 8–9 until you complete the settings. Press MENU to cancel without saving the changes.
  11. Select Time Delay and then press ENTER to set the alarm delay time (establish).
  12. After you select the target option, use UP and DOWN to select the value.
  13. Press ENTER to save the setting and move on to the next digit.
  14. Repeat steps 12–13 until you complete the settings. Press ENTER to save the setting or press MENU to cancel without saving the changes.
  15. Select Dropout and then press ENTER to set the disable alarm value.
  16. After you select the target option, use UP and DOWN to select the value.
  17. Press ENTER to save the setting and move on to the next digit.
  18. Repeat steps 16–17 until you complete the settings. Press ENTER to save the setting or press MENU to cancel without saving the changes.

19. Select Time Delay and then press ENTER to set the alarm delay time (cancel).
20. After you select the target option, use UP and DOWN to select the value.
21. Press ENTER to save the setting and move on to the next digit.
22. Repeat steps 20–21 until you complete the settings. Press ENTER to save the setting or press MENU to cancel without saving the changes.
23. Repeat the above steps to set up all the 29 alarm types.
24. Press MENU to go back to the setting menu.



4.2.10 Set up the Demands

- **Method:** Supports time block calculations with setting options of Time Block (default) and Sliding.
- **Interval:** Time intervals for demands, ranging from 1 to 60 minutes; 1 is default.
- **Set up Steps**

1. Press MENU to display the setting menu.
2. Select 0 and press ENTER to enter the Setup menu.
3. Select 7 and press ENTER to enter the Demand menu.
4. Select the item to set up and then press ENTER.
5. After you select the target option, use UP and DOWN to select the value.
6. Press ENTER to save the setting and move on to the next digit.
7. Repeat steps 5–6 until you complete the settings. Press ENTER to save the setting or press MENU to cancel without saving the changes.
8. Press MENU to go back to the setting menu.

4.2.11 Set up the Resets

There are seven types of supported resets, including Default, Energy, Demand, Alarm, MaxMin, Data Log, and ClearAll.

- **Default:** Restore all the settings back to the defaults.
- **Energy:** Reset all the accumulated energy values and automatic energy values.
- **Demand:** Clear the current demand, power factor demand, recorded time and date.
- **Alarm:** Clear all the detected alarm logs.
- **MaxMin:** Clear all maximum values and minimum value logs.
- **Data Log:** Clear the data log stored in the memory.
- **Clear All:** Restore all the settings back to the defaults and clear all logs.
- **Tariffs/Record:** Clear all records of tariff rates and automatic meter reading values.
- **Energy Saving:** Clear all records of energy values accumulated under energy saving mode.
- **Set up Steps**

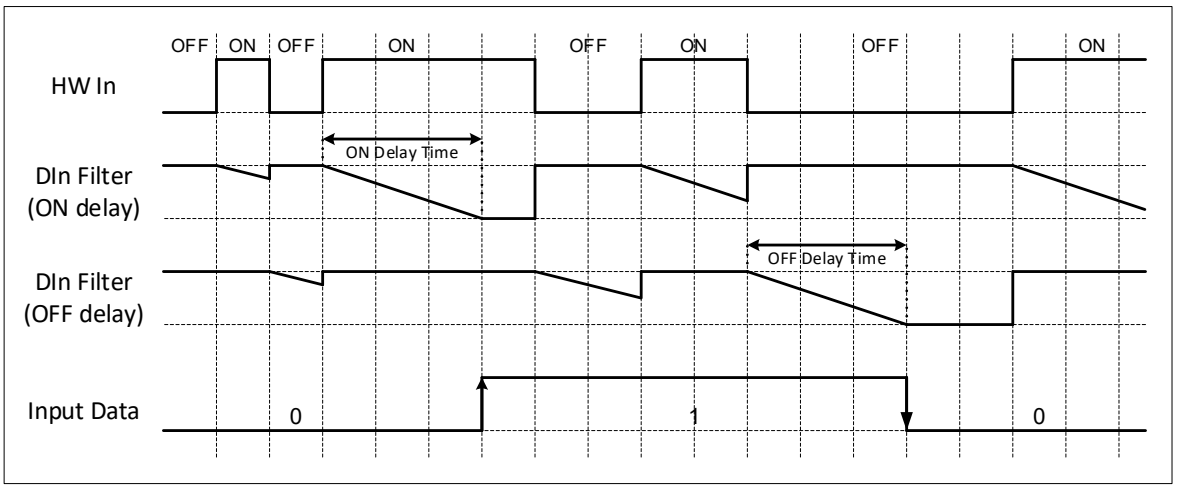
  1. Press MENU to display the setting menu.
  2. Select 0 and press ENTER to enter the Setup menu.
  3. Select 8 and press ENTER to enter the Reset menu.
  4. Select the item to set up and then press ENTER.
  5. After you select the target option, use UP and DOWN to select the setting and then press ENTER to save the setting.
  6. Repeat steps 4–5 until you complete the settings. Press ENTER to save the setting or press MENU to cancel without saving the changes.
  7. Press MENU to go back to the setting menu.

4.2.12 Digital Input Settings (Applicable only for DPM-C532/C532M)

There are input filters and other three operation mode options for digital input settings.

- **Input filters**

An input filter can prevent errors of failures and noises caused by digital input connections with external devices. By setting the ON / OFF delay time, this tool remains signals and filters out unwanted noise to ensure the data accuracy. The setting range for the delay time of each DI terminal is 0 to 3000 ms. The longer the delay time is, the more effective the noise reduction would be; however, this could cause slow responses for input signals. Therefore, we would suggest you set appropriate time for filters based on special values of input signals for better data accuracy and response.



- **General mode**

Detect and display the current input status.

- **Parameter reset**

To reset meter's parameters, you are allowed to modify the following two parameters:

1. Reset energy value

   The corresponding input port can be specified in this setting. The energy value would be cleared once falling-edge trigger occurs.

2. Reset max/min value

   The corresponding input port can be specified in this setting. The max/min value would be cleared once falling-edge trigger occurs.

- **Input metering**

After configuring DI setting to input metering, the meter can detect and record input pulses.

There are two metering modes can be selected:

1. Pulse: Only complete pulses would be count.
2. Transition: Every change in the status (ON to OFF / OFF to ON) would be count.

We suggest you set a proper filter time based on special values of input signals. Count would restart from 0 after reaching 999,999 and the count value would be saved in the FLASH every minute.

UI configuration:

- Select DI [Mandatory]: Select the target DI number to configure, offering choices of DI1 to DI4, then the corresponding current status and settings of the DI number would be displayed below. The default display would be DI1.
- Mode [Mandatory]: The current mode of the selected DI would be displayed, offering options of disable (default), status input, reset and input metering.
- Input filters [Mandatory]: DI filter ON/OFF delay time. Display the delay time set to the corresponding DI that you selected. The range of options is 0000–3000 (ms) and the default is 0000 (ms).
- Value to be reset [Optional]: Enable / Disable DI reset. The mode must be Reset so this configuration page would be displayed. Energy and Max./Min. can respectively be set to Enable or Disable (default).
- Input metering [Optional]: DI metering. The mode must be set to input metering so this configuration page would be displayed. There are two setting items and an item to be displayed on this page.
  - Mode [config]: DI metering mode can be set to pulse (default) or transition.
  - Reset count? [config]: Reset DI metering count setting. Select N or Y when the field is highlighted. If it's set to Y, the count value would be reset to 000000, then the setting would be directly changed to N.
  - Count [display]: DI metering count. The display range is 000000–999999. The count value would start increasing from 000000 once it reaches 999999.

- The setup steps are shown as follows:
  1. Press MENU to display the setting menu.
  2. Select 0 and press ENTER to enter the Setup menu.
  3. Select 12. Digital IO and press ENTER.
  4. After you select the target item, use UP and DOWN to select Enable or Disable, then press ENTER to save the setting.
  5. Press ENTER to save the setting or press MENU to cancel without saving the changes.
  6. Press MENU to go back to the setting menu.

4.2.13 Digital Output Settings (Applicable only for DPM-C532/C532M)

There are four operation mode options for digital output settings.

- **DI Control**

You can map the state of any input port to its output status by configuring this output feature.

- **Command**

Change the output status by using Modbus commands.

- **Pulse output**

Electrical pulse feature can be used for digital output. Electricity of each pulse can be calculated through configuring pulse rate. For example, when the pulse rate is 100, the electricity consumption of each pulse would be 0.1 kWh. The pulse width of output pulses is fixed to 20 ms, same as the minimum interval between two pulses, so the minimum pulse period would be 40 ms (25 Hz). The electricity demand must be considered while configuring pulse rate so as to avoid any signal loss of pulses.

- **Alarm**

You are allowed to select one or more alarms to monitor. When the alarm is triggered, the corresponding port would keep outputting until the alarm is cleared.

- Select DO [Mandatory]: Select the desired DO number to configure which range from DO1 (default) to DO2, then the current status and configuration of the selected DO would be displayed.
- Mode [Mandatory]: DO mode. You can select the corresponding mode from options of disable (default)/alarm/command/DI control/pulse output according to the current DO display.
- Select DI [Optional]: DO is controlled by DI. This setting con only be configured when the mode is set to DI control with options range from DI1(default) to DI4.
- kWH per pulse [Optional]: Pulse rate can only be configured when mode is set to pulse output with options range from 000.001(default) to 100.000 (kWH/pulse).
- The setup steps are shown as follows:

1. Press MENU to display the setting menu.
2. Select 0 and press ENTER to enter the Setup menu.
3. Select 12. Digital IO and press ENTER.
4. After you select the target item, use UP and DOWN to select the desired modes, then press ENTER to save the setting.
5. Press ENTER to save the setting or press MENU to cancel without saving the changes.
6. Press MENU to go back to the setting menu.

4.2.14 MID Lock (Applicable only for DPM-C532M/C530EM)

To prevent parameters from being altered, when enabling MID Lock, the communication function will be set to read-only, and writing command is not allowed.

- The setup steps are shown as follows:
  1. Press MENU to display the setting menu.
  2. Select 0 and press ENTER to enter the Setup menu.
  3. Select MID Lock and press ENTER.
  4. After you select the target item, use UP and DOWN to select the setting and then press ENTER to save the setting.
  5. Press ENTER to save the setting or press MENU to cancel without saving the changes.
  6. Press MENU to go back to the setting menu.

4.3 Advanced Setups

4.3.1 Floor Area

- Floor Area: The setting range is from 00001 to 65535 m2 and the default value is 65535.
- The setup steps are shown as follows:
  1. Use UP and DOWN key to select “Floor Area” and press ENTER to enter the setting page.
  2. When the option is highlighted, you can start the configuration by using UP or DOWN key to select the desired value.
  3. Press ENTER to select the desired value and move on to the next digit.
  4. Repeat step (4) until the value of the last digit is selected and press ENTER, then the highlight would disappear, and the configuration is finished. If you want to leave without saving the changes during the configuration process, press ESC.

4.3.2 Set up the Auto Recording

- **Energy 1:** Disable this function to restart auto-recording the group 1 energy value continuously; options are Enable and Disable (default).
- **Auto Day 1:** Set the date to conclude the monthly accumulated energy value; options are 1–31; 0 is default.
- **Energy 2:** Enable this function to restart auto-recording the group 1 energy value continuously; options are Enable and Disable (default).
- **Auto Day 2:** Set the date to conclude the monthly accumulated energy value; options are 1–31; 0 is default.
- **Set up Steps**
  1. Press MENU to display the setting menu.
  2. Use UP and DOWN to select item 11 on the second page and then press ENTER to enter the Advanced menu.
  3. Use UP and DOWN to select item 2 Auto Recording and press ENTER.
  4. After you select the target option, use UP and DOWN to select the setting and then press ENTER to save the setting.
  5. Repeat steps 3–4 until you complete the settings. Press ENTER to save the setting or press MENU to cancel without saving the changes.
  6. Press MENU to go back to the setting menu.

4.3.3 Set up the Data Log

- **Interval:** Parameter intervals; the first two digits represent minute(s), the last two digits represent second(s). The minimum interval is 0 minute 5 seconds; the maximum is 60 minutes. If you set 0 minute 0 second for the Interval, it means the function is disabled (default).
- **Set up Steps**
  1. Configure Modbus address 0x55B to 0x56B with codes 1 to 17 (17 measured values can be recorded) through RS-485 communication.
  2. Data log records only the date and time if you do not complete Step 1.
  3. Press MENU to display the setting menu.
  4. Use UP and DOWN to select 11. Advanced on the second page, then press ENTER to enter.
  5. Use UP and DOWN to select item 3 Data Log and then press ENTER.
  6. After you select the target option, use UP and DOWN to select the digit and then press ENTER to save the setting.
  7. Repeat steps 5–6 until you complete the settings. Press ENTER to save the setting or press MENU

to cancel without saving the changes.

8. Press MENU to go back to the setting menu.

- **Example**

To record the Voltage L-N and Current values, write 1 (the code for Voltage L-N) into the Modbus address 0x55B with function code 0x06 (single write) or 0x10 (multi-write) first, and then write 2 (the code for Current) into the Modbus address 0x55C with function code 0x06 (single write) or 0x10 (multi-write). Refer to section 5.1 for more information on the codes and Modbus addresses.

- **Note**

(1) Before setting up Interval, make sure to first set the recording parameter codes, or only date and time are recorded. You can set the Interval through a user interface (using the Set up Steps above), or through Modbus Communication (the address is 0x501).

(2) The following table lists the various parameters you can select according to different Intervals.

Interval / Item	5 to 59 seconds	1 minute to 4 minutes and 59 seconds	5 minutes to 60 minutes
Maximum Number of Parameters	6	17	17
Maximum Recording days	7	31	62

4.3.4 Set up the Auto Max/Min

- **Interval:** Reset the maximum and minimum values at the end of interval; options are day, month, year and disable (default).
- **Set up Steps**

1. Press MENU to display the setting menu.
2. Use UP and DOWN to select item 11 on the second page and then press ENTER to enter the Advanced menu.
3. Use UP and DOWN to select item 4 Auto MaxMin and then press ENTER.
4. After you select the target option, use UP and DOWN to select the setting and then press ENTER to save the setting.
5. Repeat steps 3–4 until you complete the settings. Press ENTER to save the setting or press MENU to cancel without saving the changes.
6. Press MENU to go back to the setting menu.

4.3.5 Set up the Groups

- **Block transmission:** Mirror the address of the to-be-read measured values to sequential Modbus addresses. The mirrored addresses are 0x100–0x1E7. The default is 0xFFFF.
- **Set up Steps**
  1. Write the address of the to-be-read measured values into sequential Modbus addresses 0x50C–0x551 with function code 0x06 (single write) or 0x10 (multi-write).
  2. Once you complete Step 1, you can read the mirrored Modbus address 0x600–0x645 with function code 0x03 (multi-read) for the measured values.
- **Example**
  1. You can use function code 0x06 (single write) or 0x10 (multi-write) to read the average Voltage L-N value. Write the value 0x100 into Modbus 0x50C and the value 0x101 into Modbus 0x50D in a consecutive order to read the average Voltage L-N value (Modbus 0x100–0x101).
  2. You can use function code 0x06 (single write) or 0x10 (multi-write), to read the average current value. Write the value 0x126 into Modbus 0x50E and the value 0x127 into Modbus 0x50F in a consecutive order to read the average current value (Modbus 0x126–0x127). Refer to section 5.1 for more information on the codes and Modbus addresses.
  3. Once you complete Step 1, you can read mirrored Modbus address 0x600–0x601 with function code 0x03 (multi-read). After the value is converted to IEEE754 format, you can read the average Voltage L-N value. You can also read mirrored Modbus address 0x602–0x603 with function code 0x03 (multi-read). After the value is converted to IEEE754 format, you can read the average current value.

4.3.6 Wh Per Hour

- Wh per Hour: Set to Enable or Disable (Default).
- **Set up Steps:**
  1. Press MENU to display the setting menu.
  2. Use UP and DOWN to select “Wh per Hour” and then press ENTER to enter the Advanced menu.
  3. Use UP and DOWN to select the desired mode and then press ENTER.
  4. After you select the target option, press ENTER to save the setting and then the highlight would disappear or press ESC to cancel without saving the changes.

4.3.7 Tariff
(Applicable only for DPM-C532 /C532M/DPM-C530E/C530EM)

Different tariff schedules can be created based on dates and time periods of utility electricity consumption while different tariff energy value can be saved by using this tariff feature. A total of four tariff rates (T1–T4) and three different setting modes are supported which can be used to measure and monitor the energy usage as well as saving tariff rates in every minute. The three different tariff setting modes are:

- **Schedule mode**

Create a tariff timetable with 8 dates(S1–S8) and 8 time periods(P1–P8) for each date as well as 20 exceptional days to schedule. You are allowed to set durations with specific months and dates, time periods (hour and minute) and date type (everyday, weekends, workdays or a specific weekday). When performing the schedule, the exceptional days would be prioritized, and the priority of other dates would descend from S1 to S8.

When schedule mode is ON, the meter would perform parameter verification. If the time setting of tariff is incorrect, you'll be reminded to modify the input information and turn off schedule mode.

Verification includes:

1. Incorrect date and time format

   For example, there are only 29 days in February and there's no 31st in April.

2. Time period overlapped

   Time period of each tariff rate cannot be overlapped while it is allowed that some time period can be set without tariff rate.

3. The end time is earlier than the start time

   Apart from setting both start time and end time to 00:00, which means the time period is closed, the start and end time must be different.

4. The end date is earlier than the start date

   The start and end date can be the same, but the end date can't be earlier than the start date.

5. Incorrect formats for time and exceptional days

   For example, there are only 29 days in February and there's no 31st in April.

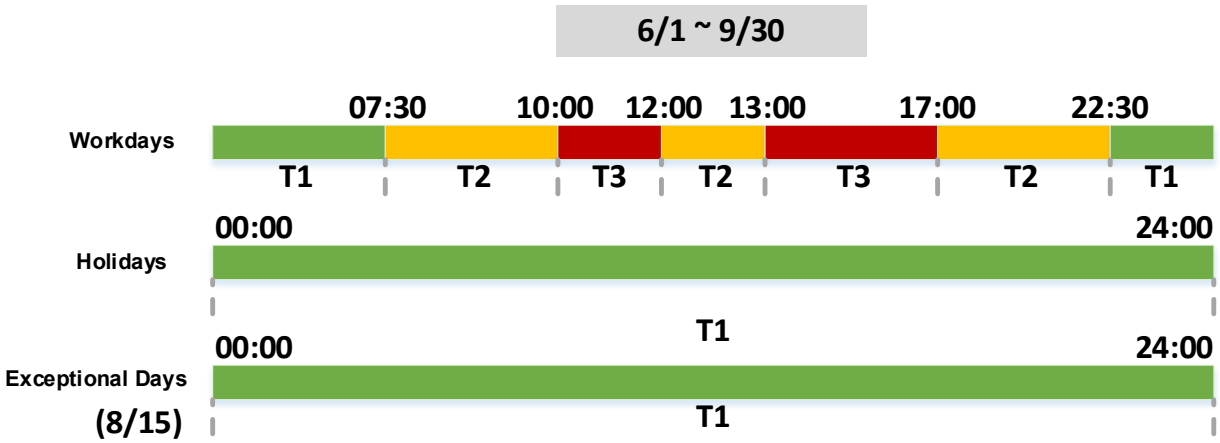
6. Duplicate exceptional days

   Dates of different exceptional days cannot be the same.

For more details, please refer to chapter 6 Error Codes.

Schedule Example:

In case that you want to create tariff rates for a duration from June 1st to September 30th, including an exceptional day August 15th, while time periods for workdays and holidays are different, the schedule would be like as the following shown.



T1	T2	T3
Off peak	Half peak	Peak

Schedule	S1	S2
Day	Mon/ Tue/ Wed/ Thu/ Fri	Sat/ Sun
Start date	June 1	June 1
End date	September 30	September 30
Start & End time of P1	000:00 to 07:30	00:00 to 24:00
Tariff of P1	T1	T1
Start & End time of P2	07:30 to 10:00	00:00 to 00:00
Tariff of P2	T2	T1
Start & End time of P3	10:00 to 1200	00:00 to 00:00
Tariff of P3	T3	T1
Start & End time of P4	12:00 to 13:00	00:00 to 00:00
Tariff of P4	T2	T1
Start & End time of P5	13:00 to 1700	00:00 to 00:00
Tariff of P5	T3	T1
Start & End time of P6	17:00 to 22:30	00:00 to 00:00
Tariff of P6	T2	T1
Start & End time of P7	22:30 to 24:00	00:00 to 00:00

Tariff of P7	T1	T1
Exceptional Days	**1**	
Enable function	Enable	
Date	August 15	
Start & end time of P1~P8	S2	

- **DI control mode (Applicable only for DPM-C532/C532M)**

When set to DI control mode, DI1 and DI2 must be set to general mode. Digital input can be used as binary counter to convert corresponding rates. Low potential = 0, High potential = 1, MSB (most significant bit) = DI2, LSB (least significant bit) = DI1.

Tariff	Digital Inputs Required	
	DI 2	**DI 1**
T1	**0**	**0**
T2	**0**	**1**
T3	**1**	**0**
T4	**1**	**1**

- **Communication mode**

Use Modbus commands to switch between four different rates.

4.4 Power Analysis Values

4.4.1 Total Harmonic Distortion Measurement

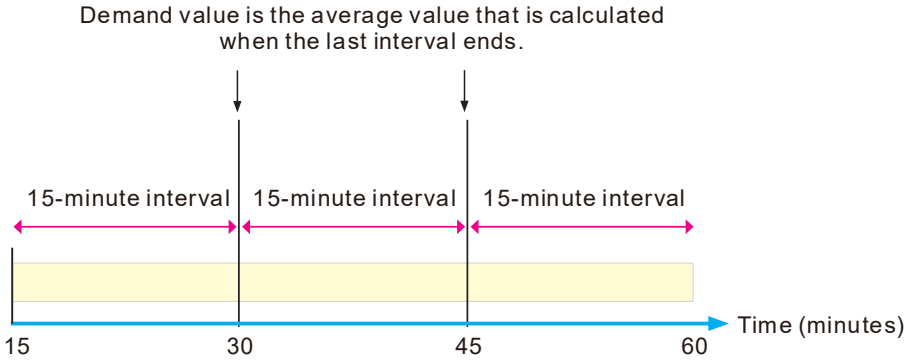
The total harmonic distortion (THD) is a measurement of the harmonic distortion and is defined as the ratio between the power of the harmonic frequencies above the base frequency and the power of the base frequency. The total harmonic distortions for current and voltage are calculated using the following formulas.

Total Harmonic Distortion for Current	$THD_I = \frac{1}{\lvert I_{fund} \rvert} \sqrt{\sum_{n=2}^{31} \lvert I_{n.Harm} \rvert^2}$
Total Harmonic Distortion for Voltage	$THD_U = \frac{1}{\lvert U_{fund} \rvert} \sqrt{\sum_{n=2}^{31} \lvert U_{n.Harm} \rvert^2}$

4.4.2 Demand Calculation Method

The power meter provides measured values for current demand, active power demand, reactive power demand and apparent power demand. You can also calculate the last, present, predicted and peak demand values from above measured values.

- Block interval demand: The example shown below uses a 15-minute interval. You can choose an interval from 1 to 60 minutes. The meter updates the present, predicted and peak demand values every second, and updates the last demand value at the end of the interval, which the demand value is treated as the present demand after updating.
  - Last demand: The power meter calculates the value when the last interval ends.
  - Present demand: The power meter calculates the value during the current interval.
  - Predicted demand: The power meter predicts the value before the current interval ends.
  - Peak demand: The power meter calculates the maximum value during the current interval.



- Sliding window demand: The power meter provides measured values for current demand, active power demand, reactive power demand and apparent power demand. These measured values can be categorized into last, present, predicted and peak demand values. You can select an interval from 1 to 60 minutes. The meter updates the present, predicted and peak demand values every second, and updates the last demand value at the end of the interval, which the demand value is treated as the present demand after updating.
  - Last demand: The power meter calculates the value when the last interval ends.
  - Present demand: The power meter calculates the value during the current interval.
  - Predicted demand: The power meter predicts the value before the current interval ends.
  - Peak demand: The power meter calculates the maximum value during the current interval.

4.5 Display with Decimal Places

(Supported by firmware V 1.0406 or later in DPM-C530)

- **Decimal places setting:** Modify the decimal places of electrical energy displayed on the panel. The default is set to 3 decimal places.
- **Set up steps (Communication):**
  1. Set MODBUS address to 0x596 and use function code 0x06(Write Single Register.) or 0x10(Write Multiple Registers) to write the number of the required decimal places. (0: 3 decimal places, 1: 1 decimal place, 2: 2 decimal places)
- **Set up steps (Touch screen):**
  1. Press MENU to display the setting menu.
  2. Select 0 and press ENTER to enter the Setup menu.
  3. Select 11. Display and press ENTER to enter the selected item
  4. Choose “Decimal” and press Enter to start configuring.
  5. Use UP and DOWN to select the required mode, such as 3 decimal spaces(3), 2 decimal spaces(2) and 1 decimal space(1).
  6. Press ENTER to save the setting or press MENU to cancel without saving the changes.

4.6 Switch Vavg Display on Homepage

(Supported by firmware V 1.0410 or later in DPM-C530)

- **Homepage Vavg display setting:** Modify the Vavg display value featured with 1P3W or 3P4W wiring, which the options are line voltage (VLL) and phase voltage (VLN) (Default).
- **Set up steps:**
  1. Press MENU to display the setting menu.
  2. Select 0 and press ENTER to enter the Setup menu.
  3. Select 11. Display and press ENTER to enter the selected item.
  4. Choose “Voltage” and press Enter to start configuring.
  5. Use UP and DOWN to select the required mode, such as line voltage (VLL) or phase voltage (VLN).
  6. Press ENTER to save the setting or press MENU to cancel without saving the changes.

  Note: With 1P2W and 3P3W wiring, the Vavg display is fixed, which would be phase voltage and line voltage respectively and not configurable.

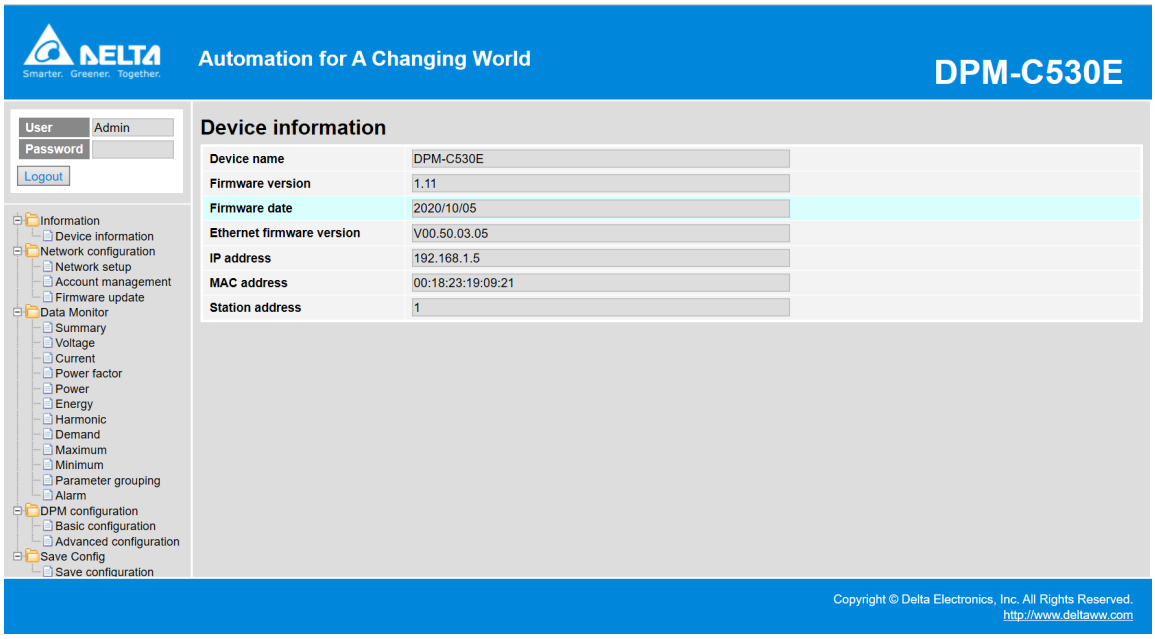
4.7 Connect to the Webpage

(Applicable only for DPM-C530E/C530EM)

4.7.1 Webpage Information

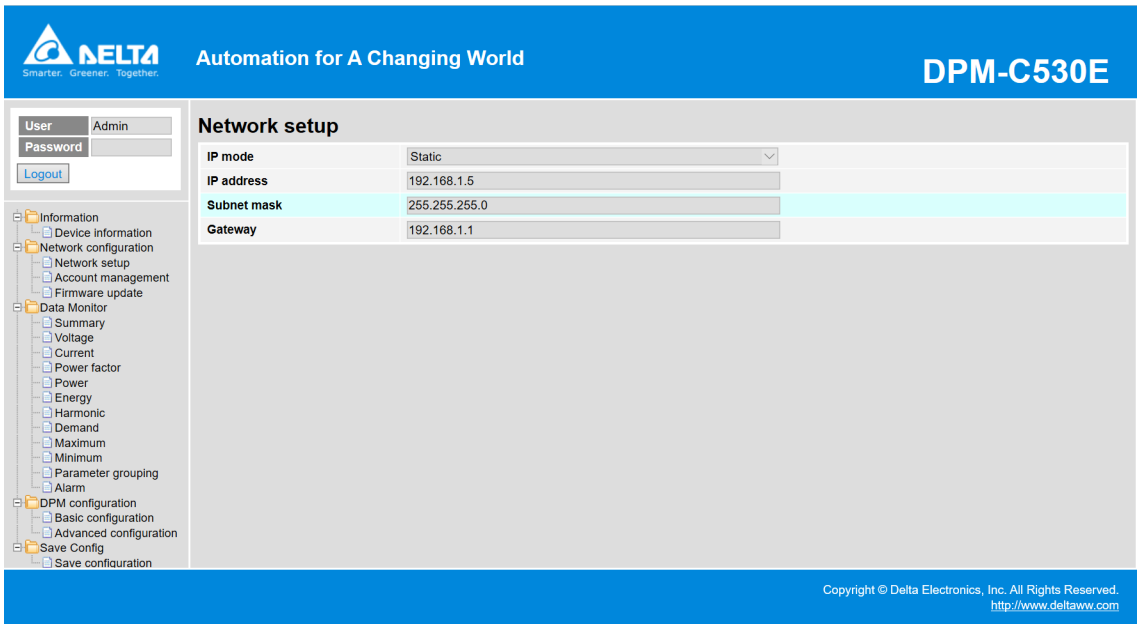
- Information: Device Information

Item	Description
Device Name	Power meter model type
Firmware version	Power meter firmware version
Firmware date	Date of the firmware version
Ethernet firmware version	Communication card firmware version
IP address	Internet protocol address
MAC address	Ethernet / physical address
Station address	Power meter Modbus station address



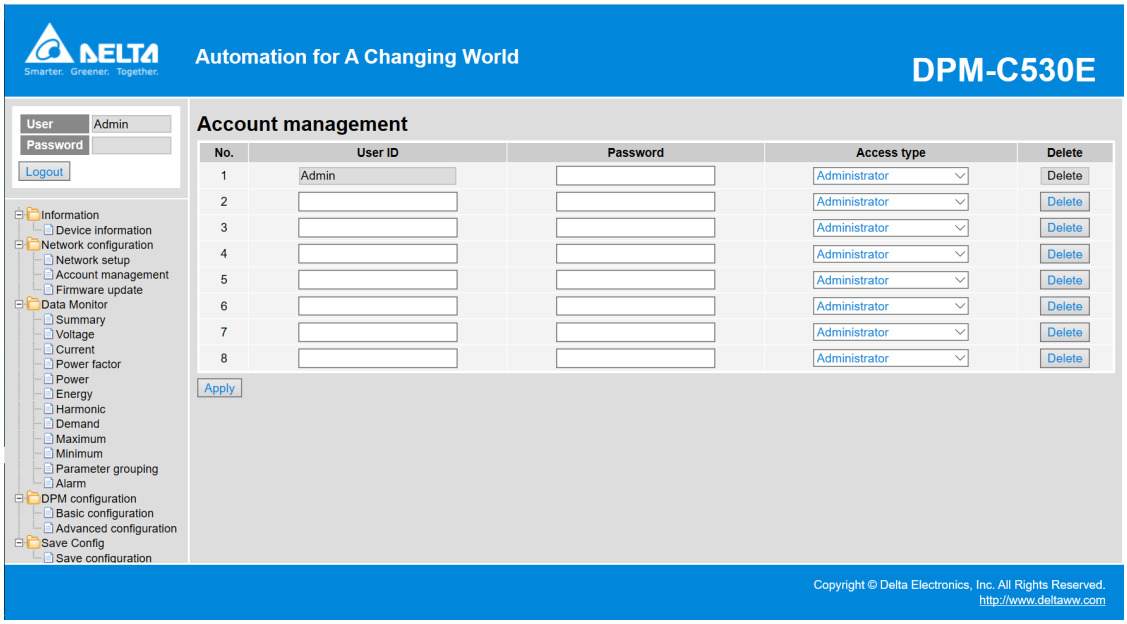
- Network configuration: Network setup

Item	Description
IP mode	Ethernet configuration
IP address	Internet protocol address
Subnet mask	Subnet mask
Gateway	Default gateway setting



- Network configuration: Account management

Item	Description
User ID	User account
Password	User password
Access type	User access privileges



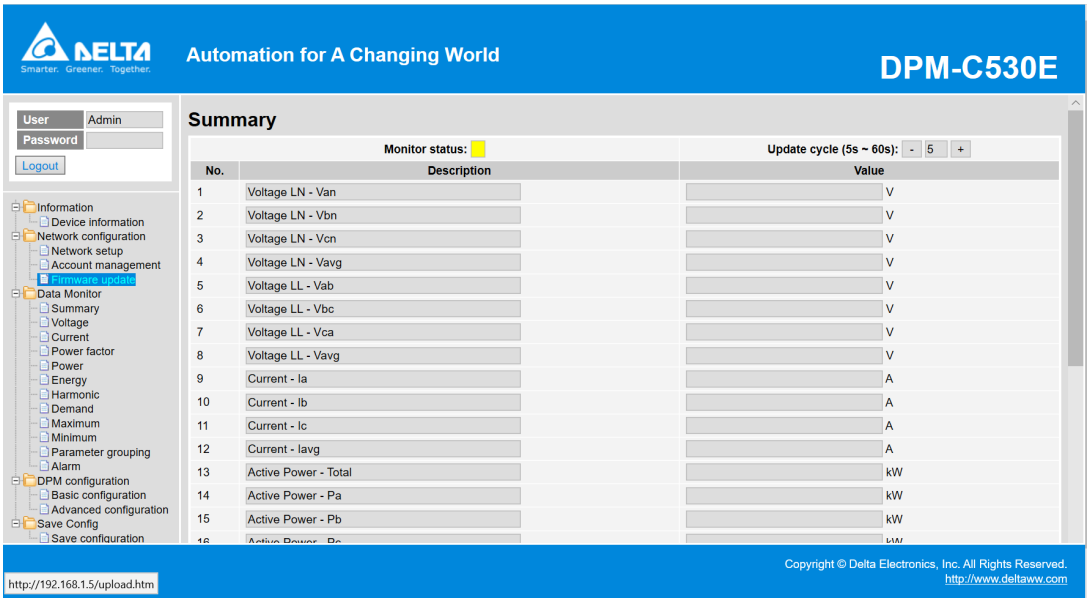
- Network configuration: Firmware update

Item	Description
Enter firmware update mode	Perform a communication card firmware update.

- Data Monitor: Summary

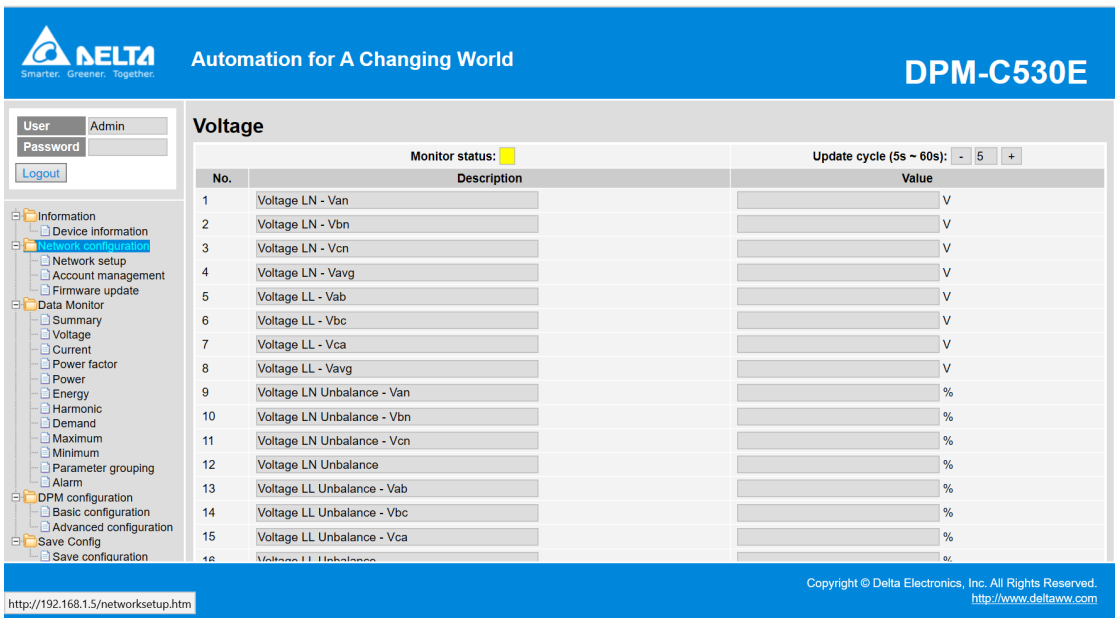
Item	Description
Voltage LN - Van	Phase A voltage value
Voltage LN - Vbn	Phase B voltage value
Voltage LN - Vcn	Phase C voltage value
Voltage LN - Vavg	Average phase voltage value
Voltage LL - Vab	Phase AB voltage value
Voltage LL - Vbc	Phase BC voltage value
Voltage LL - Vca	Phase CA voltage value
Voltage LL - Vavg	Average line voltage value
Current - Ia	Phase A current value
Current - Ib	Phase B current value

Current - Ic	Phase C current value
Current - Iavg	Average current value
Active Power - Total	Value of total active power
Active Power - Pa	Value of phase A active power
Active Power - Pb	Value of phase B active power
Active Power - Pc	Value of phase C active power
Reactive Power -Total	Value of total reactive power
Reactive Power - Qa	Value of phase A reactive power
Reactive Power - Qb	Value of phase B reactive power
Reactive Power - Qc	Value of phase C reactive power
Apparent Power - Total	Value of total apparent power
Apparent Power - Sa	Value of phase A apparent power
Apparent Power - Sb	Value of phase B apparent power
Apparent Power - Sc	Value of phase C apparent power
Active Energy - Delivered	Positive active energy
Active Energy - Received	Negative active energy
Reactive Energy - Delivered	Positive reactive energy
Reactive Energy - Received	Negative reactive energy
Apparent Energy - Delivered	Positive apparent energy
Apparent Energy - Received	Negative apparent energy
Power Factor - Total	Total power factor value
THD of Current	Value of current THD
THD of Voltage	Value of voltage THD



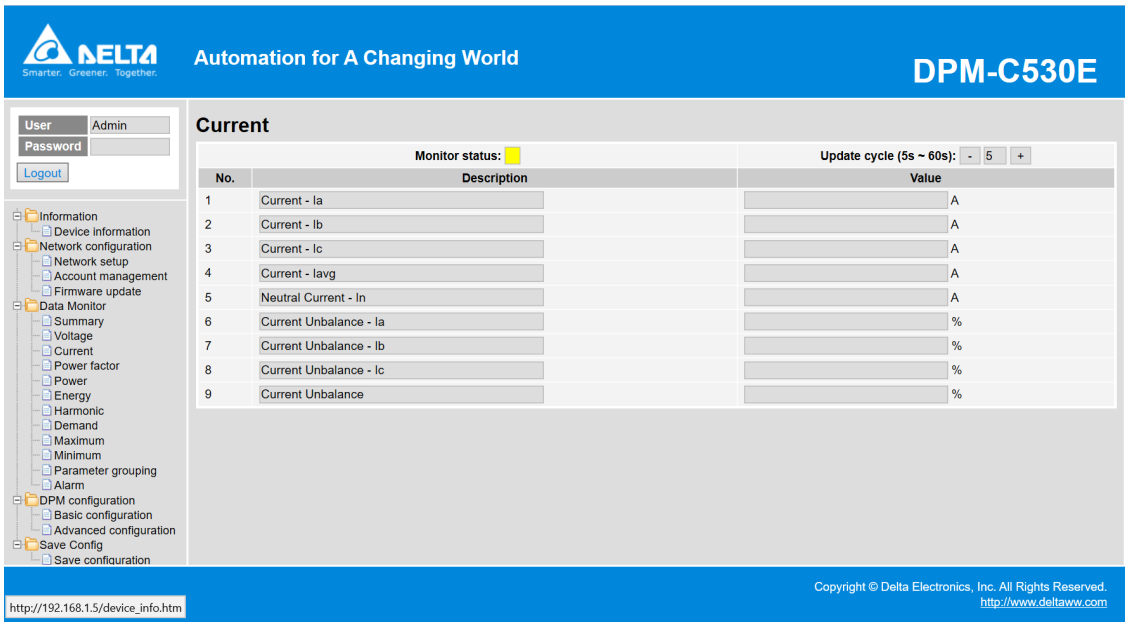
- Data Monitor: Voltage

Item	Description
Voltage LN - Van	Phase A voltage value
Voltage LN - Vbn	Phase B voltage value
Voltage LN - Vcn	Phase C voltage value
Voltage LN - Vavg	Average phase voltage value
Voltage LL - Vab	Phase AB voltage value
Voltage LL - Vbc	Phase BC voltage value
Voltage LL - Vca	Phase CA voltage value
Voltage LL - Vavg	Average line voltage value
Voltage LN Unbalance- Van	Unbalanced phase A voltage value
Voltage LN Unbalance- Vbn	Unbalanced phase B voltage value
Voltage LN Unbalance- Vcn	Unbalanced phase C voltage value
Voltage LN Unbalance	Unbalanced average phase voltage value
Voltage LL Unbalance- Vab	Unbalanced phase AB voltage value
Voltage LL Unbalance- Vbc	Unbalanced phase BC voltage value
Voltage LL Unbalance- Vca	Unbalanced phase CA voltage value
Voltage LL Unbalance	Unbalanced average line voltage value



- Data Monitor: Current

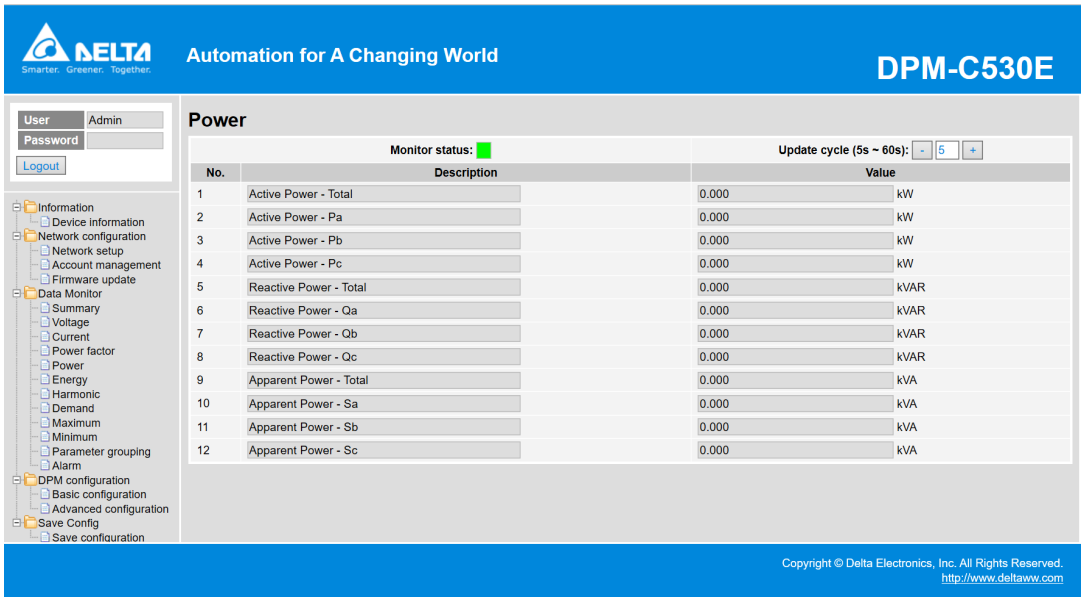
Item	Description
Current - Ia	Phase A current value
Current - Ib	Phase B current value
Current - Ic	Phase C current value
Current - Iavg	Average current value
Neutral Current - In	Value of the neutral current
Current Unbalance - Ia	Unbalanced phase A current value
Current Unbalance - Ib	Unbalanced phase B current value
Current Unbalance - Ic	Unbalanced phase C current value
Current Unbalance	Unbalanced average current value



- Data Monitor: Power

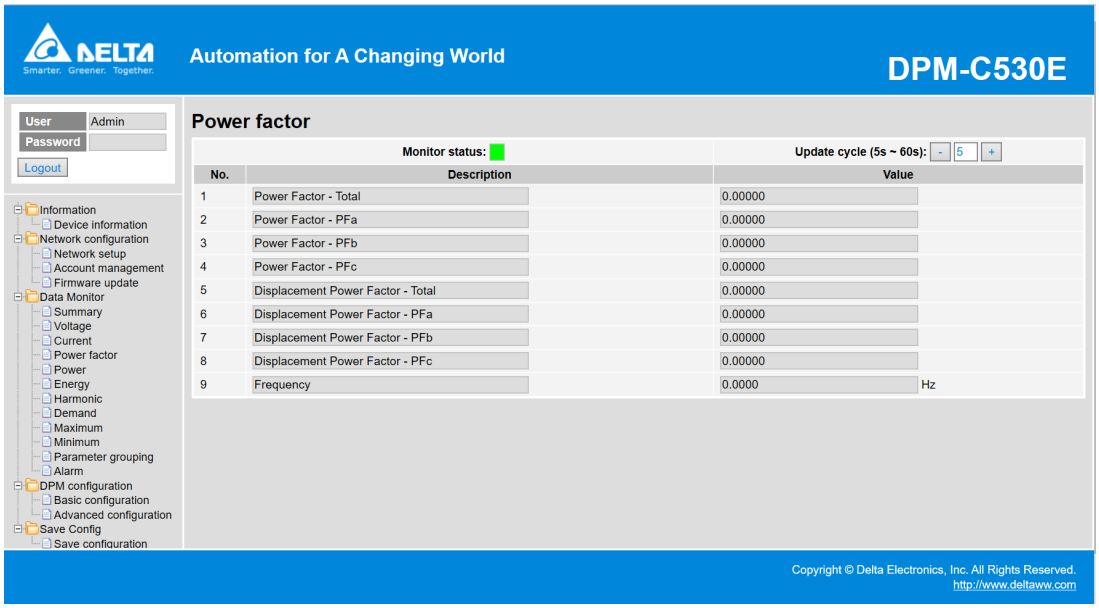
Item	Description
Active Power - Total	Value of total active power
Active Power - Pa	Value of phase A active power
Active Power - Pb	Value of phase B active power
Active Power - Pc	Value of phase C active power
Reactive Power -Total	Value of total reactive power
Reactive Power - Qa	Value of phase A reactive power
Reactive Power - Qb	Value of phase B reactive power
Reactive Power - Qc	Value of phase C reactive power
Apparent Power - Total	Value of total apparent power

Apparent Power - Sa	Value of phase A apparent power
Apparent Power - Sb	Value of phase B apparent power
Apparent Power - Sc	Value of phase C apparent power



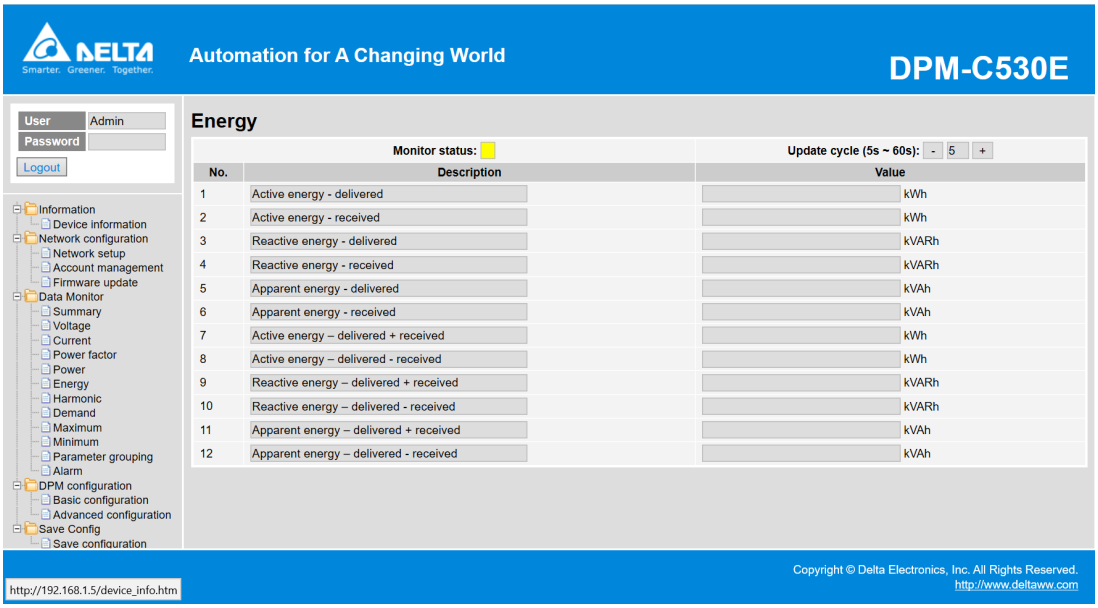
- Data Monitor: Power Factor

Item	Description
Power Factor - Total	Total power factor value
Power Factor - PFa	Phase A power factor value
Power Factor - PFb	Phase B power factor value
Power Factor - PFc	Phase C power factor value
Displacement Power Factor - Total	Value of total displacement power factor
Displacement Power Factor - DPFa	Value of phase A displacement power factor
Displacement Power Factor - DPFb	Value of phase B displacement power factor
Displacement Power Factor - DPFc	Value of phase C displacement power factor
Frequency	Frequency value



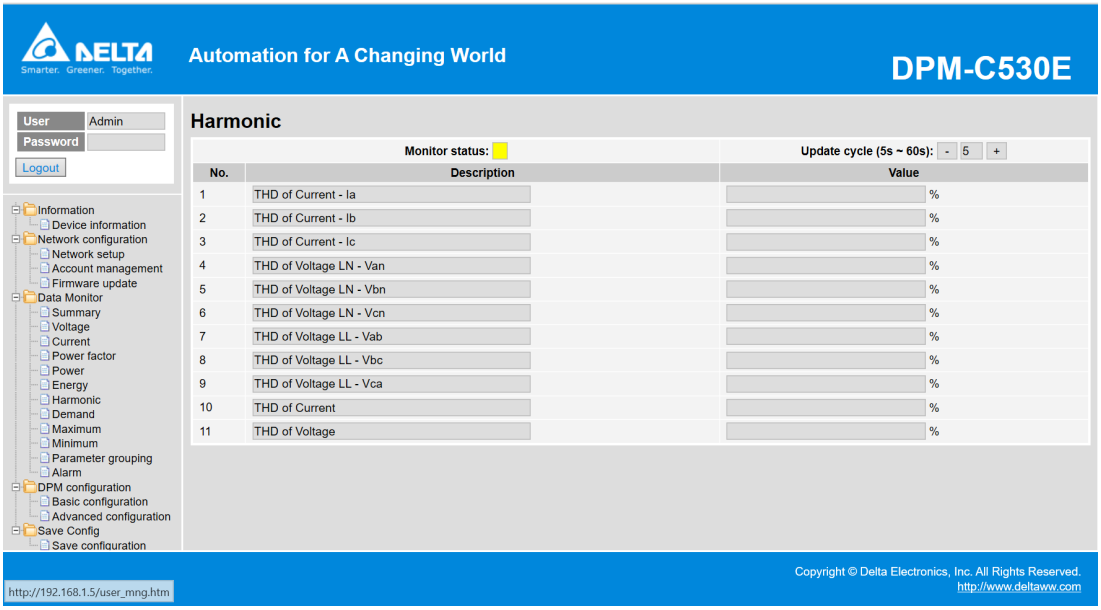
- Data Monitor: Energy

Item	Description
Active Energy - Delivered	Positive active energy
Active Energy - Received	Negative active energy
Reactive Energy - Delivered	Positive reactive energy
Reactive Energy - Received	Negative reactive energy
Apparent Energy - Delivered	Positive apparent energy
Apparent Energy - Received	Negative apparent energy
Active energy – delivered + received	Positive + negative active energy
Active energy – delivered - received	Positive - negative active energy
Reactive energy – delivered + received	Positive + negative reactive energy
Reactive energy – delivered - received	Positive - negative reactive energy
Apparent energy – delivered + received	Positive + negative apparent energy
Apparent energy – delivered - received	Positive - negative apparent energy



- Data Monitor: Harmonic

Item	Description
THD of Current - Ia	Value of phase A current harmonics
THD of Current - Ib	Value of phase B current harmonics
THD of Current - Ic	Value of phase C current harmonics
THD of Voltage LN - Van	Value of phase A voltage harmonics
THD of Voltage LN - Vbn	Value of phase B voltage harmonics
THD of Voltage LN - Vcn	Value of phase C voltage harmonics
THD of Voltage LL - Vab	Value of line AB voltage harmonics
THD of Voltage LL - Vbc	Value of line BC voltage harmonics
THD of Voltage LL - Vca	Value of line CA voltage harmonics
THD of Current	Value of current THD
THD of Voltage	Value of voltage THD



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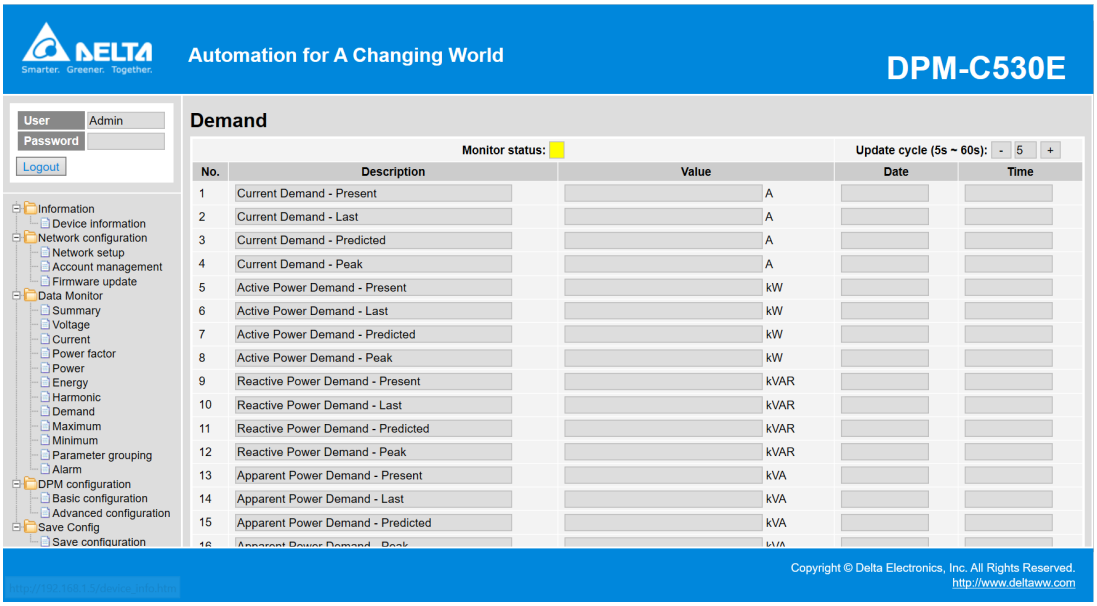
- Data Monitor: Demand

Item	Description
Current Demand - Present	Value of the current demand for present
Current Demand - Last	Value of the previous current demand
Current Demand - Predicted	Value of the predicted current demand
Current Demand - Peak	Value of the peak current demand
Date of Current Demand Peak	Peak current demand date
Time of Current Demand Peak	Peak current demand time
Active Power Demand - Present	Value of the active power demand for present
Active Power Demand - Last	Value of the previous active power demand
Active Power Demand - Predicted	Value of the predicted active power demand
Active Power Demand - Peak	Value of the peak active power demand
Date of Active Power Demand Peak	Peak active power demand date
Time of Active Power Demand Peak	Peak active power demand time
Reactive Power Demand - Present	Value of the reactive power demand for present
Reactive Power Demand - Last	Value of the previous reactive power demand
Reactive Power Demand - Predicted	Value of the predicted reactive power demand
Reactive Power Demand - Peak	Value of the peak reactive power demand
Date of Reactive Power Demand Peak	Peak reactive power demand date
Time of Reactive Power Demand Peak	Peak reactive power demand time
Apparent Power Demand - Present	Value of the apparent power demand for present
Apparent Power Demand - Last	Value of the previous reactive power demand
Apparent Power Demand - Predicted	Value of the predicted reactive power demand

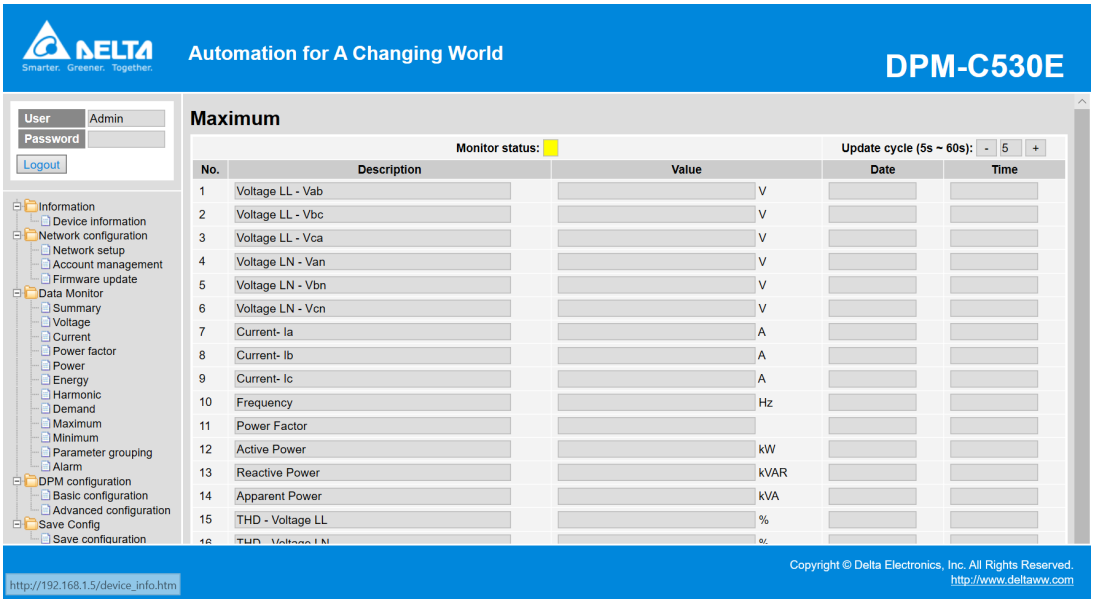
Apparent Power Demand - Peak	Value of the peak reactive power demand
Date of Apparent Power Demand Peak	Peak reactive power demand date
Time of Apparent Power Demand Peak	Peak reactive power demand time



- Data Monitor: Maximum

Item	Description
Voltage LL - Vab	The maximum line AB voltage value
Date of Voltage LL - Vab	Date of max. line AB voltage
Time of Voltage LL - Vab	Time of max. line AB voltage
Voltage LL - Vbc	The maximum line BC voltage value
Date of Voltage LL - Vbc	Date of max. line BC voltage
Time of Voltage LL - Vbc	Time of max. line BC voltage
Voltage LL - Vca	The maximum line CA voltage value
Date of Voltage LL - Vca	Date of max. line CA voltage
Time of Voltage LL - Vca	Time of max. line CA voltage
Voltage LN - Van	The maximum phase A voltage value
Date of Voltage LN - Van	Date of max. phase A voltage
Time of Voltage LN - Van	Time of max. phase A voltage
Voltage LN - Vbn	The maximum phase B voltage value
Date of Voltage LN - Vbn	Date of max. phase B voltage
Time of Voltage LN - Vbn	Time of max. phase B voltage
Voltage LN - Vcn	The maximum phase C voltage value
Date of Voltage LN - Vcn	Date of max. phase C voltage

Time of Voltage LN - Vcn	Time of max. phase C voltage
Current- Ia	The maximum phase A current value
Date of - Ia	Date of the max. phase A current
Time of Current - Ia	Time of the max. phase A current
Current- Ib	The maximum phase B current value
Date of Current - Ib	Date of the max. phase B current
Time of Current - Ib	Time of the max. phase B current
Current- Ic	The maximum phase C current value
Date of Current - Ic	Date of the max. phase C current
Time of Current - Ic	Time of the max. phase C current
Frequency	The maximum frequency value
Date of Frequency	Date of the max. frequency
Time of Frequency	Time of the max. frequency
Power Factor	The maximum frequency value
Date of Power Factor	Date of the max. frequency
Time of Power Factor	Time of the max. frequency
Active Power	The maximum active power value
Date of Active Power	Date of the max. active power
Time of Active Power	Time of the max. active power
Reactive Power	The maximum reactive power value
Date of Reactive Power	Date of the max. reactive power
Time of Reactive Power	Time of the max. reactive power
Apparent Power	The maximum apparent power value
Date of Apparent Power	Date of the max. apparent power
Time of Apparent Power	Time of the max. apparent power
THD - Voltage LL	The maximum line voltage THD value
Date of THD - Voltage LL	Date of the max. line voltage THD
Time of THD - Voltage LL	Time of the max. line voltage THD
THD - Voltage LN	The maximum phase voltage THD value
Date of THD - Voltage LN	Date of the max. phase voltage THD
Time of THD - Voltage LN	Time of the max. phase voltage THD
THD - Current	The maximum current THD value
Date of THD - Current	Date of the max. current THD
Time of THD - Current	Time of the max. current THD



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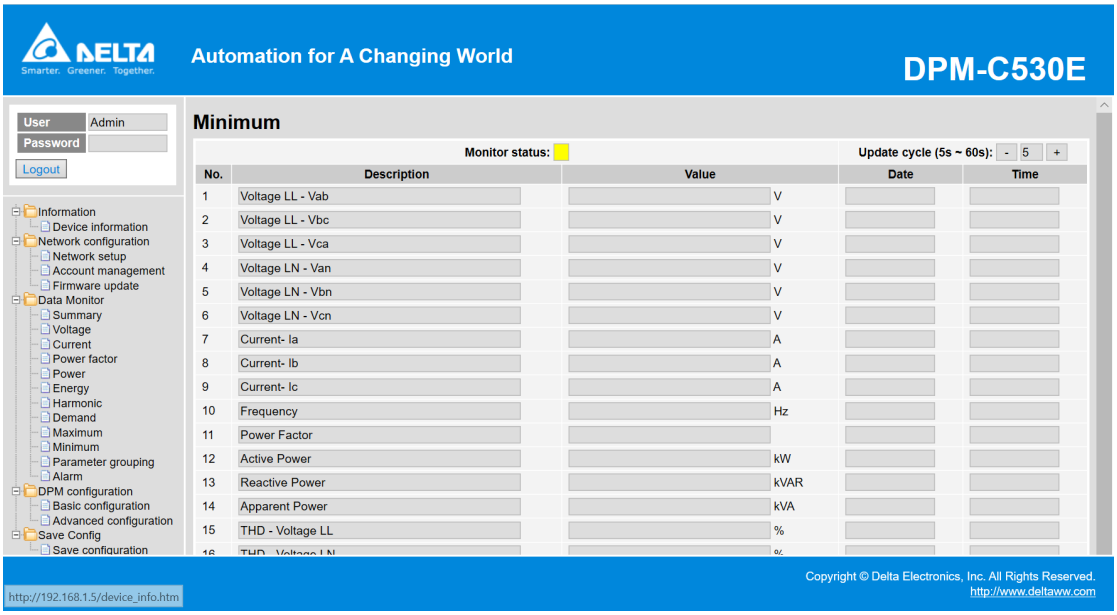
- Data Monitor: Minimum

Item	Description
Voltage LL - Vab	The minimum line AB voltage value
Date of Voltage LL - Vab	Date of min. line AB voltage
Time of Voltage LL - Vab	Time of min. line AB voltage
Voltage LL - Vbc	The minimum line BC voltage value
Date of Voltage LL - Vbc	Date of min. line BC voltage
Time of Voltage LL - Vbc	Time of min. line BC voltage
Voltage LL - Vca	The minimum line CA voltage value
Date of Voltage LL - Vca	Date of min. line CA voltage
Time of Voltage LL - Vca	Time of min. line CA voltage
Voltage LN - Van	The minimum phase A voltage value
Date of Voltage LN - Van	Date of min. phase A voltage
Time of Voltage LN - Van	Time of min. phase A voltage
Voltage LN - Vbn	The minimum phase B voltage value
Date of Voltage LN - Vbn	Date of min. phase B voltage
Time of Voltage LN - Vbn	Time of min. phase B voltage
Voltage LN - Vcn	The minimum phase C voltage value
Date of Voltage LN - Vcn	Date of min. phase C voltage
Time of Voltage LN - Vcn	Time of min. phase C voltage
Current- Ia	The minimum phase A current value
Date of - Ia	Date of the min. phase A current
Time of Current - Ia	Time of the min. phase A current

Current- Ib	The minimum phase B current value
Date of Current - Ib	Date of the min. phase B current
Time of Current - Ib	Time of the min. phase B current
Current- Ic	The minimum phase C current value
Date of Current - Ic	Date of the min. phase C current
Time of Current - Ic	Time of the min. phase C current
Frequency	The minimum frequency value
Date of Frequency	Date of the min. frequency
Time of Frequency	Time of the min. frequency
Power Factor	The minimum frequency value
Date of Power Factor	Date of the min. frequency
Time of Power Factor	Time of the min. frequency
Active Power	The minimum active power value
Date of Active Power	Date of the min. active power
Time of Active Power	Time of the min. active power
Reactive Power	The minimum reactive power value
Date of Reactive Power	Date of the min. reactive power
Time of Reactive Power	Time of the min. reactive power
Apparent Power	The minimum apparent power value
Date of Apparent Power	Date of the min. apparent power
Time of Apparent Power	Time of the min. apparent power
THD - Voltage LL	The minimum line voltage THD value
Date of THD - Voltage LL	Date of the min. line voltage THD
Time of THD - Voltage LL	Time of the min. line voltage THD
THD - Voltage LN	The minimum phase voltage THD value
Date of THD - Voltage LN	Date of the min. phase voltage THD
Time of THD - Voltage LN	Time of the min. phase voltage THD
THD - Current	The minimum current THD value
Date of THD - Current	Date of the min. current THD
Time of THD - Current	Time of the min. current THD

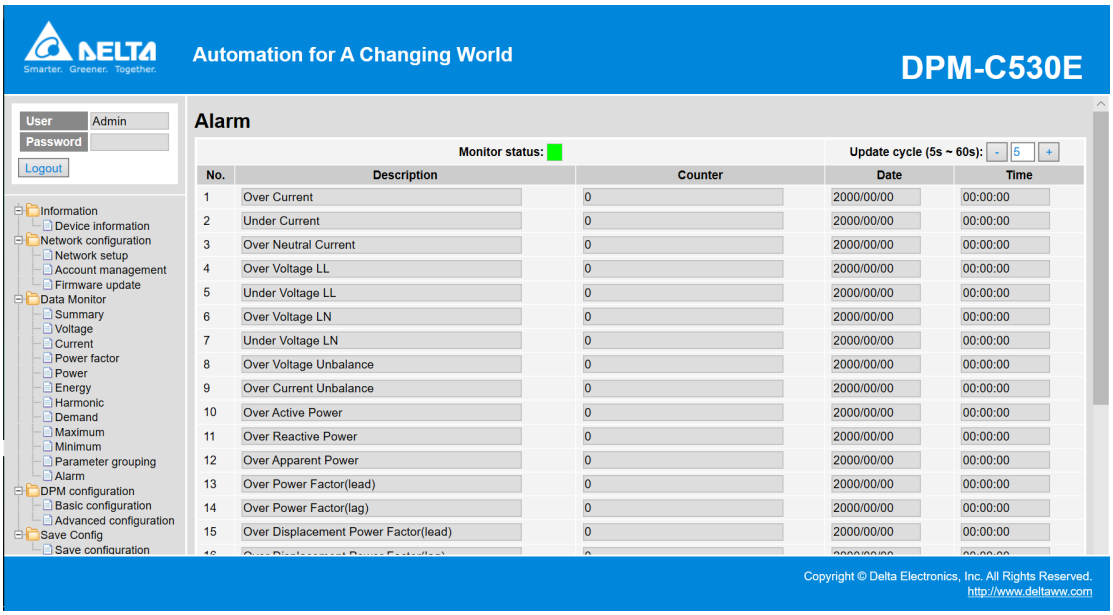


- Data Monitor: Parameter grouping

- Data Monitor: Alarm

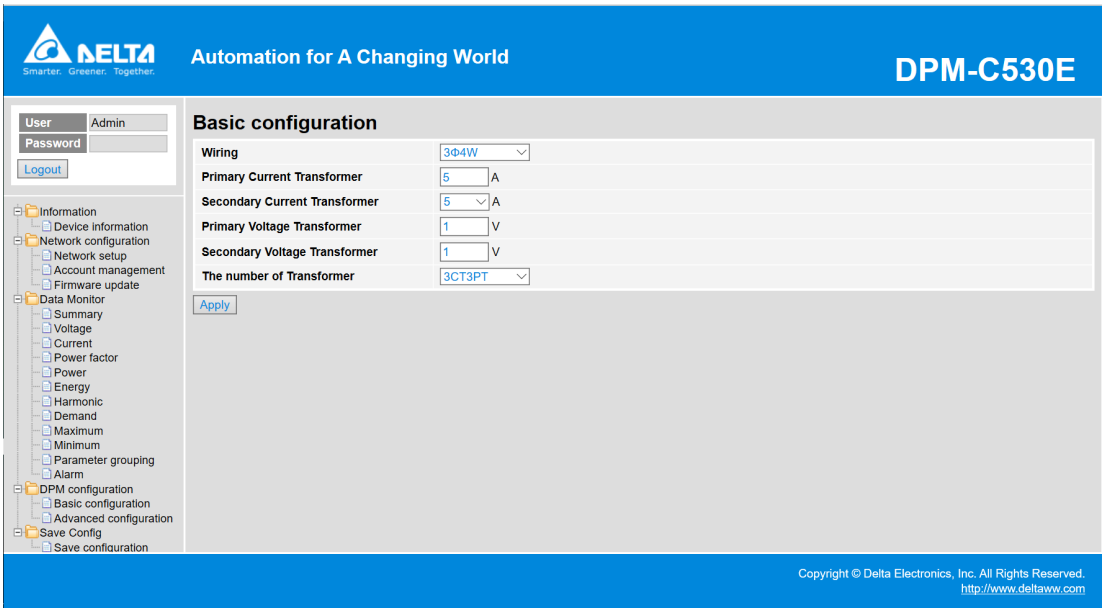
Item	Description
Over Current	Over current alarm
Under Current	Under current alarm
Over Neutral Current	Over neutral current alarm
Over Voltage LL	Over line voltage alarm
Under Voltage LL	Under line voltage alarm
Over Voltage LN	Over phase voltage alarm
Under Voltage LN	Under phase voltage alarm
Over Voltage Unbalance	Unbalanced over voltage alarm
Over Current Unbalance	Unbalanced over current alarm
Over Active Power	Over active power alarm
Over Reactive Power	Over reactive power alarm
Over Apparent Power	Over apparent power alarm
Over Power Factor (lead)	Over power factor (lead) alarm
Over Power Factor (lag)	Over power factor (lag) alarm
Over Displacement Power Factor (lead)	Over displacement power factor (lead) alarm
Over Displacement Power Factor (lag)	Over displacement power factor (lag) alarm
Over Current Demand	Over current demand alarm
Over Active Power Demand	Over active power demand alarm
Over Reactive Power Demand	Over reactive power demand alarm

Over Apparent Power Demand	Over apparent power demand alarm
Over Frequency	Over frequency alarm
Under Frequency	Under frequency alarm
Over THD of Voltage	Over voltage THD alarm
Over THD of Current	Over current THD alarm
Reset	Reset alarm
Phase Loss	Phase loss alarm
Phase Rotation	Phase rotation alarm
Over DUI	Over DUI alarm
Over EUI	Over EUI alarm



- DPM configuration: Basic configuration

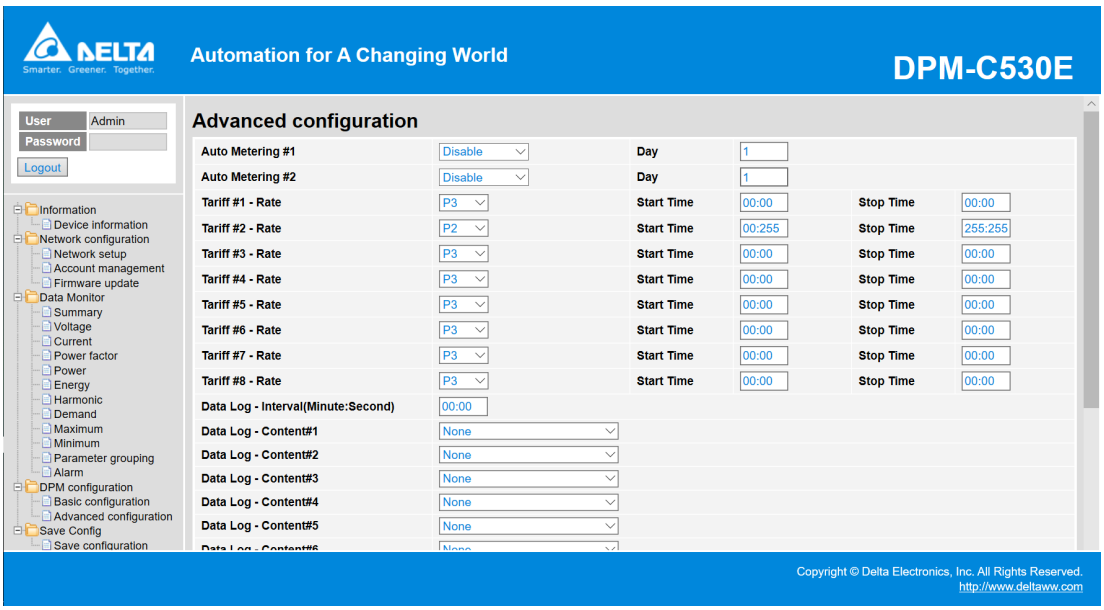
Item	Description
Wiring	System wiring
Primary Current Transformer	The primary of current transformer
Secondary Current Transformer	The secondary of current transformer
Primary Voltage Transformer	The primary of voltage transformer
Secondary Voltage Transformer	The secondary of voltage transformer
The number of Transformer	Transformer counts



4

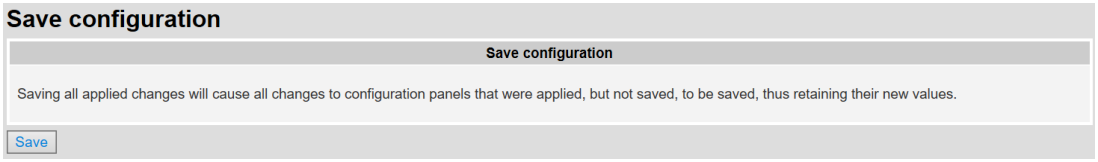
- DPM configuration: Advanced configuration

Item	Description
Auto Metering #1	Auto metering #1 function switch
Auto Metering #1 Day	Auto metering #1 date setting
Auto Metering #2	Auto metering #2 function switch
Auto Metering #2 Day	Auto metering #2 date setting
Tariff #1~#8 - Rate	Tariff #1~#8 – rate setting
Tariff #1~#8 – Start Time	The start time of tariff#1~#8
Tariff #1~#8 – Stop Time	The stop time of tariff#1~#8
Data Log – Interval (Minute: Second)	The interval time setting of data log
Data Log - Content#1~17	The parameter setting of data log



- Save Config: Save configuration

After DPM configuration (Include: Basic and Advanced configuration) is completed, enter this page and press "Save" to load the parameter settings.

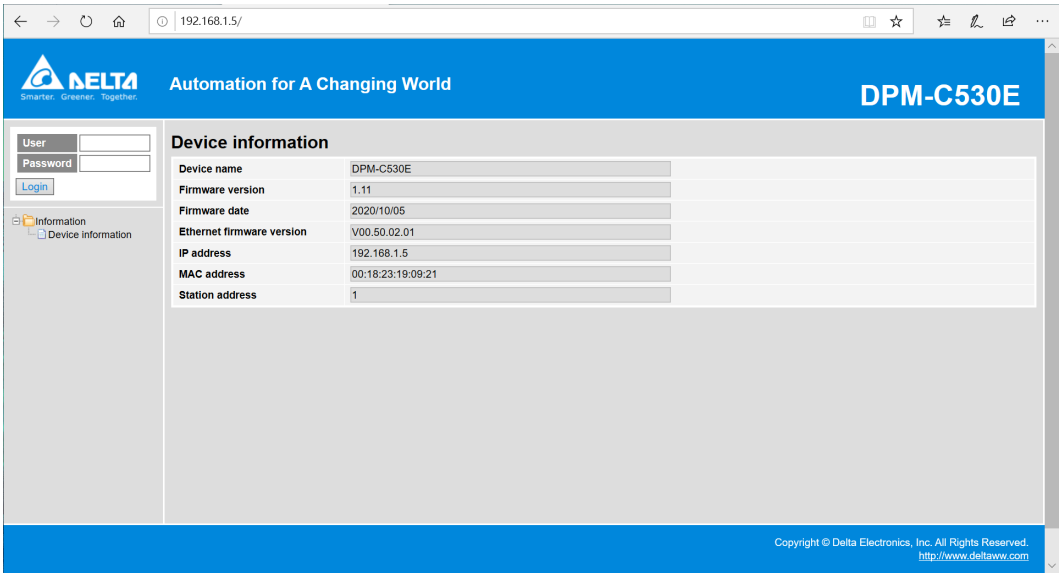


4.7.2 Webpage Connection

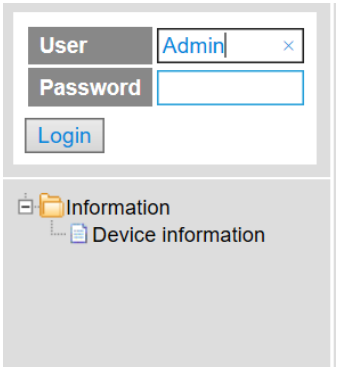
- **Steps are as follows:**

1. Open the web browser and enter the IP address of power meter to the address bar. (This example demonstrates with IP 192.168.1.5)

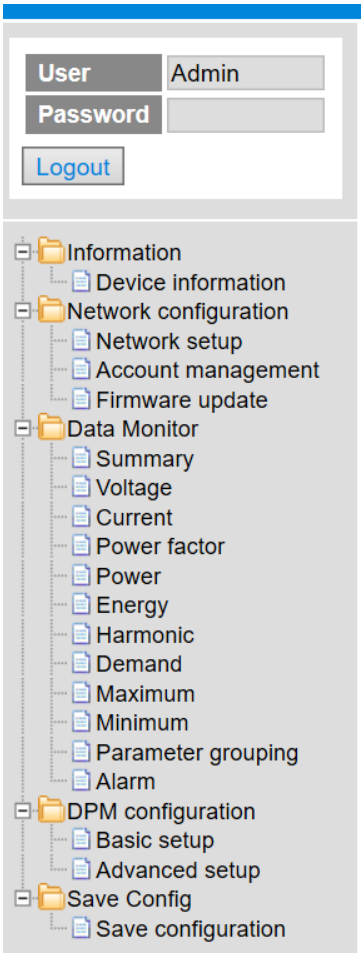
2. Open the power meter homepage via the web browser after connecting successfully.



3. If you have not yet configured the account and password, enter the default (User: Admin) and press “Login”.



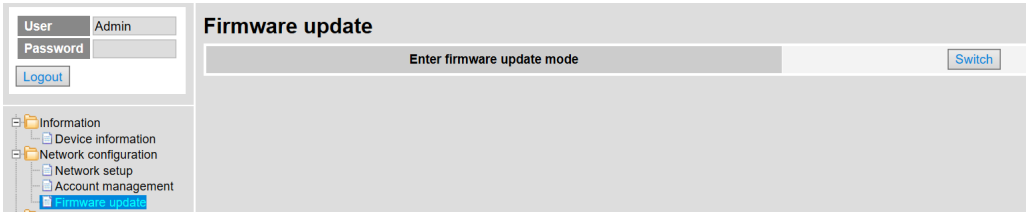
4. After login successfully, the device tree would be displayed in the following area.



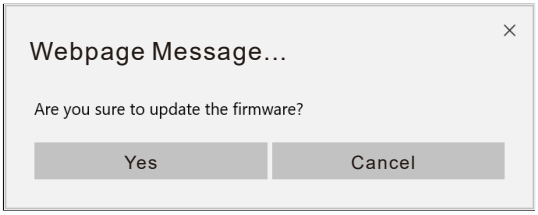
4.7.3 Communication Card Firmware Update

- **Steps are as follows:**

1. Open the browser and connect to the power meter.
2. Choose “Firmware update” and press “Switch”.

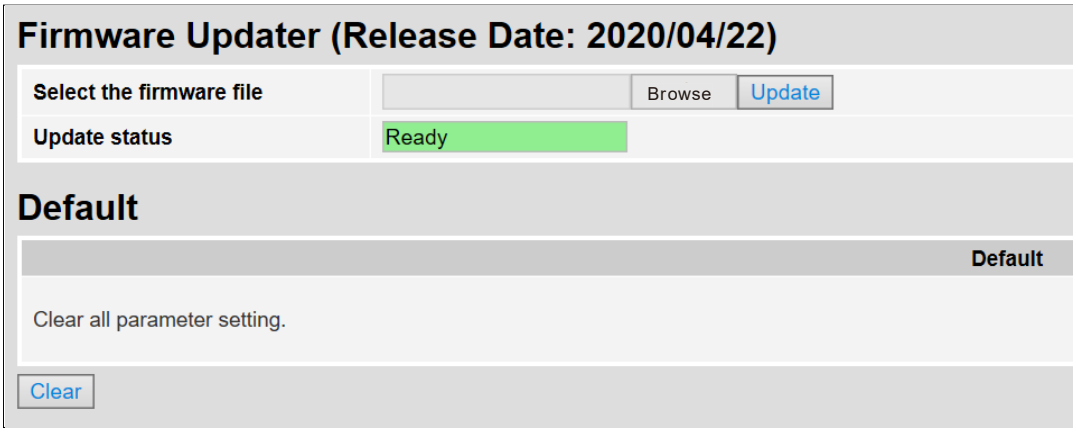


3. A notification window appears, then click “Yes”.



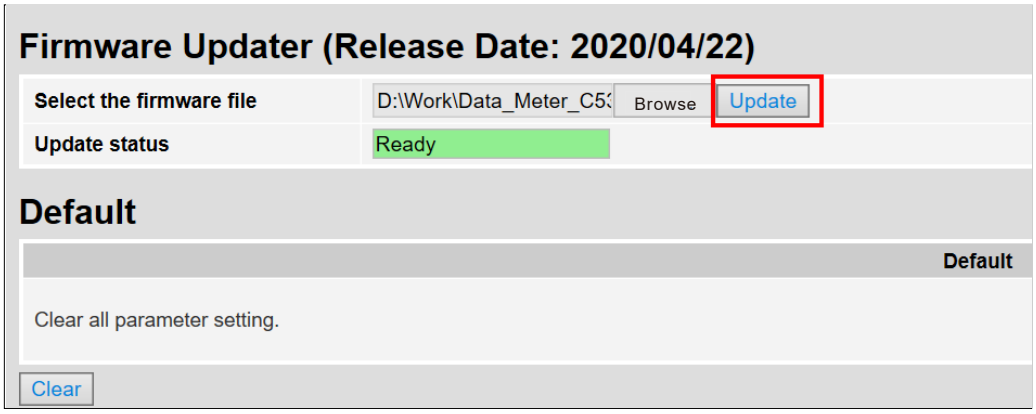
4. The webpage switches to firmware update page automatically.

Note: In case that the webpage does not change, please click the refresh button of the webpage.

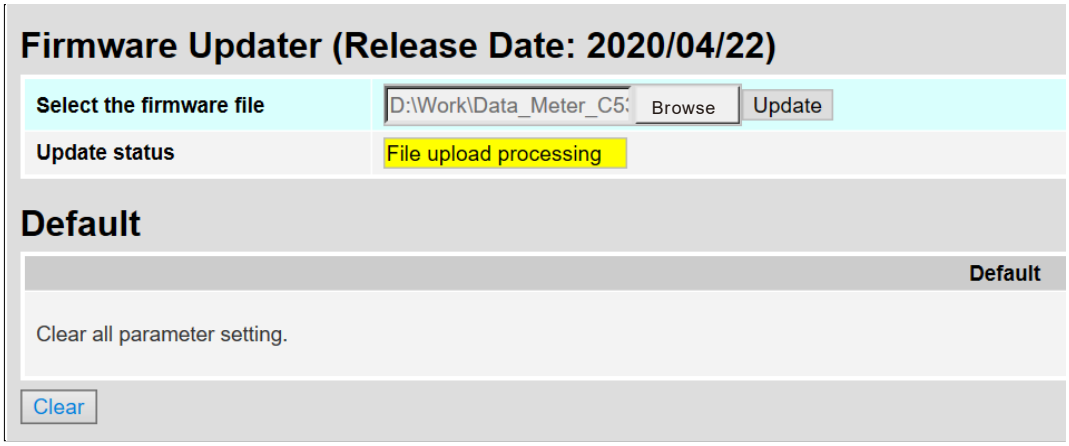


5. Click “Browse” after the update status shows “Ready”. Then choose the target file (web file) to update and click OK.

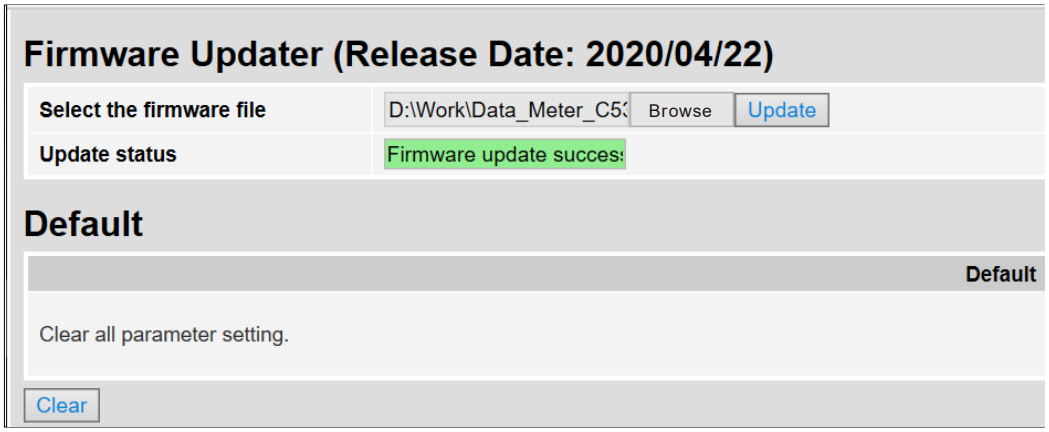
6. Hit the Update button.



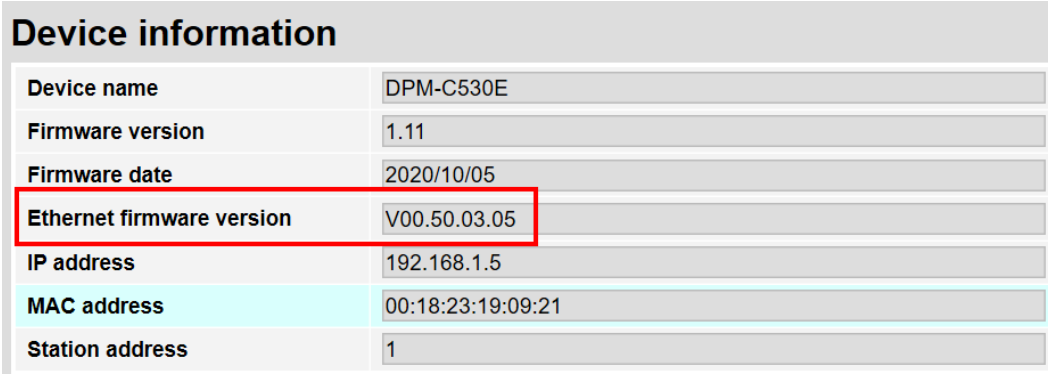
7. The update status shows “File upload processing”, which means the firmware of communication card is being updating.



8. Once the update status shows “Firmware update success”, the firmware updating task is completed.



9. After reboot the power meter, connect to the webpage information: Check whether the firmware version in the Device Information is correct.



4.8 Display Filtered Values

(Applicable only for DPM-C530E/C530EM v1.14A1.04 and above)

- The setting value DV represents Display Value. The values of voltage, current, and power displayed on the homepage are calculated using Median Filtering Algorithm to reduce value fluctuations. The value will update every 3 seconds.
- The setting value PV represents Present Value, which the real-time updates of values of voltage, current and power would be performed once a second.
- **Setup steps**:
  1. Press MENU to display the setting menu.
  2. Select 0 and press ENTER to enter the Setup menu.
  3. Select 11. Display and press ENTER to enter the selected item.
  4. Choose “Data” and press Enter to start configuring.
  5. Use UP and DOWN to select the required mode, such as DV/PV.
  6. Press ENTER to save the setting or press MENU to cancel without saving the changes.

5

Chapter 5 Parameters and Functions

Table of Contents

5.1 Overview of Parameters

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
0000	400001	Reserved					
0001	400002	Present date	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R/W
0002	400003		Date: 1 to 31 Week: Sunday to Saturday	byte	Date, Week	2	R/W
0003	400004	Present time	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R/W
0004	400005		Second: 00 to 59	word	Second	2	R/W
0005	400006	Meter constant	3200	uint	P/kWh	2	R
0006	400007	Meter model	7: DPM-C530 8: DPM-C530E 15: DPM-C532 20: DPM-C530EM 21: DPM-C532M	word		2	R
0007	400008	Total running time of the meter	0 to 4294967295	uint	Minute	2	R
0008	400009						
0009	400010	Firmware version No.	0.0000 to 9.9999(C530) 0.00 to 9.99	uint		2	R
000A	400011	Firmware release date	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
000B	400012		Date: 1 to 31	word	Date	2	R
000C	400013	Phase rotation	0: ABC 1: CBA	word		2	R/W
000D	400014	Wiring method of power system	0: 3φ4W 1: 3φ3W 2: 1φ2W 3: 1φ3W	word		2	R/W
000E	400015	Primary CT(A)	1 to 9999	word	A	2	R/W

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
000F	400016	Secondary CT(A)	0: 1 A 1: 5 A 2: 2.5 A	word	A	2	R/W
0010	400017	Primary PT	1 to 65535	word	V	2	R/W
0011	400018	Secondary PT	1 to 9999	word	V	2	R/W
0012	400019	Quantity of transformers	0: 3CT3PT 1: 3CT2PT 2: 3CT0PT 3: 2CT3PT 4: 2CT2PT 5: 2CT0PT 6: 1CT3PT 7: 1CT2PT 8: 1CT0PT	word		2	R/W
0013	400020	Language	0: English 1: Traditional Chinese 2: Simplified Chinese 3: Japanese	word		2	R/W
0014	400021	Energy-saving mode (Time)	0 to 99	word	Second	2	R/W
0015	400022	Backlight brightness	0: 100% 2: 25%	word		2	R/W
0016	400023	Baud Rate	0: 9600 1: 19200 2: 38400 3: 76800	word	bps	2	R/W
0017	400024	Communication mode	0: ASCII 1: RTU 2: BACnet MS/TP 3: Modbus TCP	word		2	R/W

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
		Communication mode (Only for DPM-C530E, DPM-C530EM)	1: RTU (Supported by DPM-C530E V3.00 or later version)				
0018	400025	Data size	0: 8 1: 7	word	bit	2	R/W
		Data size (Only for DPM-C530E, DPM-C530EM)	0: 8 (Supported by DPM-C530E V3.00 or later version)				
0019	400026	Parity bit	Supported by DPM-C530E V3.00 or later version: 0: None 1: Even 2: Odd	word		2	R/W
001A	400027	Stop bit	Supported by DPM-C530E V3.00 or later version: 0: 1 1: 2	word	bit	2	R/W
001B	400028	Meter's station address/ BACnet (MAC ID)	1 to 254 (Modbus)/ 1 to 257 (BACnet MS/TP)	word		2	R/W
		Meter's station address(Only for DPM-C530E, DPM-C530EM)	1 to 247				
001C	400029	Reset	0: None 1: Reset to factory default 2: Reset energy value 3: Reset demand value 4: Clear alarm logs / times 5: Reset max./min. values 6: Clear logs	word		2	W

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
			7: Clear all values 8: Clear all tariffs and accumulated energy values of automatic metering. 9: Clear all energy values accumulated under energy saving mode.				
001D	400030	Demand (calculation method)	0: Block 1: Sliding (Not supported by DPM-C530)	word		2	R
001E	400031	Demand time interval (min)	1 to 60	word	Minute	2	R/W
Alarm - Over Current							
001F	400032	Alarm enables	0: Disable 1: Enable	word		2	R/W
0020	400033	Pickup setpoint (That the current value exceeds this value triggers alarm.)	0.000 to 99999.999	Float	A	4	R/W
0021	400034						
0022	400035	Pickup time delay (Alarm-trigger delay)	0 to 99	word	s	2	R/W
0023	400036	Dropout setpoint (That the current value is below this value clears alarm.)	0.000 to 99999.999	Float	A	4	R/W
0024	400037						
0025	400038	Dropout time delay (Alarm-clear delay)	0 to 99	word	s	2	R/W
Alarm - Under Current							
0026	400039	Alarm enables	0: Disable 1: Enable	word		2	R/W

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
0027	400040	Pickup setpoint (That the current value is below this value triggers alarm.)	0.000 to 99999.999	Float	A	4	R/W
0028	400041						
0029	400042	Pickup time delay (Alarm-trigger delay)	0 to 99	word	s	2	R/W
002A	400043	Dropout setpoint (That the current value exceeds this value clears alarm.)	0.000 to 99999.999	Float	A	4	R/W
002B	400044						
002C	400045	Dropout time delay (Alarm-clear delay)	0 to 99	word	s	2	R/W
Alarm - Over Neutral Current							
002D	400046	Alarm enables	0: Disable 1: Enable	word		2	R/W
002E	400047	Pickup setpoint (That the neutral current value exceeds this value triggers alarm)	0.000 to 99999.999	Float	A	4	R/W
002F	400048						
0030	400049	Pickup time delay (Alarm-trigger delay)	0 to 99	word	s	2	R/W
0031	400050	Dropout setpoint (That the neutral current value is below this value clears alarm.)	0.000 to 99999.999	Float	A	4	R/W
0032	400051						
0033	400052	Dropout time delay (Alarm-clear delay)	0 to 99	word	s	2	R/W
Alarm - Over Line Voltage							
0034	400053	Alarm enables	0: Disable	word		2	R/W

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
			1: Enable				
0035	400054	Pickup setpoint (That the line voltage value exceeds this value triggers alarm.)	0.000 to 99999.999	Float	V	4	R/W
0036	400055						
0037	400056	Pickup time delay (Alarm-trigger delay)	0 to 99	word	s	2	R/W
0038	400057	Dropout setpoint (That the line voltage value is below this value clears alarm.)	0.000 to 99999.999	Float	V	4	R/W
0039	400058						
003A	400059	Dropout time delay (Alarm-clear delay)	0 to 99	word	s	2	R/W
Alarm - Under Line Voltage							
003B	400060	Alarm enables	0: Disable 1: Enable	word		2	R/W
003C	400061	Pickup setpoint (That the line voltage value is below this value triggers alarm.)	0.000 to 99999.999	Float	V	4	R/W
003D	400062						
003E	400063	Pickup time delay (Alarm-trigger delay)	0 to 99	word	s	2	R/W
003F	400064	Dropout setpoint (That the line voltage value exceeds this value clears alarm)	0.000 to 99999.999	Float	V	4	R/W
0040	400065						
0041	400066	Dropout time delay (Alarm-clear delay)	0 to 99	word	s	2	R/W
Alarm - Over Phase Voltage							
0042	400067	Alarm enables	0: Disable 1: Enable	word		2	R/W

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
0043	400068	Pickup setpoint (That the phase voltage value exceeds this value triggers alarm.)	0.000 to 99999.999	Float	V	4	R/W
0044	400069						
0045	400070	Pickup time delay (Alarm-trigger delay)	0 to 99	word	s	2	R/W
0046	400071	Dropout setpoint (That the phase voltage value is below this value clears alarm.)	0.000 to 99999.999	Float	V	4	R/W
0047	400072						
0048	400073	Dropout time delay (Alarm-clear delay)	0 to 99	word	s	2	R/W
Alarm - Under Phase Voltage							
0049	400074	Alarm enables	0: Disable 1: Enable	word		2	R/W
004A	400075	Pickup setpoint (That the phase voltage value is below this value triggers alarm.)	0.000 to 99999.999	Float	V	4	R/W
004B	400076						
004C	400077	Pickup time delay (Alarm-trigger delay)	0 to 99	word	s	2	R/W
004D	400078	Dropout setpoint (That the phase voltage value exceeds this value clears alarm.)	0.000 to 99999.999	Float	V	4	R/W
004E	400079						
004F	400080	Dropout time delay (Alarm-clear delay)	0 to 99	word	s	2	R/W

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
Alarm - Over Voltage Unbalance							
0050	400081	Alarm enables	0: Disable 1: Enable	word		2	R/W
0051	400082	Pickup setpoint (That the voltage unbalance value exceeds this value triggers alarm.)	0.00 to 99.99	Float	%	4	R/W
0052	400083						
0053	400084	Pickup time delay (Alarm-trigger delay)	0 to 99	word	s	2	R/W
0054	400085	Dropout setpoint (That the voltage unbalance value is below this value clears alarm.)	0.00 to 99.99	Float	%	4	R/W
0055	400086						
0056	400087	Dropout time delay (Alarm-clear delay)	0 to 99	word	s	2	R/W
Alarm - Over Current Unbalance							
0057	400088	Alarm enables	0: Disable 1: Enable	word		2	R/W
0058	400089	Pickup setpoint (That the current unbalance value is below this value triggers alarm.)	0.00 to 99.99	Float	%	4	R/W
0059	400090						
005A	400091	Pickup time delay (Alarm-trigger delay)	0 to 99	word	s	2	R/W
005B	400092	Dropout setpoint (That the current unbalance value exceeds this value	0.00 to 99.99	Float	%	4	R/W
005C	400093						

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
		clears alarm.)					
005D	400094	Dropout time delay (Alarm-clear delay)	0 to 99	word	s	2	R/W
Alarm - Over Active Power							
005E	400095	Alarm enables	0: Disable 1: Enable	word		2	R/W
005F	400096	Pickup setpoint (That the total active power value exceeds this value triggers alarm.)	0.000 to 99999.999	Float	kW	4	R/W
0060	400097						
0061	400098	Pickup time delay (Alarm-trigger delay)	0 to 99	word	s	2	R/W
0062	400099	Dropout setpoint (That the total active power value is below this value clears alarm.)	0.000 to 99999.999	Float	kW	4	R/W
0063	400100						
0064	400101	Dropout time delay (Alarm-clear delay)	0 to 99	word	s	2	R/W
Alarm - Over Reactive Power							
0065	400102	Alarm enables	0: Disable 1: Enable	word		2	R/W
0066	400103	Pickup setpoint (That the total reactive power value exceeds this value triggers alarm.)	0.000 to 99999.999	Float	kVAR	4	R/W
0067	400104						
0068	400105	Pickup time delay (Alarm-trigger delay)	0 to 99	word	s	2	R/W
0069	400106	Dropout setpoint	0.000 to 99999.999	Float	kVAR	4	R/W

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
006A	400107	(That the total reactive power value is below this value clears alarm.)					
006B	400108	Dropout time delay (Alarm-clear delay)	0 to 99	word	s	2	R/W
Alarm - Over Apparent Power							
006C	400109	Alarm enables	0: Disable 1: Enable	word		2	R/W
006D	400110	Pickup setpoint (That the total apparent power value exceeds this value triggers alarm.)	0.000 to 99999.999	Float	kVA	4	R/W
006E	400111						
006F	400112	Pickup time delay (Alarm-trigger delay)	0 to 99	word	s	2	R/W
0070	400113	Dropout setpoint (That the total apparent power value is below this value clears alarm.)	0.000 to 99999.999	Float	kVA	4	R/W
0071	400114						
0072	400115	Dropout time delay (Alarm-clear delay)	0 to 99	word	s	2	R/W
Alarm - Lead PF							
0073	400116	Alarm enables	0: Disable 1: Enable	word		2	R/W
0074	400117	Pickup setpoint (That the total power factor value is below this value triggers alarm.)	0.00000 to 1.00000	Float		4	R/W
0075	400118						

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
0076	400119	Pickup time delay (Alarm-trigger delay)	0 to 99	word	s	2	R/W
0077	400120	Dropout setpoint (That the total power factor value exceeds this value clears alarm.)	0.00000 to 1.00000	Float		4	R/W
0078	400121						
0079	400122	Dropout time delay (Alarm-clear delay)	0 to 99	word	s	2	R/W
Alarm - Lag PF							
007A	400123	Alarm enables	0: Disable 1: Enable	word		2	R/W
007B	400124	Pickup setpoint (That the total power factor value is below this value triggers alarm.)	0.00000 to 1.00000	Float		4	R/W
007C	400125						
007D	400126	Pickup time delay (Alarm-trigger delay)	0 to 99	word	s	2	R/W
007E	400127	Dropout setpoint (That the total power factor value exceeds this value clears alarm.)	0.00000 to 1.00000	Float		4	R/W
007F	400128						
0080	400129	Dropout time delay (Alarm-clear delay)	0 to 99	word	s	2	R/W
Alarm - Lead Displacement PF							
0081	400130	Alarm enables	0: Disable 1: Enable	word		2	R/W
0082	400131	Pickup setpoint (That the total	0.00000 to 1.00000	Float		4	R/W
0083	400132						

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
		displacement power factor value is below this value triggers alarm.)					
0084	400133	Pickup time delay (Alarm-trigger delay)	0 to 99	word	s	2	R/W
0085	400134	Dropout setpoint (That the total displacement power factor value exceeds this value clears alarm.)	0.00000 to 1.00000	Float		4	R/W
0086	400135						
0087	400136	Dropout time delay (Alarm-clear delay)	0 to 99	word	s	2	R/W
Alarm - Lag Displacement PF							
0088	400137	Alarm enables	0: Disable 1: Enable	word		2	R/W
0089	400138	Pickup setpoint (That the total displacement power factor value is below this value triggers alarm.)	0.00000 to 1.00000	Float		4	R/W
008A	400139						
008B	400140	Pickup time delay (Alarm-trigger delay)	0 to 99	word	s	2	R/W
008C	400141	Dropout setpoint (That the total displacement power factor value exceeds this value clears alarm.)	0.00000 to 1.00000	Float		4	R/W
008D	400142						
008E	400143	Dropout time delay	0 to 99	word	s	2	R/W

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
		(Alarm-clear delay)					
Alarm - Over Current Demand							
008F	400144	Alarm enables	0: Disable 1: Enable	word		2	R/W
0090	400145	Pickup setpoint (That the current demand value exceeds this value triggers alarm.)	0.000 to 99999.999	Float	A	4	R/W
0091	400146						
0092	400147	Pickup time delay (Alarm-trigger delay)	0 to 99	word	s	2	R/W
0093	400148	Dropout setpoint (That the current demand value is below this value clears alarm.)	0.000 to 99999.999	Float	A	4	R/W
0094	400149						
0095	400150	Dropout time delay (Alarm-clear delay)	0 to 99	word	s	2	R/W
Alarm - Over Active Power Demand							
0096	400151	Alarm enables	0: Disable 1: Enable	word		2	R/W
0097	400152	Pickup setpoint (That the active power demand value exceeds this value triggers alarm.)	0.000 to 99999.999	Float	kW	4	R/W
0098	400153						
0099	400154	Pickup time delay (Alarm-trigger delay)	0 to 99	word	s	2	R/W
009A	400155	Dropout setpoint (That the active power demand value is	0.000 to 99999.999	Float	kW	4	R/W
009B	400156						

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
		below this value clears alarm.)					
009C	400157	Dropout time delay (Alarm-clear delay)	0 to 99	word	s	2	R/W
Alarm - Over Reactive Power Demand							
009D	400158	Alarm enables	0: Disable 1: Enable	word		2	R/W
009E	400159	Pickup setpoint (That the reactive power demand value exceeds this value triggers alarm.)	0.000 to 99999.999	Float	kVAR	4	R/W
009F	400160						
00A0	400161	Pickup time delay (Alarm-trigger delay)	0 to 99	word	s	2	R/W
00A1	400162	Dropout setpoint (That the reactive power demand value is below this value clears alarm.)	0.000 to 99999.999	Float	kVAR	4	R/W
00A2	400163						
00A3	400164	Dropout time delay (Alarm-clear delay)	0 to 99	word	s	2	R/W
Alarm - Over Apparent Power Demand							
00A4	400165	Alarm enables	0: Disable 1: Enable	word		2	R/W
00A5	400166	Pickup setpoint (That the apparent power demand value exceeds this value triggers alarm.)	0.000 to 99999.999	Float	kVA	4	R/W
00A6	400167						
00A7	400168	Pickup time delay (Alarm-trigger delay)	0 to 99	word	s	2	R/W

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
00A8	400169	Dropout setpoint (That the apparent power demand value is below this value clears alarm.)	0.000 to 99999.999	Float	kVA	4	R/W
00A9	400170						
00AA	400171	Dropout time delay (Alarm-clear delay)	0 to 99	word	s	2	R/W
Alarm - Over Frequency							
00AB	400172	Alarm enables	0: Disable 1: Enable	word		2	R/W
00AC	400173	Pickup setpoint (That the frequency value exceeds this value triggers alarm.)	0.0000 to 99.9999	Float	Hz	4	R/W
00AD	400174						
00AE	400175	Pickup time delay (Alarm-trigger delay)	0 to 99	word	s	2	R/W
00AF	400176	Dropout setpoint (That the frequency value is below this value clears alarm.)	0.0000 to 99.9999	Float	Hz	4	R/W
00B0	400177						
00B1	400178	Dropout time delay (Alarm-clear delay)	0 to 99	word	s	2	R/W
Alarm - Under Frequency							
00B2	400179	Alarm enables	0: Disable 1: Enable	word		2	R/W
00B3	400180	Pickup setpoint (That the frequency value is below this value triggers alarm.)	0.0000 to 99.9999	Float	Hz	4	R/W
00B4	400181						
00B5	400182	Pickup time delay (Alarm-trigger delay)	0 to 99	word	s	2	R/W

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
00B6	400183	Dropout setpoint (When the frequency value exceeds this value, alarm cleared.)	0.0000 to 99.9999	Float	Hz	4	R/W
00B7	400184						
00B8	400185	Dropout time delay (Alarm-clear delay)	0 to 99	word	s	2	R/W
Alarm - Over Voltage THD							
00B9	400186	Alarm enables	0: Disable 1: Enable	word		2	R/W
00BA	400187	Pickup setpoint (That the THD voltage value exceeds this value triggers alarm.)	0.000 to 999.999	Float	%	4	R/W
00BB	400188						
00BC	400189	Pickup time delay (Alarm-trigger delay)	0 to 99	word	s	2	R/W
00BD	400190	Dropout setpoint (That the THD voltage value is below this value clears alarm.)	0.000 to 999.999	Float	%	4	R/W
00BE	400191						
00BF	400192	Dropout time delay (Alarm-clear delay)	0 to 99	word	s	2	R/W
Alarm - Over Current THD							
00C0	400193	Alarm enables	0: Disable 1: Enable	word		2	R/W
00C1	400194	Pickup setpoint (That the THD current value exceeds this value triggers alarm.)	0.000 to 999.999	Float	%	4	R/W
00C2	400195						
00C3	400196	Pickup time delay (Alarm-trigger delay)	0 to 99	word	s	2	R/W
00C4	400197	Dropout setpoint	0.000 to 999.999	Float	%	4	R/W

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
00C5	400198	(That the THD current value is below this value clears alarm.)					
00C6	400199	Dropout time delay (Alarm-clear delay)	0 to 99	word	s	2	R/W
Alarm - Phase Loss							
00C7	400200	Alarm enables	0: Disable 1: Enable	word		2	R/W
Alarm - Over DUI							
00CE	400207	Alarm enables	0: Disable 1: Enable	word		2	R/W
00CF	400208	Pickup setpoint (That the DUI value exceeds this value triggers alarm.)	0.000 to 99999.999	Float	kW / m^2	4	R/W
00D0	400209						
00D1	400210	Pickup time delay (Alarm-trigger delay)	0 to 99	word	s	2	R/W
00D2	400211	Dropout setpoint (When the DUI value is below this value, alarm is cleared.)	0.000 to 99999.999	Float	kW / m2	4	R/W
00D3	400212						
00D4	400213	Dropout time delay (Alarm-clear delay)	0 to 99	word	s	2	R/W
Alarm - Over EUI							
00D5	400214	Alarm enables	0: Disable 1: Enable	word		2	R/W
00D6	400215	Pickup setpoint (That the EUI value exceeds this value triggers alarm.)	0.000 to 99999.999	Float	kWh / m2	4	R/W
00D7	400216						
00D8	400217	Pickup time delay	0 to 99	word	s	2	R/W

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
		(Alarm-trigger delay)					
00D9	400218	Dropout setpoint (When the EUI value is below this value, alarm is cleared.)	0.000 to 99999.999	Float	kWh / m2	4	R/W
00DA	400219						
00DB	400220	Dropout time delay (Alarm-clear delay)	0 to 99	word	s	2	R/W
Alarm - Meter Reset							
00DC	400221	Alarm enables	0: Disable 1: Enable	word		2	R/W
Alarm - Phase Rotation							
00DD	400222	Alarm enables	0: Disable 1: Enable	word		2	R/W
00DE	400223	BACnet Device ID(high word)	0x00 to 0x3F	word		2	R/W
00EF	400224	BACnet Device ID(low word)	0x0000 to 0xFFFF	word		2	R/W
00E0	400225	BACnet Max Poll	1 to 127	word		2	R/W
00E1	400226	Current protection point	5 to 50	word	mA	2	R/W
00E2	400227	Auto Phase Sequence-Current	0: Disable 1: Enable	word		2	R/W
00E3	400228	Auto Phase Sequence-Voltage	0: Disable 1: Enable	word		2	R/W
00FF	400256	Communication Lock (MID Models)	0: Disable 1: Enable	word		2	R/W
0100	400257	Phase A voltage	0.000 to 99999.999	Float	V	4	R
0101	400258						
0102	400259	Phase B voltage	0.000 to 99999.999	Float	V	4	R
0103	400260						
0104	400261	Phase C voltage	0.000 to 99999.999	Float	V	4	R

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
0105	400262						
0106	400263	Average phase voltage	0.000 to 99999.999	Float	V	4	R
0107	400264						
0108	400265	A to B line voltage	0.000 to 99999.999	Float	V	4	R
0109	400266						
010A	400267	B to C line voltage	0.000 to 99999.999	Float	V	4	R
010B	400268						
010C	400269	C to A line voltage	0.000 to 99999.999	Float	V	4	R
010D	400270						
010E	400271	Average line voltage	0.000 to 99999.999	Float	V	4	R
010F	400272						
0110	400273	Phase A voltage unbalance	0.00 to 99.99	Float	%	4	R
0111	400274						
0112	400275	Phase B voltage unbalance	0.00 to 99.99	Float	%	4	R
0113	400276						
0114	400277	Phase C voltage unbalance	0.00 to 99.99	Float	%	4	R
0115	400278						
0116	400279	Phase voltage unbalance	0.00 to 99.99	Float	%	4	R
0117	400280						
0118	400281	A to B line voltage unbalance	0.00 to 99.99	Float	%	4	R
0119	400282						
011A	400283	B to C line voltage unbalance	0.00 to 99.99	Float	%	4	R
011B	400284						
011C	400285	C to A line voltage unbalance	0.00 to 99.99	Float	%	4	R
011D	400286						
011E	400287	Line voltage unbalance	0.00 to 99.99	Float	%	4	R
011F	400288						
0120	400289	Phase A current	0.000 to 99999.999	Float	A	4	R
0121	400290						
0122	400291	Phase B current	0.000 to 99999.999	Float	A	4	R
0123	400292						
0124	400293	Phase C current	0.000 to 99999.999	Float	A	4	R

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
0125	400294						
0126	400295	Three to phase average current	0.000 to 99999.999	Float	A	4	R
0127	400296						
0128	400297	Neutral line current	0.000 to 99999.999	Float	A	4	R
0129	400298						
012A	400299	Phase A current unbalance	0.00 to 99.99	Float	%	4	R
012B	400300						
012C	400301	Phase B current unbalance	0.00 to 99.99	Float	%	4	R
012D	400302						
012E	400303	Phase C current unbalance	0.00 to 99.99	Float	%	4	R
012F	400304						
0130	400305	Current unbalance	0.00 to 99.99	Float	%	4	R
0131	400306						
0132	400307	Total power factor	-1.00000 to 1.00000 (positive: lag; negative: lead)	Float		4	R
0133	400308						
0134	400309	Power factor of phase A	-1.00000 to 1.00000 (positive: lag; negative: lead)	Float		4	R
0135	400310						
0136	400311	Power factor of phase B	-1.00000 to 1.00000 (positive: lag; negative: lead)	Float		4	R
0137	400312						
0138	400313	Power factor of phase C	-1.00000 to 1.00000 (positive: lag; negative: lead)	Float		4	R
0139	400314						
013A	400315	Total displacement power factor	-1.00000 to 1.00000 (positive: lag; negative: lead)	Float		4	R
013B	400316						
013C	400317	Displacement power factor of phase A	-1.00000 to 1.00000 (positive: lag; negative: lead)	Float		4	R
013D	400318						
013E	400319	Displacement power	-1.00000 to 1.00000	Float		4	R

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
013F	400320	factor of phase B	(positive: lag; negative: lead)				
0140	400321	Displacement power factor of phase C	-1.00000 to 1.00000 (positive: lag; negative: lead)	Float		4	R
0141	400322						
0142	400323	Frequency	0.0000 to 99.9999	Float	Hz	4	R
0143	400324						
0144	400325	Total instantaneous active power	-99999.999 to 99999.999 (positive: power consumption; negative: power supply)	Float	kW	4	R
0145	400326						
0146	400327	Instantaneous active power of phase A	-99999.999 to 99999.999 (positive: power consumption; negative: power supply)	Float	kW	4	R
0147	400328						
0148	400329	Instantaneous active power of phase B	-99999.999 to 99999.999 (positive: power consumption; negative: power supply)	Float	kW	4	R
0149	400330						
014A	400331	Instantaneous active power of phase C	-99999.999 to 99999.999 (positive: power consumption; negative: power supply)	Float	kW	4	R
014B	400332						
014C	400333	Total instantaneous reactive power	-99999.999 to 99999.999 (positive: lag; negative: lead)	Float	kVAR	4	R
014D	400334						
014E	400335	Instantaneous reactive power of phase A	-99999.999 to 99999.999 (positive: lag; negative: lead)	Float	kVAR	4	R
014F	400336						
0150	400337	Instantaneous reactive power of phase B	-99999.999 to 99999.999 (positive: lag; negative: lead)	Float	kVAR	4	R
0151	400338						

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
0152	400339	Instantaneous reactive power of phase C	-99999.999 to 99999.999 (positive: lag; negative: lead)	Float	kVAR	4	R
0153	400340						
0154	400341	Instantaneous apparent power	0.000 to 99999.999	Float	kVA	4	R
0155	400342						
0156	400343	Instantaneous apparent power of phase A	0.000 to 99999.999	Float	kVA	4	R
0157	400344						
0158	400345	Instantaneous apparent power of phase B	0.000 to 99999.999	Float	kVA	4	R
0159	400346						
015A	400347	Instantaneous apparent power of phase C	0.000 to 99999.999	Float	kVA	4	R
015B	400348						
015C	400349	Active energy of three-phase delivered	0.000 to 99999,999,999.999	Float	kWh	4	R
015D	400350						
015E	400351	Active energy of three-phase received	0.000 to 99999,999,999.999	Float	kWh	4	R
015F	400352						
0160	400353	Reactive energy of three-phase delivered	0.000 to 99999,999,999.999	Float	kVARh	4	R
0161	400354						
0162	400355	Reactive energy of three-phase received	0.000 to 99999,999,999.999	Float	kVARh	4	R
0163	400356						
0164	400357	Apparent energy of three-phase delivered	0.000 to 99999,999,999.999	Float	kVAh	4	R
0165	400358						
0166	400359	Apparent energy of three-phase received	0.000 to 99999,999,999.999	Float	kVAh	4	R
0167	400360						
0168	400361	Active energy of three-phase delivered + active energy of three-phase received	0.000 to 99999,999,999.999	Float	kWh	4	R
0169	400362						
016A	400363	Active energy of three-phase delivered	0.000 to 99999,999,999.999	Float	kWh	4	R
016B	400364						

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
		to active energy of three-phase received					
016C	400365	Reactive energy of three-phase delivered + reactive energy of three-phase received	0.000 to 99999,999,999.999	Float	kVARh	4	R
016D	400366						
016E	400367	Reactive energy of three-phase delivered to reactive energy of three-phase received	0.000 to 99999,999,999.999	Float	kVARh	4	R
016F	400368						
0170	400369	Apparent energy of three-phase delivered + apparent energy of three-phase received	0.000 to 99999,999,999.999	Float	kVAh	4	R
0171	400370						
0172	400371	Apparent energy of three-phase delivered to apparent energy of three-phase received	0.000 to 99999,999,999.999	Float	kVAh	4	R
0173	400372						
0174	400373	Total harmonic distortion for phase A current	0.000 to 999.999	Float	%	4	R
0175	400374						
0176	400375	Total harmonic distortion for phase B current	0.000 to 999.999	Float	%	4	R
0177	400376						
0178	400377	Total harmonic distortion for phase C current	0.000 to 999.999	Float	%	4	R
0179	400378						
017A	400379	Total harmonic distortion for neutral line current	0.000 to 999.999	Float	%	4	R
017B	400380						
017C	400381	Total harmonic distortion for phase A	0.000 to 999.999	Float	%	4	R
017D	400382						

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
		voltage					
017E	400383	Total harmonic distortion for phase B voltage	0.000 to 999.999	Float	%	4	R
017F	400384						
0180	400385	Total harmonic distortion for phase C voltage	0.000 to 999.999	Float	%	4	R
0181	400386						
0182	400387	Total harmonic distortion for phase A to B voltage	0.000 to 999.999	Float	%	4	R
0183	400388						
0184	400389	Total harmonic distortion for phase B to C voltage	0.000 to 999.999	Float	%	4	R
0185	400390						
0186	400391	Total harmonic distortion for phase C to A voltage	0.000 to 999.999	Float	%	4	R
0187	400392						
0188	400393	Total harmonic distortion for current	0.000 to 999.999	Float	%	4	R
0189	400394						
018A	400395	Total harmonic distortion for voltage	0.000 to 999.999	Float	%	4	R
018B	400396						
018C	400397	Present three-phase current demand	0.000 to 99999.999	Float	A	4	R
018D	400398						
018E	400399	Last three-phase average current demand	0.000 to 99999.999	Float	A	4	R
018F	400400						
0190	400401	Predicted three-phase average current demand	0.000 to 99999.999	Float	A	4	R
0191	400402						
0192	400403	Peak value of three-phase current demand	0.000 to 99999.999	Float	A	4	R
0193	400404						
0194	400405	Date of the	Year: 00 to 99	byte	Year,	2	R

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
		three-phase current demand peak value	Month: 1 to 12		Month		
0195	400406		Date: 1 to 31	word	Date	2	R
0196	400407	Time of the three - phase current demand peak value	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
0197	400408		Second: 00 to 59	word	Second	2	R
0198	400409	Present three-phase active power demand	0.000 to 99999.999	Float	kW	4	R
0199	400410						
019A	400411	Last three-phase active power demand	0.000 to 99999.999	Float	kW	4	R
019B	400412						
019C	400413	Predicted three-phase active power demand	0.000 to 99999.999	Float	kW	4	R
019D	400414						
019E	400415	Peak value of three - phase active power demand	0.000 to 99999.999	Float	kW	4	R
019F	400416						
01A0	400417	Date of the three - phase active power demand peak value	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
01A1	400418		Date: 1 to 31	word	Date	2	R
01A2	400419	Time of the three-phase active power demand peak value	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
01A3	400420		Second: 00 to 59	word	Second	2	R
01A4	400421	Present three-phase reactive power demand	0.000 to 99999.999	Float	kVAR	4	R
01A5	400422						
01A6	400423	Last three-phase reactive power demand	0.000 to 99999.999	Float	kVAR	4	R
01A7	400424						
01A8	400425	Predicted three-phase reactive power demand	0.000 to 99999.999	Float	kVAR	4	R
01A9	400426						
01AA	400427	Peak value of	0.000 to 99999.999	Float	kVAR	4	R

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
01AB	400428	three-phase reactive power demand					
01AC	400429	Date of the three-phase reactive power demand peak value	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
01AD	400430		Date: 1 to 31	word	Date	2	R
01AE	400431	Time of the three-phase reactive power demand peak value	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
01AF	400432		Second: 00 to 59	word	Second	2	R
01B0	400433	Present three-phase apparent power demand	0.000 to 99999.999	Float	kVA	4	R
01B1	400434						
01B2	400435	Last three-phase apparent power demand	0.000 to 99999.999	Float	kVA	4	R
01B3	400436						
01B4	400437	Predicted three-phase apparent power demand	0.000 to 99999.999	Float	kVA	4	R
01B5	400438						
01B6	400439	Peak value of three-phase apparent power demand	0.000 to 99999.999	Float	kVA	4	R
01B7	400440						
01B8	400441	Date of the three-phase apparent power demand peak value	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
01B9	400442		Date: 1 to 31	word	Date	2	R
01BA	400443	Time of the three-phase apparent power demand peak value	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
01BB	400444		Second: 00 to 59	word	Second	2	R
01BC	400445	DUI (kW / Floor Area)	0.000 to 99999.999	Float	kW/m2	4	R
01BD	400446						

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
01BE	400447	EUI (kWh / Floor Area)	0.000 to 99999,999,999.999	Float	kWh/m2	4	R
01BF	400448						
01C0	400449	Auto recording 1 to forward active energy	0.000 to 99999,999,999.999	Float	kWh	4	R
01C1	400450						
01C2	400451	Auto recording 1 to reverse active energy	0.000 to 99999,999,999.999	Float	kWh	4	R
01C3	400452						
01C4	400453	Auto recording 2 to forward active energy	0.000 to 99999,999,999.999	Float	kWh	4	R
01C5	400454						
01C6	400455	Auto recording 2 to reverse active energy	0.000 to 99999,999,999.999	Float	kWh	4	R
01C7	400456						
01C8	400457	Auto recording 1 to forward reactive energy	0.000 to 99999,999,999.999	Float	kVARh	4	R
01C9	400458						
01CA	400459	Auto recording 1 to reverse reactive energy	0.000 to 99999,999,999.999	Float	kVARh	4	R
01CB	400460						
01CC	400461	Auto recording 2 to forward reactive energy	0.000 to 99999,999,999.999	Float	kVARh	4	R
01CD	400462						
01CE	400463	Auto recording 2 to reverse reactive energy	0.000 to 99999,999,999.999	Float	kVARh	4	R
01CF	400464						
01D0	400465	Total instantaneous fundamental active power	0.000 to 99999.999	Float	kW	4	R
01D1	400466						
01D2	400467	Instantaneous fundamental active power of phase A	0.000 to 99999.999	Float	kW	4	R
01D3	400468						
01D4	400469	Instantaneous fundamental active power of phase B	0.000 to 99999.999	Float	kW	4	R
01D5	400470						
01D6	400471	Instantaneous	0.000 to 99999.999	Float	kW	4	R

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
01D7	400472	fundamental active power of phase C					
01D8	400473	Total instantaneous fundamental reactive power	0.000 to 99999.999	Float	kVAR	4	R
01D9	400474						
01DA	400475	Instantaneous fundamental reactive power of phase A	0.000 to 99999.999	Float	kVAR	4	R
01DB	400476						
01DC	400477	Instantaneous fundamental reactive power of phase B	0.000 to 99999.999	Float	kVAR	4	R
01DD	400478						
01DE	400479	Instantaneous fundamental reactive power of phase C	0.000 to 99999.999	Float	kVAR	4	R
01DF	400480						
01E0	400481	Instantaneous fundamental apparent power	0.000 to 99999.999	Float	kVA	4	R
01E1	400482						
01E2	400483	Instantaneous fundamental apparent power of phase A	0.000 to 99999.999	Float	kVA	4	R
01E3	400484						
01E4	400485	Instantaneous fundamental apparent power of phase B	0.000 to 99999.999	Float	kVA	4	R
01E5	400486						
01E6	400487	Instantaneous fundamental apparent power of phase C	0.000 to 99999.999	Float	kVA	4	R
01E7	400488						
0200	400513	Maximum A to B line voltage	0.000 to 99999.999	Float	V	4	R
0201	400514						
0202	400515	Date of maximum A to B line voltage	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
0203	400516		Date: 1 to 31	word	Date	2	R
0204	400517	Time of maximum A to	Hour: 00 to 23	byte	Hour,	2	R

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
		B line voltage	Minute: 00 to 59		Minute		
0205	400518		Second: 00 to 59	word	Second	2	R
0206	400519	Maximum B to C line voltage	0.000 to 99999.999	Float	V	4	R
0207	400520						
0208	400521	Date of maximum B to C line voltage	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
0209	400522		Date: 1 to 31	word	Date	2	R
020A	400523	Time of maximum B to C line voltage	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
020B	400524		Second: 00 to 59	word	Second	2	R
020C	400525	Maximum C to A line voltage	0.000 to 99999.999	Float	V	4	R
020D	400526						
020E	400527	Date of maximum C to A line voltage	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
020F	400528		Date: 1 to 31	word	Date	2	R
0210	400529	Time of maximum C to A line voltage	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
0211	400530		Second: 00 to 59	word	Second	2	R
0212	400531	Maximum phase A voltage	0.000 to 99999.999	Float	V	4	R
0213	400532						
0214	400533	Date of maximum phase A voltage	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
0215	400534		Date: 1 to 31	word	Date	2	R
0216	400535	Time of maximum phase A voltage	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
0217	400536		Second: 00 to 59	word	Second	2	R
0218	400537	Maximum phase B voltage	0.000 to 99999.999	Float	V	4	R
0219	400538						
021A	400539	Date of maximum phase B voltage	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
021B	400540		Date: 1 to 31	word	Date	2	R
021C	400541	Time of maximum phase B voltage	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
021D	400542		Second: 00 to 59	word	Second	2	R
021E	400543	Maximum phase C voltage	0.000 to 99999.999	Float	V	4	R
021F	400544						
0220	400545	Date of maximum phase C voltage	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
0221	400546		Date: 1 to 31	word	Date	2	R
0222	400547	Time of maximum phase C voltage	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
0223	400548		Second: 00 to 59	word	Second	2	R
0224	400549	Maximum phase A current	0.000 to 99999.999	Float	A	4	R
0225	400550						
0226	400551	Date of maximum phase A current	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
0227	400552		Date: 1 to 31	word	Date	2	R
0228	400553	Time of maximum phase A current	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
0229	400554		Second: 00 to 59	word	Second	2	R
022A	400555	Maximum phase B current	0.000 to 99999.999	Float	A	4	R
022B	400556						
022C	400557	Date of maximum phase B current	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
022D	400558		Date: 1 to 31	word	Date	2	R
022E	400559	Time of maximum phase B current	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
022F	400560		Second: 00 to 59	word	Second	2	R
0230	400561	Maximum phase C current	0.000 to 99999.999	Float	A	4	R
0231	400562						

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
0232	400563	Date of maximum phase C current	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
0233	400564		Date: 1 to 31	word	Date	2	R
0234	400565	Time of maximum phase C current	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
0235	400566		Second: 00 to 59	word	Second	2	R
0236	400567	Maximum neutral line current	0.000 to 99999.999	Float	A	4	R
0237	400568						
0238	400569	Date of maximum neutral line current	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
0239	400570		Date: 1 to 31	word	Date	2	R
023A	400571	Time of maximum neutral line current	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
023B	400572		Second: 00 to 59	word	Second	2	R
023C	400573	Maximum frequency value	0.0000 to 99.9999	Float	Hz	4	R
023D	400574						
023E	400575	Date of maximum frequency value	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
023F	400576		Date: 1 to 31	word	Date	2	R
0240	400577	Time of maximum frequency value	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
0241	400578		Second: 00 to 59	word	Second	2	R
0242	400579	Maximum total power factor	0.00000 to 1.00000	Float		4	R
0243	400580						
0244	400581	Date of maximum total power factor	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
0245	400582		Date: 1 to 31	word	Date	2	R
0246	400583	Time of maximum total power factor	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
0247	400584		Second: 00 to 59	word	Second	2	R

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
0248	400585	Maximum total active power	0.000 to 99999.999	Float	kW	4	R
0249	400586						
024A	400587	Date of maximum total active power	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
024B	400588		Date: 1 to 31	word	Date	2	R
024C	400589	Time of maximum total active power	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
024D	400590		Second: 00 to 59	word	Second	2	R
024E	400591	Maximum total reactive power	0.000 to 99999.999	Float	kVAR	4	R
024F	400592						
0250	400593	Date of maximum total reactive power	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
0251	400594		Date: 1 to 31	word	Date	2	R
0252	400595	Time of maximum total reactive power	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
0253	400596		Second: 00 to 59	word	Second	2	R
0254	400597	Maximum total apparent power	0.000 to 99999.999	Float	kVA	4	R
0255	400598						
0256	400599	Date of maximum total apparent power	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
0257	400600		Date: 1 to 31	word	Date	2	R
0258	400601	Time of maximum total apparent power	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
0259	400602		Second: 00 to 59	word	Second	2	R
025A	400603	Maximum Total harmonic distortion for A to B line voltage	0.000 to 999.999	Float	%	4	R
025B	400604						
025C	400605	Date of maximum total harmonic distortion for A to B line voltage	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
025D	400606		Date: 1 to 31	word	Date	2	R

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
025E	400607	Time of maximum total harmonic distortion for A to B line voltage	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
025F	400608		Second: 00 to 59	word	Second	2	R
0260	400609	Maximum total harmonic distortion for B to C line voltage	0.000 to 999.999	Float	%	4	R
0261	400610						
0262	400611	Date of maximum total harmonic distortion for B to C line voltage	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
0263	400612		Date: 1 to 31	word	Date	2	R
0264	400613	Time of maximum total harmonic distortion for B to C line voltage	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
0265	400614		Second: 00 to 59	word	Second	2	R
0266	400615	Maximum total harmonic distortion for C to A line voltage	0.000 to 999.999	Float	%	4	R
0267	400616						
0268	400617	Date of maximum total harmonic distortion for C to A line voltage	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
0269	400618		Date: 1 to 31	word	Date	2	R
026A	400619	Time of maximum total harmonic distortion for C to A line voltage	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
026B	400620		Second: 00 to 59	word	Second	2	R
026C	400621	Maximum total harmonic distortion for phase A voltage	0.000 to 999.999	Float	%	4	R
026D	400622						
026E	400623	Date of maximum total harmonic distortion for phase A voltage	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
026F	400624		Date: 1 to 31	word	Date	2	R
0270	400625	Time of maximum total harmonic distortion for phase A voltage	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
0271	400626		Second: 00 to 59	word	Second	2	R

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
0272	400627	Maximum total harmonic distortion for phase B voltage	0.000 to 999.999	Float	%	4	R
0273	400628						
0274	400629	Date of maximum total harmonic distortion for phase B voltage	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
0275	400630		Date: 1 to 31	word	Date	2	R
0276	400631	Time of maximum total harmonic distortion for phase B voltage	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
0277	400632		Second: 00 to 59	word	Second	2	R
0278	400633	Maximum total harmonic distortion for phase C voltage	0.000 to 999.999	Float	%	4	R
0279	400634						
027A	400635	Date of maximum total harmonic distortion for phase C voltage	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
027B	400636		Date: 1 to 31	word	Date	2	R
027C	400637	Time of maximum total harmonic distortion for phase C voltage	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
027D	400638		Second: 00 to 59	word	Second	2	R
027E	400639	Maximum total harmonic distortion for line voltage	0.000 to 999.999	Float	%	4	R
027F	400640						
0280	400641	Date of maximum total harmonic distortion for line voltage	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
0281	400642		Date: 1 to 31	word	Date	2	R
0282	400643	Time of maximum total harmonic distortion for line voltage	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
0283	400644		Second: 00 to 59	word	Second	2	R
0284	400645	Maximum total harmonic distortion for phase voltage	0.000 to 999.999	Float	%	4	R
0285	400646						
0286	400647	Date of maximum total	Year: 00 to 99	byte	Year,	2	R

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
		harmonic distortion for phase voltage	Month: 1 to 12		Month		
0287	400648		Date: 1 to 31	word	Date	2	R
0288	400649	Time of maximum total harmonic distortion for phase voltage	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
0289	400650		Second: 00 to 59	word	Second	2	R
028A	400651	Maximum total harmonic distortion for phase A current	0.000 to 999.999	Float	%	4	R
028B	400652						
028C	400653	Date of maximum total harmonic distortion for phase A current	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
028D	400654		Date: 1 to 31	word	Date	2	R
028E	400655	Time of maximum total harmonic distortion for phase A current	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
028F	400656		Second: 00 to 59	word	Second	2	R
0290	400657	Maximum total harmonic distortion for phase B current	0.000 to 999.999	Float	%	4	R
0291	400658						
0292	400659	Date of maximum total harmonic distortion for phase B current	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
0293	400660		Date: 1 to 31	word	Date	2	R
0294	400661	Time of maximum total harmonic distortion for phase B current	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
0295	400662		Second: 00 to 59	word	Second	2	R
0296	400663	Maximum total harmonic distortion for phase C current	0.000 to 999.999	Float	%	4	R
0297	400664						
0298	400665	Date of maximum total harmonic distortion for phase C current	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
0299	400666		Date: 1 to 31	word	Date	2	R
029A	400667	Time of maximum total	Hour: 00 to 23	byte	Hour,	2	R

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
		harmonic distortion for phase C current	Minute: 00 to 59		Minute		
029B	400668		Second: 00 to 59	word	Second	2	R
029C	400669	Maximum total harmonic distortion for current	0.000 to 999.999	Float	%	4	R
029D	400670						
029E	400671	Date of maximum total harmonic distortion for current	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
029F	400672		Date: 1 to 31	word	Date	2	R
02A0	400673	Time of maximum total harmonic distortion for current	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
02A1	400674		Second: 00 to 59	word	Second	2	R
02A2	400675	Maximum A to B line voltage unbalance	0.00 to 99.99	Float	%	4	R
02A3	400676						
02A4	400677	Date of maximum A to B line voltage unbalance	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
02A5	400678		Date: 1 to 31	word	Date	2	R
02A6	400679	Time of maximum A to B line voltage unbalance	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
02A7	400680		Second: 00 to 59	word	Second	2	R
02A8	400681	Maximum B to C line voltage unbalance	0.00 to 99.99	Float	%	4	R
02A9	400682						
02AA	400683	Date of maximum B to C line voltage unbalance	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
02AB	400684		Date: 1 to 31	word	Date	2	R
02AC	400685	Time of maximum B to C line voltage unbalance	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
02AD	400686		Second: 00 to 59	word	Second	2	R
02AE	400687	Maximum C to A line voltage unbalance	0.00 to 99.99	Float	%	4	R
02AF	400688						
02B0	400689	Date of maximum C to	Year: 00 to 99	byte	Year,	2	R

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
		A line voltage unbalance	Month: 1 to 12		Month		
02B1	400690		Date: 1 to 31	word	Date	2	R
02B2	400691	Time of maximum C to A line voltage unbalance	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
02B3	400692		Second: 00 to 59	word	Second	2	R
02B4	400693	Maximum phase A voltage unbalance	0.00 to 99.99	Float	%	4	R
02B5	400694						
02B6	400695	Date of maximum phase A voltage unbalance	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
02B7	400696		Date: 1 to 31	word	Date	2	R
02B8	400697	Time of maximum phase A voltage unbalance	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
02B9	400698		Second: 00 to 59	word	Second	2	R
02BA	400699	Maximum phase B voltage unbalance	0.00 to 99.99	Float	%	4	R
02BB	400700						
02BC	400701	Date of maximum phase B voltage unbalance	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
02BD	400702		Date: 1 to 31	word	Date	2	R
02BE	400703	Time of maximum phase B voltage unbalance	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
02BF	400704		Second: 00 to 59	word	Second	2	R
02C0	400705	Maximum phase C voltage unbalance	0.00 to 99.99	Float	%	4	R
02C1	400706						
02C2	400707	Date of maximum phase C voltage unbalance	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
02C3	400708		Date: 1 to 31	word	Date	2	R
02C4	400709	Time of maximum phase C voltage unbalance	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
02C5	400710		Second: 00 to 59	word	Second	2	R
02C6	400711	Maximum line voltage	0.00 to 99.99	Float	%	4	R

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
02C7	400712	unbalance					
02C8	400713	Date of maximum line voltage unbalance	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
02C9	400714		Date: 1 to 31	word	Date	2	R
02CA	400715	Time of maximum line voltage unbalance	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
02CB	400716		Second: 00 to 59	word	Second	2	R
02CC	400717	Maximum phase voltage unbalance	0.00 to 99.99	Float	%	4	R
02CD	400718						
02CE	400719	Date of maximum phase voltage unbalance	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
02CF	400720		Date: 1 to 31	word	Date	2	R
02D0	400721	Time of maximum phase voltage unbalance	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
02D1	400722		Second: 00 to 59	word	Second	2	R
02D2	400723	Maximum phase A current unbalance	0.00 to 99.99	Float	%	4	R
02D3	400724						
02D4	400725	Date of maximum phase A current unbalance	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
02D5	400726		Date: 1 to 31	word	Date	2	R
02D6	400727	Time of maximum phase A current unbalance	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
02D7	400728		Second: 00 to 59	word	Second	2	R
02D8	400729	Maximum phase B current unbalance	0.00 to 99.99	Float	%	4	R
02D9	400730						
02DA	400731	Date of maximum phase B current unbalance	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
02DB	400732		Date: 1 to 31	word	Date	2	R
02DC	400733	Time of maximum phase B current	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
02DD	400734	unbalance	Second: 00 to 59	word	Second	2	R
02DE	400735	Maximum phase C current unbalance	0.00 to 99.99	Float	%	4	R
02DF	400736						
02E0	400737	Date of maximum phase C current unbalance	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
02E1	400738		Date: 1 to 31	word	Date	2	R
02E2	400739	Time of maximum phase C current unbalance	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
02E3	400740		Second: 00 to 59	word	Second	2	R
02E4	400741	Maximum phase current unbalance	0.00 to 99.99	Float	%	2	R
02E5	400742						
02E6	400743	Date of maximum phase current unbalance	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
02E7	400744		Date: 1 to 31	word	Date	2	R
02E8	400745	Time of maximum phase current unbalance	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
02E9	400746		Second: 00 to 59	word	Second	2	R
02EA	400747	Maximum value of average phase voltage	0.0 to 1200000.0	Float	%	4	R
02EB	400748						
02EC	400749	Date of maximum value of average phase voltage	Year: 00 to 99 (high byte) Month: 1 to 12 (low byte)	byte	Year, Month	2	R
02ED	400750		Date: 1 to 31	word	Date	2	R
02EE	400751	Time of maximum value of average phase voltage	Hour: 00 to 23 (high byte) Minute: 00 to 59 (low byte)	byte	Hour, Minute	2	R
02EF	400752		Second: 00 to 59	word	Second	2	R
02F0	400753	Maximum value of average line voltage	0.0 to 1200000.0	Float	%	4	R
02F1	400754						
02F2	400755	Date of maximum value of average line	Year: 00 to 99 (high byte) Month: 1 to 12 (low byte)	byte	Year, Month	2	R

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
02F3	400756	voltage	Date: 1 to 31	word	Date	2	R
02F4	400757	Time of maximum value of average line voltage	Hour: 00 to 23 (high byte) Minute: 00 to 59 (low byte)	byte	Hour, Minute	2	R
02F5	400758		Second: 00 to 59	word	Second	2	R
02F6	400759	Maximum value of average current	0.0 to 1200000.0	Float	%	4	R
02F7	400760						
02F8	400761	Date of maximum value of average current	Year: 00 to 99 (high byte) Month: 1 to 12 (low byte)	byte	Year, Month	2	R
02F9	400762		Date: 1 to 31	word	Date	2	R
02FA	400763	Time of maximum value of average current	Hour: 00 to 23 (high byte) Minute: 00 to 59 (low byte)	byte	Hour, Minute	2	R
02FB	400764		Second: 00 to 59	word	Second	2	R
0300	400769	Minimum A to B line voltage	0.000 to 99999.999	Float	V	4	R
0301	400770						
0302	400771	Date of minimum A to B line voltage	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
0303	400772		Date: 1 to 31	word	Date	2	R
0304	400773	Time of minimum A to B line voltage	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
0305	400774		Second: 00 to 59	word	Second	2	R
0306	400775	Minimum B to C line voltage	0.000 to 99999.999	Float	V	4	R
0307	400776						
0308	400777	Date of minimum B to C line voltage	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
0309	400778		Date: 1 to 31	word	Date	2	R
030A	400779	Time of minimum B to C line voltage	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
030B	400780		Second: 00 to 59	word	Second	2	R
030C	400781	Minimum C to A line voltage	0.000 to 99999.999	Float	V	4	R
030D	400782						

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
030E	400783	Date of minimum C to A line voltage	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
030F	400784		Date: 1 to 31	word	Date	2	R
0310	400785	Time of minimum C to A line voltage	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
0311	400786		Second: 00 to 59	word	Second	2	R
0312	400787	Minimum phase A voltage	0.000 to 99999.999	Float	V	4	R
0313	400788						
0314	400789	Date of minimum phase A voltage	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
0315	400790		Date: 1 to 31	word	Date	2	R
0316	400791	Time of minimum phase A voltage	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
0317	400792		Second: 00 to 59	word	Second	2	R
0318	400793	Minimum phase B voltage	0.000 to 99999.999	Float	V	4	R
0319	400794						
031A	400795	Date of minimum phase B voltage	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
031B	400796		Date: 1 to 31	word	Date	2	R
031C	400797	Time of minimum phase B voltage	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
031D	400798		Second: 00 to 59	word	Second	2	R
031E	400799	Minimum phase C voltage	0.000 to 99999.999	Float	V	4	R
031F	400800						
0320	400801	Date of minimum phase C voltage	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
0321	400802		Date: 1 to 31	word	Date	2	R
0322	400803	Time of minimum phase C voltage	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
0323	400804		Second: 00 to 59	word	Second	2	R

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
0324	400805	Minimum phase A current	0.000 to 99999.999	Float	A	4	R
0325	400806						
0326	400807	Date of minimum phase A current	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
0327	400808		Date: 1 to 31	word	Date	2	R
0328	400809	Time of minimum phase A current	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
0329	400810		Second: 00 to 59	word	Second	2	R
032A	400811	Minimum phase B current	0.000 to 99999.999	Float	A	4	R
032B	400812						
032C	400813	Date of minimum phase B current	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
032D	400814		Date: 1 to 31	word	Date	2	R
032E	400815	Time of minimum phase B current	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
032F	400816		Second: 00 to 59	word	Second	2	R
0330	400817	Minimum phase C current	0.000 to 99999.999	Float	A	4	R
0331	400818						
0332	400819	Date of minimum phase C current	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
0333	400820		Date: 1 to 31	word	Date	2	R
0334	400821	Time of minimum phase C current	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
0335	400822		Second: 00 to 59	word	Second	2	R
0336	400823	Minimum neutral line current	0.000 to 99999.999	Float	A	4	R
0337	400824						
0338	400825	Date of minimum neutral line current	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
0339	400826		Date: 1 to 31	word	Date	2	R
033A	400827	Time of minimum	Hour: 00 to 23	byte	Hour,	2	R

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
		neutral line current	Minute: 00 to 59		Minute		
033B	400828		Second: 00 to 59	word	Second	2	R
033C	400829	Minimum frequency value	0.0000 to 99.9999	Float	Hz	4	R
033D	400830						
033E	400831	Date of minimum frequency value	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
033F	400832		Date: 1 to 31	word	Date	2	R
0340	400833	Time of minimum frequency value	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
0341	400834		Second: 00 to 59	word	Second	2	R
0342	400835	Minimum total power factor	0.00000 to 1.00000	Float		4	R
0343	400836						
0344	400837	Date of minimum total power factor	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
0345	400838		Date: 1 to 31	word	Date	2	R
0346	400839	Time of minimum total power factor	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
0347	400840		Second: 00 to 59	word	Second	2	R
0348	400841	Minimum total active power	0.000 to 99999.999	Float	kW	4	R
0349	400842						
034A	400843	Date of minimum total active power	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
034B	400844		Date: 1 to 31	word	Date	2	R
034C	400845	Time of minimum total active power	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
034D	400846		Second: 00 to 59	word	Second	2	R
034E	400847	Minimum total reactive power	0.000 to 99999.999	Float	kVAR	4	R
034F	400848						
0350	400849	Date of minimum total reactive power	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
0351	400850		Date: 1 to 31	word	Date	2	R
0352	400851	Time of minimum total reactive power	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
0353	400852		Second: 00 to 59	word	Second	2	R
0354	400853	Minimum total apparent power	0.000 to 99999.999	Float	kVA	4	R
0355	400854						
0356	400855	Date of minimum total apparent power	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
0357	400856		Date: 1 to 31	word	Date	2	R
0358	400857	Time of minimum total apparent power	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
0359	400858		Second: 00 to 59	word	Second	2	R
035A	400859	Minimum total harmonic distortion for A to B line voltage	0.000 to 999.999	Float	%	4	R
035B	400860						
035C	400861	Date of minimum total harmonic distortion for A to B line voltage	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
035D	400862		Date: 1 to 31	word	Date	2	R
035E	400863	Time of minimum total harmonic distortion for A to B line voltage	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
035F	400864		Second: 00 to 59	word	Second	2	R
0360	400865	Minimum total harmonic distortion for B to C line voltage	0.000 to 999.999	Float	%	4	R
0361	400866						
0362	400867	Date of minimum total harmonic distortion for B to C line voltage	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
0363	400868		Date: 1 to 31	word	Date	2	R
0364	400869	Time of minimum total harmonic distortion for B to C line voltage	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
0365	400870		Second: 00 to 59	word	Second	2	R

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
0366	400871	Minimum total harmonic distortion for C to A line voltage	0.000 to 999.999	Float	%	4	R
0367	400872						
0368	400873	Date of minimum total harmonic distortion for C to A line voltage	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
0369	400874		Date: 1 to 31	word	Date	2	R
036A	400875	Time of minimum total harmonic distortion for C to A line voltage	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
036B	400876		Second: 00 to 59	word	Second	2	R
036C	400877	Minimum total harmonic distortion for phase A voltage	0.000 to 999.999	Float	%	4	R
036D	400878						
036E	400879	Date of minimum total harmonic distortion for phase A voltage	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
036F	400880		Date: 1 to 31	word	Date	2	R
0370	400881	Time of minimum total harmonic distortion for phase A voltage	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
0371	400882		Second: 00 to 59	word	Second	2	R
0372	400883	Minimum total harmonic distortion for phase B voltage	0.000 to 999.999	Float	%	4	R
0373	400884						
0374	400885	Date of minimum total harmonic distortion for phase B voltage	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
0375	400886		Date: 1 to 31	word	Date	2	R
0376	400887	Time of minimum total harmonic distortion for phase B voltage	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
0377	400888		Second: 00 to 59	word	Second	2	R
0378	400889	Minimum total harmonic distortion for phase C voltage	0.000 to 999.999	Float	%	4	R
0379	400890						
037A	400891	Date of minimum total	Year: 00 to 99	byte	Year,	2	R

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
		harmonic distortion for phase C voltage	Month: 1 to 12		Month		
037B	400892		Date: 1 to 31	word	Date	2	R
037C	400893	Time of minimum total harmonic distortion for phase C voltage	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
037D	400894		Second: 00 to 59	word	Second	2	R
037E	400895	Minimum total harmonic distortion for line voltage	0.000 to 999.999	Float	%	4	R
037F	400896						
0380	400897	Date of minimum total harmonic distortion for line voltage	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
0381	400898		Date: 1 to 31	word	Date	2	R
0382	400899	Time of minimum total harmonic distortion for line voltage	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
0383	400900		Second: 00 to 59	word	Second	2	R
0384	400901	Minimum total harmonic distortion for phase voltage	0.000 to 999.999	Float	%	4	R
0385	400902						
0386	400903	Date of minimum total harmonic distortion for phase voltage	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
0387	400904		Date: 1 to 31	word	Date	2	R
0388	400905	Time of minimum total harmonic distortion for phase voltage	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
0389	400906		Second: 00 to 59	word	Second	2	R
038A	400907	Minimum total harmonic distortion for phase A current	0.000 to 999.999	Float	%	4	R
038B	400908						
038C	400909	Date of minimum total harmonic distortion for phase A current	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
038D	400910		Date: 1 to 31	word	Date	2	R
038E	400911	Time of minimum total	Hour: 00 to 23	byte	Hour,	2	R

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
		harmonic distortion for phase A current	Minute: 00 to 59		Minute		
038F	400912		Second: 00 to 59	word	Second	2	R
0390	400913	Minimum total harmonic distortion for phase B current	0.000 to 999.999	Float	%	4	R
0391	400914						
0392	400915	Date of minimum total harmonic distortion for phase B current	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
0393	400916		Date: 1 to 31	word	Date	2	R
0394	400917	Time of minimum total harmonic distortion for phase B current	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
0395	400918		Second: 00 to 59	word	Second	2	R
0396	400919	Minimum total harmonic distortion for phase C current	0.000 to 999.999	Float	%	4	R
0397	400920						
0398	400921	Date of minimum total harmonic distortion for phase C current	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
0399	400922		Date: 1 to 31	word	Date	2	R
039A	400923	Time of minimum total harmonic distortion for phase C current	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
039B	400924		Second: 00 to 59	word	Second	2	R
039C	400925	Minimum total harmonic distortion for current	0.000 to 999.999	Float	%	4	R
039D	400926						
039E	400927	Date of minimum total harmonic distortion for current	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
039F	400928		Date: 1 to 31	word	Date	2	R
03A0	400929	Time of minimum total harmonic distortion for current	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
03A1	400930		Second: 00 to 59	word	Second	2	R
03A2	400931	Minimum A to B line	0.00 to 99.99	Float	%	4	R
03A3	400932						

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
		voltage unbalance					
03A4	400933	Date of minimum A to B line voltage unbalance	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
03A5	400934		Date: 1 to 31	word	Date	2	R
03A6	400935	Time of minimum A to B line voltage unbalance	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
03A7	400936		Second: 00 to 59	word	Second	2	R
03A8	400937	Minimum B to C line voltage unbalance	0.00 to 99.99	Float	%	4	R
03A9	400938						
03AA	400939	Date of minimum B to C line voltage unbalance	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
03AB	400940		Date: 1 to 31	word	Date	2	R
03AC	400941	Time of minimum B to C line voltage unbalance	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
03AD	400942		Second: 00 to 59	word	Second	2	R
03AE	400943	Minimum C to A line voltage unbalance	0.00 to 99.99	Float	%	4	R
03AF	400944						
03B0	400945	Date of minimum C to A line voltage unbalance	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
03B1	400946		Date: 1 to 31	word	Date	2	R
03B2	400947	Time of minimum C to A line voltage unbalance	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
03B3	400948		Second: 00 to 59	word	Second	2	R
03B4	400949	Minimum phase A voltage unbalance	0.00 to 99.99	Float	%	4	R
03B5	400950						
03B6	400951	Date of minimum phase A voltage unbalance	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
03B7	400952		Date: 1 to 31	word	Date	2	R
03B8	400953	Time of minimum phase A voltage	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
03B9	400954	unbalance	Second: 00 to 59	word	Second	2	R
03BA	400955	Minimum phase B voltage unbalance	0.00 to 99.99	Float	%	4	R
03BB	400956						
03BC	400957	Date of minimum phase B voltage unbalance	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
03BD	400958		Date: 1 to 31	word	Date	2	R
03BE	400959	Time of minimum phase B voltage unbalance	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
03BF	400960		Second: 00 to 59	word	Second	2	R
03C0	400961	Minimum phase C voltage unbalance	0.00 to 99.99	Float	%	4	R
03C1	400962						
03C2	400963	Date of minimum phase C voltage unbalance	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
03C3	400964		Date: 1 to 31	word	Date	2	R
03C4	400965	Time of minimum phase C voltage unbalance	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
03C5	400966		Second: 00 to 59	word	Second	2	R
03C6	400967	Minimum line voltage unbalance	0.00 to 99.99	Float	%	4	R
03C7	400968						
03C8	400969	Date of minimum line voltage unbalance	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
03C9	400970		Date: 1 to 31	word	Date	2	R
03CA	400971	Time of minimum line voltage unbalance	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
03CB	400972		Second: 00 to 59	word	Second	2	R
03CC	400973	Minimum phase voltage unbalance	0.00 to 99.99	Float	%	4	R
03CD	400974						
03CE	400975	Date of minimum phase voltage unbalance	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
03CF	400976		Date: 1 to 31	word	Date	2	R

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
03D0	400977	Time of minimum phase voltage unbalance	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
03D1	400978		Second: 00 to 59	word	Second	2	R
03D2	400979	Minimum phase A current unbalance	0.00 to 99.99	Float	%	4	R
03D3	400980						
03D4	400981	Date of minimum phase A current unbalance	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
03D5	400982		Date: 1 to 31	word	Date	2	R
03D6	400983	Time of minimum phase A current unbalance	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
03D7	400984		Second: 00 to 59	word	Second	2	R
03D8	400985	Minimum phase B current unbalance	0.00 to 99.99	Float	%	4	R
03D9	400986						
03DA	400987	Date of minimum phase B current unbalance	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
03DB	400988		Date: 1 to 31	word	Date	2	R
03DC	400989	Time of minimum phase B current unbalance	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
03DD	400990		Second: 00 to 59	word	Second	2	R
03DE	400991	Minimum phase C current unbalance	0.00 to 99.99	Float	%	4	R
03DF	400992						
03E0	400993	Date of minimum phase C current unbalance	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
03E1	400994		Date: 1 to 31	word	Date	2	R
03E2	400995	Time of minimum phase C current unbalance	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
03E3	400996		Second: 00 to 59	word	Second	2	R
03E4	400997	Minimum phase current unbalance	0.00 to 99.99	Float	%	2	R
03E5	400998						
03E6	400999	Date of minimum	Year: 00 to 99	byte	Year,	2	R

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
		phase current unbalance	Month: 1 to 12		Month		
03E7	401000		Date: 1 to 31	word	Date	2	R
03E8	401001	Time of minimum phase current unbalance	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
03E9	401002		Second: 00 to 59	word	Second	2	R
0400	401025	Alarm status of over current	0: Cleared 1: Triggered	word		2	R
0401	401026	Alarm times of over current	1 to 255	word	Times	2	R
0402	401027	Alarm date of over current	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
0403	401028		Date: 1 to 31	word	Date	2	R
0404	401029	Alarm time of over current	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
0405	401030		Second: 00 to 59	word	Second	2	R
0406	401031	Alarm status of under current	0: Cleared 1: Triggered	word		2	R
0407	401032	Alarm times of under current	1 to 255	word	Times	2	R
0408	401033	Alarm date of under current	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
0409	401034		Date: 1 to 31	word	Date	2	R
040A	401035	Alarm time of under current	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
040B	401036		Second: 00 to 59	word	Second	2	R
040C	401037	Alarm status of over neutral current	0: Cleared 1: Triggered	word		2	R
040D	401038	Alarm times of over neutral current	1 to 255	word	Times	2	R
040E	401039	Alarm date of over	Year: 00 to 99	byte	Year,	2	R

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
		neutral current	Month: 1 to 12		Month		
040F	401040		Date: 1 to 31	word	Date	2	R
0410	401041	Alarm time of over neutral current	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
0411	401042		Second: 00 to 59	word	Second	2	R
0412	401043	Alarm status of over line voltage	0: Cleared 1: Triggered	word		2	R
0413	401044	Alarm times of over line voltage	1 to 255	word	Times	2	R
0414	401045	Alarm date of over line voltage	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
0415	401046		Date: 1 to 31	word	Date	2	R
0416	401047	Alarm time of over line voltage	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
0417	401048		Second: 00 to 59	word	Second	2	R
0418	401049	Alarm status of under line voltage	0: Cleared 1: Triggered	word		2	R
0419	401050	Alarm times of under line voltage	1 to 255	word	Times	2	R
041A	401051	Alarm date of under line voltage	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
041B	401052		Date: 1 to 31	word	Date	2	R
041C	401053	Alarm time of under line voltage	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
041D	401054		Second: 00 to 59	word	Second	2	R
041E	401055	Alarm status of over phase voltage	0: Cleared 1: Triggered	word		2	R
041F	401056	Alarm times of over phase voltage	1 to 255	word	Times	2	R
0420	401057	Alarm date of over	Year: 00 to 99	byte	Year,	2	R

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
		phase voltage	Month: 1 to 12		Month		
0421	401058		Date: 1 to 31	word	Date	2	R
0422	401059	Alarm time of over phase voltage	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
0423	401060		Second: 00 to 59	word	Second	2	R
0424	401061	Alarm status of under voltage	0: Cleared 1: Triggered	word		2	R
0425	401062	Alarm times of under phase voltage	1 to 255	word	Times	2	R
0426	401063	Alarm date of under phase voltage	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
0427	401064		Date: 1 to 31	word	Date	2	R
0428	401065	Alarm time of under phase voltage	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
0429	401066		Second: 00 to 59	word	Second	2	R
042A	401067	Alarm status of over voltage unbalance	0: Cleared 1: Triggered	word		2	R
042B	401068	Alarm times of over voltage unbalance	1 to 255	word	Times	2	R
042C	401069	Alarm date of over voltage unbalance	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
042D	401070		Date: 1 to 31	word	Date	2	R
042E	401071	Alarm time of over voltage unbalance	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
042F	401072		Second: 00 to 59	word	Second	2	R
0430	401073	Alarm status of over current unbalance	0: Cleared 1: Triggered	word		2	R
0431	401074	Alarm times of over current unbalance	1 to 255	word	Times	2	R
0432	401075	Alarm date of over	Year: 00 to 99	byte	Year,	2	R

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
		current unbalance	Month: 1 to 12		Month		
0433	401076		Date: 1 to 31	word	Date	2	R
0434	401077	Alarm time of over current unbalance	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
0435	401078		Second: 00 to 59	word	Second	2	R
0436	401079	Alarm status of over active power	0: Cleared 1: Triggered	word		2	R
0437	401080	Alarm times of over active power	1 to 255	word	Times	2	R
0438	401081	Alarm date of over active power	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
0439	401082		Date: 1 to 31	word	Date	2	R
043A	401083	Alarm time of over active power	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
043B	401084		Second: 00 to 59	word	Second	2	R
043C	401085	Alarm status of over reactive power	0: Cleared 1: Triggered	word		2	R
043D	401086	Alarm times of over reactive power	1 to 255	word	Times	2	R
043E	401087	Alarm date of over reactive power	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
043F	401088		Date: 1 to 31	word	Date	2	R
0440	401089	Alarm time of over reactive power	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
0441	401090		Second: 00 to 59	word	Second	2	R
0442	401091	Alarm status of over apparent power	0: Cleared 1: Triggered	word		2	R
0443	401092	Alarm times of over apparent power	1 to 255	word	Times	2	R
0444	401093	Alarm date of over	Year: 00 to 99	byte	Year,	2	R

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
		apparent power	Month: 1 to 12		Month		
0445	401094		Date: 1 to 31	word	Date	2	R
0446	401095	Alarm time of over apparent power	Hour: 00 to 2 Minute: 00 to 59	byte	Hour, Minute	2	R
0447	401096		Second: 00 to 59	word	Second	2	R
0448	401097	Alarm status of power factor (lead)	0: Cleared 1: Triggered	word		2	R
0449	401098	Alarm times of power factor (lead)	1 to 255	word	Times	2	R
044A	401099	Alarm date of power factor (lead)	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
044B	401100		Date: 1 to 31	word	Date	2	R
044C	401101	Alarm time of power factor (lead)	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
044D	401102		Second: 00 to 59	word	Second	2	R
044E	401103	Alarm status of power factor (lag)	0: Cleared 1: Triggered	word		2	R
044F	401104	Alarm times of power factor (lag)	1 to 255	word	Times	2	R
0450	401105	Alarm date of power factor (lag)	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
0451	401106		Date: 1 to 31	word	Date	2	R
0452	401107	Alarm time of power factor (lag)	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
0453	401108		Second: 00 to 59	word	Second	2	R
0454	401109	Alarm status of displacement power factor (lead)	0: Cleared 1: Triggered	word		2	R
0455	401110	Alarm times of displacement power	1 to 255	word	Times	2	R

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
		factor (lead)					
0456	401111	Alarm date of displacement power factor (lead)	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
0457	401112		Date: 1 to 31	word	Date	2	R
0458	401113	Alarm time of displacement power factor (lead)	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
0459	401114		Second: 00 to 59	word	Second	2	R
045A	401115	Alarm status of displacement power factor (lag)	0: Cleared 1: Triggered	word		2	R
045B	401116	Alarm times of displacement power factor (lag)	1 to 255	word	Times	2	R
045C	401117	Alarm date of displacement power factor (lag)	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
045D	401118		Date: 1 to 31	word	Date	2	R
045E	401119	Alarm time of displacement power factor (lag)	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
045F	401120		Second: 00 to 59	word	Second	2	R
0460	401121	Alarm status of over current demand	0: Cleared 1: Triggered	word		2	R
0461	401122	Alarm times of over current demand	1 to 255	word	Times	2	R
0462	401123	Alarm date of over current demand	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
0463	401124		Date: 1 to 31	word	Date	2	R
0464	401125	Alarm time of over current demand	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
0465	401126		Second: 00 to 59	word	Second	2	R
0466	401127	Alarm status of over	0: Cleared	word		2	R

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
		active power demand	1: Triggered				
0467	401128	Alarm times of over active power demand	1 to 255	word	Times	2	R
0468	401129	Alarm date of over active power demand	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
0469	401130		Date: 1 to 31	word	Date	2	R
046A	401131	Alarm time of over active power demand	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
046B	401132		Second: 00 to 59	word	Second	2	R
046C	401133	Alarm status of over reactive power demand	0: Cleared 1: Triggered	word		2	R
046D	401134	Alarm times of over reactive power demand	1 to 255	word	Times	2	R
046E	401135	Alarm date of over reactive power demand alarm	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
046F	401136		Date: 1 to 31	word	Date	2	R
0470	401137	Alarm time of over reactive power demand	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
0471	401138		Second: 00 to 59	word	Second	2	R
0472	401139	Alarm status of over apparent power demand	0: Cleared 1: Triggered	word		2	R
0473	401140	Alarm times of over apparent power demand	1 to 255	word	Times	2	R
0474	401141	Alarm date of over apparent power demand	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
0475	401142		Date: 1 to 31	word	Date	2	R
0476	401143	Alarm time of over	Hour: 00 to 23	byte	Hour,	2	R

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
		apparent power demand	Minute: 00 to 59		Minute		
0477	401144		Second: 00 to 59	word	Second	2	R
0478	401145	Alarm status of over frequency	0: Cleared 1: Triggered	word		2	R
0479	401146	Alarm times of over frequency	1 to 255	word	Times	2	R
047A	401147	Alarm date of over frequency	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
047B	401148		Date: 1 to 31	word	Date	2	R
047C	401149	Alarm time of over frequency	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
047D	401150		Second: 00 to 59	word	Second	2	R
047E	401151	Alarm status of under frequency	0: Cleared 1: Triggered	word		2	R
047F	401152	Alarm times of under frequency	1 to 255	word	Times	2	R
0480	401153	Alarm date of under frequency	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
0481	401154		Date: 1 to 31	word	Date	2	R
0482	401155	Alarm time of under frequency	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
0483	401156		Second: 00 to 59	word	Second	2	R
0484	401157	Alarm status of total harmonic distortion for over voltage	0: Cleared 1: Triggered	word		2	R
0485	401158	Alarm times of total harmonic distortion for over voltage	1 to 255	word	Times	2	R
0486	401159	Alarm date of total harmonic distortion for	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
0487	401160	over voltage	Date: 1 to 31	word	Date	2	R
0488	401161	Alarm time of total harmonic distortion for over voltage	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
0489	401162		Second: 00 to 59	word	Second	2	R
048A	401163	Alarm status of total harmonic distortion for over current	0: Cleared 1: Triggered	word		2	R
048B	401164	Alarm times of total harmonic distortion for over current	1 to 255	word	Times	2	R
048C	401165	Alarm date of total harmonic distortion for over current	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
048D	401166		Date: 1 to 31	word	Date	2	R
048E	401167	Alarm time of total harmonic distortion for over current	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
048F	401168		Second: 00 to 59	word	Second	2	R
0490	401169	Alarm status of phase loss	0: Cleared 1: Triggered	word		2	R
0491	401170	Alarm times of phase loss	1 to 255	word	Times	2	R
0492	401171	Alarm date of phase loss	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
0493	401172		Date: 1 to 31	word	Date	2	R
0494	401173	Alarm time of phase loss	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
0495	401174		Second: 00 to 59	word	Second	2	R
0496	401175	Alarm status of meter reset	0: Cleared 1: Triggered	word		2	R
0497	401176	Alarm times of meter reset	1 to 255	word	Times	2	R

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
0498	401177	Alarm date of meter reset	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
0499	401178		Date: 1 to 31	word	Date	2	R
049A	401179	Alarm time of meter reset	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
049B	401180		Second: 00 to 59	word	Second	2	R
049C	401181	Alarm status of phase rotation	0: Cleared 1: Triggered	word		2	R
049D	401182	Alarm times of phase rotation	1 to 255	word	Times	2	R
049E	401183	Alarm date of phase rotation	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
049F	401184		Date: 1 to 31	word	Date	2	R
04A0	401185	Alarm time of phase rotation	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
04A1	401186		Second: 00 to 59	word	Second	2	R
04A2	401187	Alarm status of over DUI	0: Cleared 1: Triggered	word		2	R
04A3	401188	Alarm times of over DUI	1 to 255	word	Times	2	R
04A4	401189	Alarm date of over DUI	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
04A5	401190		Date: 1 to 31	word	Date	2	R
04A6	401191	Alarm time of over DUI	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
04A7	401192		Second: 00 to 59	word	Second	2	R
04A8	401193	Alarm status of over EUI	0: Cleared 1: Triggered	word		2	R
04A9	401194	Alarm times of over EUI	1 to 255	word	Times	2	R

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
04AA	401195	Alarm date of over EUI	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
04AB	401196		Date: 1 to 31	word	Date	2	R
04AC	401197	Alarm time of over EUI	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
04AD	401198		Second: 00 to 59	word	Second	2	R
04AE	401199	Battery under-voltage state	0: Normal voltage (>2.34 ± 0.05V) (>2.8V) 1: Under voltage (<2.34 ± 0.05V) (2.47V to 2.8V) 2: No battery (<2 ± 0.05V) (<2.47V)	word		2	R
04AF	401200	Low battery voltage	0.000 to 999.999	Float	V	4	R
04B0	401201						
0500	401281	Floor Area	1 to 65535	word	m2	2	R/W
0501	401282	Data Log	Minute: 00 to 60 Second: 00 to 59 0: Disable (Time interval setting: minimum: 5 seconds; maximum: 60 minutes)	byte	Minute Second	2	R/W
0502	401283	Auto Recording to Energy 1	0: Disable 1: Enable	word		2	R/W
0504	401285	Auto Recording to Auto Day 1	Date: 1 to 31	word	Date	2	R/W
0507	401288	Auto Recording to Energy 2	0: Disable 1: Enable	word		2	R/W
0509	41290	Auto Recording to Auto Day 2	Date: 1 to 31	word	Date	2	R/W
050C	401293	Setting group 1	0x100 to 0x1E7	word		2	R/W
050D	401294	Setting group 2					

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
⋮	⋮	⋮					
0515	401302	Setting group 10					
0516	401303	Setting group 11					
⋮	⋮	⋮					
051F	401312	Setting group 20					
⋮	⋮	⋮					
0551	401362	Setting group 70					
0552	401363	Reset energy date	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
0553	401364	Reset energy date	Date: 1 to 31	word	Date	2	R
0554	401365	Reset energy time	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
0555	401366	Reset energy time	Second: 00 to 59	word	Second	2	R
0556	401367	Data log start date	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
0557	401368		Date: 1 to 31	word	Date	2	R
0558	401369	Data log start time	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
0559	401370		Second: 00 to 59	word	Second	2	R
055A	401371	Auto Max/Min reset interval	0: Disable 1: Day 2: Month 3: Year	word		2	R/W
055B	401372	Parameter #1 for data log	1: Phase voltage 2: Line voltage	word		2	R/W
055C	401373	Parameter #2 for data					

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
		log	3: Average current 4: Neutral current 5: Power factor 6: Displacement power factor 7: Total active power 8: Total reactive power 9: Total apparent power 10: Forward active energy 11: Reverse active energy 12: Forward reactive energy 13: Reverse reactive energy 14: Forward apparent energy 15: Reverse apparent energy 16: Total harmonic distortion for voltage 17: Total harmonic distortion for current (The following is only supported by DPM-C530 with firmware V1.0204.) 18: Phase A voltage 19: Phase B voltage 20: Phase C voltage 21: A to B line voltage 22: B-C line voltage 23: C to A line voltage 24: Phase A current 25: Phase B current				
055D	401374	Parameter #3 for data log					
055E	401375	Parameter #4 for data log					
055F	401376	Parameter #5 for data log					
0560	401377	Parameter #6 for data log					
0561	401378	Parameter #7 for data log					
0562	401379	Parameter #8 for data log					
0563	401380	Parameter #9 for data log					
0564	401381	Parameter #10 for data log					
0565	401382	Parameter #11 for data log					
0566	401383	Parameter #12 for data log					
0567	401384	Parameter #13 for data log					
0568	401385	Parameter #14 for data log					
0569	401386	Parameter #15 for data log					
056A	401387	Parameter #16 for data log					
056B	401388	Parameter #17 for data log					

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
			26: Phase C current				
056D	401390	Wh per hour by day	0: Disable 1: Enable	word		2	R/W
056E	401391	Time of Use #1 (Applicable only for DPM-C530)	0: Sharp (P1) 1: Peak (P2) 2: Shoulder (P3) 3: Off to peak (P4)	word		2	R/W
056F	401392	Time of Use #1 start time (Applicable only for DPM-C530)	Hour: 00 to 23 (high byte) Minute: 00 to 59 (low byte)	byte		2	R/W
0570	401393	Time of Use #1 stop time (Applicable only for DPM-C530)	Hour: 00 to 23 (high byte) Minute: 00 to 59 (low byte)	byte		2	R/W
0571	401394	Time of Use #2 (Applicable only for DPM-C530)	0: Sharp (P1) 1: Peak (P2) 2: Shoulder (P3) 3: Off to peak (P4)	word		2	R/W
0572	401395	Time of Use #2 start time (Applicable only for DPM-C530)	Hour: 00 to 23 (high byte) Minute: 00 to 59 (low byte)	byte		2	R/W
0573	401396	Time of Use #2 stop time (Applicable only for DPM-C530)	Hour: 00 to 23 (high byte) Minute: 00 to 59 (low byte)	byte			R/W
0574	401397	Time of Use #3 (Applicable only for DPM-C530)	0: Sharp (P1) 1: Peak (P2) 2: Shoulder (P3) 3: Off to peak (P4)	word		2	R/W
0575	401398	Time of Use #3 start time (Applicable only for DPM-C530)	Hour: 00 to 23 (high byte) Minute: 00 to 59 (low byte)	byte		2	R/W

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
0576	401399	Time of Use #3 stop time (Applicable only for DPM-C530)	Hour: 00 to 23 (high byte) Minute: 00 to 59 (low byte)	byte		2	R/W
0577	401400	Time of Use #4 (Applicable only for DPM-C530)	0: Sharp (P1) 1: Peak (P2) 2: Shoulder (P3) 3: Off to peak (P4)	word		2	R/W
0578	401401	Time of Use #4 start time (Applicable only for DPM-C530)	Hour: 00 to 23 (high byte) Minute: 00 to 59 (low byte)	byte		2	R/W
0579	401402	Time of Use #4 stop time (Applicable only for DPM-C530)	Hour: 00 to 23 (high byte) Minute: 00 to 59 (low byte)	byte		2	R/W
057A	401403	Time of Use #5 (Applicable only for DPM-C530)	0: Sharp (P1) 1: Peak (P2) 2: Shoulder (P3) 3: Off to peak (P4)	word		2	R/W
057B	401404	Time of Use #5 start time (Applicable only for DPM-C530)	Hour: 00 to 23 (high byte) Minute: 00 to 59 (low byte)	byte		2	R/W
057C	401405	Time of Use #5 stop time (Applicable only for DPM-C530)	Hour: 00 to 23 (high byte) Minute: 00 to 59 (low byte)	byte		2	R/W
057D	401406	Time of Use #6 (Applicable only for DPM-C530)	0: Sharp (P1) 1: Peak (P2) 2: Shoulder (P3) 3: Off to peak (P4)	word		2	R/W
057E	401407	Time of Use #6 start time (Applicable only for DPM-C530)	Hour: 00 to 23(high byte) Minute: 00 to 59 (low byte)	byte		2	R/W

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
057F	401408	Time of Use #6 stop time (Applicable only for DPM-C530)	Hour: 00 to 23 (high byte) Minute: 00 to 59 (low byte)	byte		2	R/W
0580	401409	Time of Use #7 (Applicable only for DPM-C530)	0: Sharp (P1) 1: Peak (P2) 2: Shoulder (P3) 3: Off to peak (P4)	word		2	R/W
0581	401410	Time of Use #7 start time (Applicable only for DPM-C530)	Hour: 00 to 23 (high byte) Minute: 00 to 59 (low byte)	byte		2	R/W
0582	401411	Time of Use #7 stop time (Applicable only for DPM-C530)	Hour: 00 to 23 (high byte) Minute: 00 to 59 (low byte)	byte		2	R/W
0583	401412	Time of Use #8 (Applicable only for DPM-C530)	0: Sharp (P1) 1: Peak (P2) 2: Shoulder (P3) 3: Off to peak (P4)	word		2	R/W
0584	401413	Time of Use #8 start time (Applicable only for DPM-C530)	Hour: 00 to 23 (high byte) Minute: 00 to 59 (low byte)	byte		2	R/W
0585	401414	Time of Use #8 stop time (Applicable only for DPM-C530)	Hour: 00 to 23 (high byte) Minute: 00 to 59 (low byte)	byte		2	R/W
0586	401415	Energy saving mode status	0: Normal mode 1: Energy saving mode	word		2	R/W
0587	401416	Energy saving enable	0: Disable 1: Enable	word		2	R/W
0588	401417	DI#1 setting (Only applicable for DPM-C532/532M)	0: Disable 1: Normal mode	Word		2	R/W

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
0589	401418	DI#2 setting (Only applicable for DPM-C532/532M)	2: Parameter reset 3: Input metering counts	Word		2	R/W
058A	401419	DI#3 setting (Only applicable for DPM-C532/532M)		word		2	R/W
058B	401420	DI#4 setting (Only applicable for DPM-C532/532M)		word		2	R/W
058C	401421	DO#1 operation mode setting (only applicable for DPM-C532/532M)	0: Disable 1: Alarm control 2: Communication control 3: DI control 4: Pulse output	Word		2	R/W
058D	401422	DO#2 operation mode setting (only applicable for DPM-C532/532M)		Word		2	R/W
0590	401425	DI#1 status (only applicable for DPM-C532/532M)	0: Low potential 1: High potential 255: Function disabled	Word		2	R
0591	401426	DI#2 status (only applicable for DPM-C532/532M)		Word		2	R
0592	401427	DI#3 status (only applicable for DPM-C532/532M)		word		2	R
0593	401428	DI#4 status (only applicable for DPM-C532/532M)		word		2	R
0594	401429	DO#1 parameter/status	0: Disable 1: Enable	Word		2	R

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
		(only applicable for DPM-C532/532M)	#Note: Register 0x58C can only be written to when the operation mode is set to "Communication control".				
0595	401430	DO#2 parameter/status (only applicable for DPM-C532/532M)	0: Disable 1: Enable #Note: Register 0x58D can only be written to when the operation mode is set to "Communication control".	Word		2	R/W
0596	401431	Energy display with decimal places(only supported by DPM-C530 with firmware version V1.0406)	0: 3 decimal places 1: 1 decimal place 2: 2 decimal places	word		2	R/W
0597	401432	Voltage value displayed on homepage(3P4W)	0: Phase voltage (default) 1: Line voltage	word		2	R/W
Modbus Address 0x598-0x5CB (only applicable for DPM-C530E/C530EM)							
0598	401433	IP Configuration	0: Static (default) 1: DHCP	word		2	R/W
0599	401434	IP Address (XXX.YYY.AAA.BBB) Note: it is read-only when DHCP is enabled.	XXX: high byte (default: 192)	word		2	R/W
059A	401435	IP Address (XXX.YYY.AAA.BBB) Note: it is read-only when DHCP is enabled.	YYY: low byte (default: 168)	word		2	R/W

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
059B	401436	IP Address (XXX.YYY.AAA.BBB) Note: it is read-only when DHCP is enabled.	AAA: high byte (default: 1)	word		2	R/W
059C	401437	IP Address (XXX.YYY.AAA.BBB) Note: it is read-only when DHCP is enabled.	BBB: low byte (default: 5)	word		2	R/W
059D	401438	SubNet mask (XXX.YYY.AAA.BBB) Note: it is read-only when DHCP is enabled.	XXX: high byte (default: 255)	word		2	R/W
059E	401439	SubNet mask (XXX.YYY.AAA.BBB) Note: it is read-only when DHCP is enabled.	YYY: low byte (default: 255)	word		2	R/W
059F	401440	SubNet mask (XXX.YYY.AAA.BBB) Note: it is read-only when DHCP is enabled.	AAA: high byte (default:255)	word		2	R/W
05A0	401441	SubNet mask (XXX.YYY.AAA.BBB) Note: it is read-only when DHCP is enabled.	BBB: low byte (default: 0)	word		2	R/W
05A1	401442	default gateway (XXX.YYY.AAA.BBB)	XXX: high byte (default:	word		2	R/W

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
		Note: it is read-only when DHCP is enabled.	192)				
05A2	401443	default gateway (XXX.YYY.AAA.BBB) Note: it is read-only when DHCP is enabled.	YYY: low byte (default: 168)	word		2	R/W
05A3	401444	default gateway (XXX.YYY.AAA.BBB) Note: it is read-only when DHCP is enabled.	AAA: high byte (default: 1)	word		2	R/W
05A4	401445	default gateway (XXX.YYY.AAA.BBB) Note: it is read-only when DHCP is enabled.	BBB: low byte (default: 254)	word		2	R/W
05A5	401446	Ethernet setting	0: Disable 2: complete settings	word		2	R/W
05A6	401447	MAC address (XX:YY:ZZ:AA:BB:CC)	XX: high byte (default: 0x00) YY: low byte (default: 0x18)	word		2	R
05A7	401448	MAC address (XX:YY:ZZ:AA:BB:CC)	ZZ: high byte (default: 0x23) AA: low byte	word		2	R
05A8	401449	MAC address (XX:YY:ZZ:AA:BB:CC)	BB: high byte CC: low byte	word		2	R
05A9	401450	Keep Alive Time	10-65535	word		2	R/W
05AA	401451	IP filter Enable	0: Disable	word		2	R/W

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
			1: Enable				
05AB	401452	IP filter#1 start (XXX.YYY.AAA.BBB)	XXX: high byte (default: 0)	word		2	R/W
05AC	401453	IP filter#1 start (XXX.YYY.AAA.BBB)	YYY: low byte (default: 0)	word		2	R/W
05AD	401454	IP filter#1 start (XXX.YYY.AAA.BBB)	AAA: high byte (default: 0)	word		2	R/W
05AE	401455	IP filter#1 start (XXX.YYY.AAA.BBB)	BBB: low byte (default: 0)	word		2	R/W
05AF	401456	IP filter#1 start (XXX.YYY.AAA.BBB)	XXX: high byte (default: 0)	word		2	R/W
05B0	401457	IP filter#1 start (XXX.YYY.AAA.BBB)	YYY: low byte (default: 0)	word		2	R/W
05B1	401458	IP filter#1 start (XXX.YYY.AAA.BBB)	AAA: high byte (default: 0)	word		2	R/W
05B2	401459	IP filter#1 start (XXX.YYY.AAA.BBB)	BBB: low byte (default: 0)	word		2	R/W
05B3	401460	IP filter#2 start (XXX.YYY.AAA.BBB)	XXX: high byte (default: 0)	word		2	R/W
05B4	401461	IP filter#2 start (XXX.YYY.AAA.BBB)	YYY: low byte (default: 0)	word		2	R/W
05B5	401462	IP filter#2 start (XXX.YYY.AAA.BBB)	AAA: high byte (default: 0)	word		2	R/W
05B6	401463	IP filter#2 start (XXX.YYY.AAA.BBB)	BBB: low byte (default: 0)	word		2	R/W
05B7	401464	IP filter#2 start (XXX.YYY.AAA.BBB)	XXX: high byte (default: 0)	word		2	R/W
05B8	401465	IP filter#2 start (XXX.YYY.AAA.BBB)	YYY: low byte (default: 0)	word		2	R/W
05B9	401466	IP filter#2 start	AAA: high byte (default: 0)	word		2	R/W

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
		(XXX.YYY.AAA.BBB)					
05BA	401467	IP filter#2 start (XXX.YYY.AAA.BBB)	BBB: low byte (default: 0)	word		2	R/W
05BB	401468	IP filter Setting	0: Disable 1: Enable	word		2	R/W
05BC	401469	Value displayed on homepage	0: DV (Display Value) value 1: PV (Present Value) value	word		2	R/W
0600	401537	Read data from group 1				2	R
0601	401538	Read data from group 2					
⋮	⋮	⋮					
0609	401546	Read data from group 10					
⋮	⋮	⋮					
0613	401556	Read data from group 20					
⋮	⋮	⋮					
0645	401606	Read data from group 70					
0646	401607	P1 (active energy of the sharp period)	0.000 to 99999,999,999.999	Float	kWh	4	R
0647	401608						
064A	401611	P2 (active energy of the peak period)	0.000 to 99999,999,999.999	Float	kWh	4	R
064B	401612						
064E	401615	P3 (active energy of the shoulder period)	0.000 to 99999,999,999.999	Float	kWh	4	R
064F	401616						
0652	401619	P4 (active energy of	0.000 to 99999,999,999.999	Float	kWh	4	R

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
0653	401620	the off-peak period)					
0656	401623	0 o'clock forward active energy	0.000 to 99999,999,999.999	Float	kWh	4	R
0657	401624						
0658	401625	0 o'clock reverse active energy					
0659	401626						
065A	401627	1 o'clock forward active energy					
065B	401628						
065C	401629	1 o'clock reverse active energy					
065D	401630						
065E	401631	2 o'clock forward active energy	0.000 to 99999,999,999.999	Float	kWh	4	R
065F	401632						
0660	401633	2 o'clock reverse active energy					
0661	401634						
⋮	⋮	⋮					
06B2	401715	23 o'clock forward active energy					
06B3	401716						
06B4	401717	23 o'clock reverse active energy					
06B5	401718						
06B6	401719	Total time used in energy saving mode	Date: 0 to 65535	word	Day	2	R
06B7	401720		Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
06B8	401721		Second: 00 to 59	word	Second	2	R
06B9	401722	Accumulated forward energy in energy saving mode	0.000 to 99999,999,999.999	Float	kWh	4	R
06BA	401723						
06BB	401724	Total time used in non to energy saving mode	Date: 0 to 65535	word	Day	2	R
06BC	401725		Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
06BD	401726		Second: 00 to 59	word	Second	2	R
06BE	401727	Accumulated forward energy in non-energy	0.000 to 99999,999,999.999	Float	kWh	4	R
06BF	401728						

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
		saving mode					
7. Harmonics: 0x700 to 0x7FF (use only function code 0xFE to read the following parameters)							
0700		The 1st harmonic for phase A voltage	0.000 to 999.999	Float	%	4	R
		⋮					
0701		The 11th harmonic for phase A voltage					
		⋮					
0702		The 21st harmonic for phase A voltage					
		⋮					
		The 31st harmonic for phase A voltage					
0703		The 1st harmonic for phase B voltage	0.000 to 999.999	Float	%	4	R
		⋮					
0704		The 11th harmonic for phase B voltage					
		⋮					
0705		The 21st harmonic for phase B voltage					
		⋮					
		The 31st harmonic for phase B voltage					
0706		The 1st harmonic for phase C voltage	0.000 to 999.999	Float	%	4	R
		⋮					
0707		The 11th harmonic for phase C voltage					
		⋮					

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
0708		The 21st harmonic for phase C voltage ⋮ The 31st harmonic for phase C voltage					
0709		The 1st harmonic for phase A current ⋮	0.000 to 999.999	Float	%	4	R
070A		The 11th harmonic for phase A current ⋮					
070B		The 21st harmonic for phase A current ⋮ The 31st harmonic for phase A current					
070C		The 1st harmonic for phase B current ⋮	0.000 to 999.999	Float	%	4	R
070D		The 11th harmonic for phase B current ⋮					
070E		The 21st harmonic for phase B current ⋮ The 31st harmonic for phase B current					
070F		The 1st harmonic for phase C current ⋮	0.000 to 999.999	Float	%	4	R
0710		The 11th harmonic for phase C current					

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
		⋮					
0711		The 21st harmonic for phase C current					
		⋮					
		The 31st harmonic for phase C current					
8. Data Log: 0x800 to 0xB6FF (use only function code 0xFE to read the following parameters)							
The following data can be stored in Data Log: 0800 to B6FF.							
Date, Month, Year				byte		3	
Second, Minute, Hour				byte		3	
1: Phase voltage				Float	V	4	
2: Line voltage				Float	V	4	
3: Average current				Float	A	4	
4: Neutral line current				Float	A	4	
5: Power factor (positive: lag; negative: lead)				Float		4	
6: Displacement power factor (positive: lag; negative: lead)				Float		4	
7: Total active power (positive: power consumption; negative: power supply)				Float	kW	4	
8: Total reactive power (positive: lag; negative: lead)				Float	kVAR	4	
9: Total apparent power				Float	kVA	4	
10: Forward active energy				Float	kWh	4	
11: Reverse active energy				Float	kWh	4	
12: Forward reactive energy				Float	kVARh	4	
13: Reverse reactive energy				Float	kVARh	4	
14: Forward apparent energy				Float	kVAh	4	
15: Reverse apparent energy				Float	kVAh	4	
16: Total harmonic distortion for voltage				Float	%	4	
17: Total harmonic distortion for current				Float	%	4	
18: Phase A voltage				Float	%	4	

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
19: Phase B voltage				Float	%	4	
20: Phase C voltage				Float	%	4	
21: A-B line voltage				Float	%	4	
22: B-C line voltage				Float	%	4	
23: C-A line voltage				Float	%	4	
24: Phase A current				Float	%	4	
25: Phase B current				Float	%	4	
26: Phase C current				Float	%	4	
0800		data log of 3 intervals					R
0801		data log of 3 intervals					R
0802		data log of 3 intervals					R
⋮		⋮					R
⋮		⋮					R
B6FF		data log of 3 intervals					R
Alarm History: 0xB700 to 0xC0C3 **(use only function code 0xFE to read the following parameters)**							
Alarm types and numbers							
1. Over Current				byte		1	
2. Under Current				byte		1	
3. Over Neutral Current				byte		1	
4. Over Line Voltage (L-L)				byte		1	
5. Under Line Voltage (L-L)				byte		1	
6. Over Phase Voltage (L-N)				byte		1	
7. Under Phase Voltage (L-N)				byte		1	
8. Over Voltage Unbalance				byte		1	
9. Over Current Unbalance				byte		1	
10. Over Active power				byte		1	
11. Over Reactive Power				byte		1	
12. Over Apparent Power				byte		1	
13. Lead PF				byte		1	

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
14. Lag PF				byte		1	
15. Lead DPF				byte		1	
16. Lag DPF				byte		1	
17. Over Current Demand				byte		1	
18. Over Active Power Demand				byte		1	
19. Over Reactive Power Demand				byte		1	
20. Over Apparent Power Demand				byte		1	
21. Over Frequency				byte		1	
22. Under Frequency				byte		1	
23. Over Voltage THD				byte		1	
24. Over Current THD				byte		1	
25. Phase Loss				byte		1	
26. Meter Reset				byte		1	
27. Phase Rotation				byte		1	
28. Over DUI				byte		1	
29. Over EUI				byte		1	
B700		Alarm History 1	1 to 29 (high byte, type) 1 to 255 (low byte, times)	byte		2	R
B701		Alarm History 2	1 to 29 (high byte, type) 1 to 255 (low byte, times)	byte		2	R
B702		Alarm History 3	1 to 29 (high byte, type) 1 to 255 (low byte, times)	byte		2	R
⋮		⋮	⋮				R
B8F3		Alarm History 500	1 to 29	byte		2	R

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
			(high byte, type) 1 to 255 (low byte, times)				
B8F4		Alarm 01 Date	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
B8F5			Date: 1 to 31	word	Date	2	R
B8F6		Alarm 01 Time	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
B8F7			Second: 00 to 59	word	Second	2	R
B8F8		Alarm 02 Date	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
B8F9			Date: 1 to 31	word	Date	2	R
B8FA		Alarm 02 Time	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
B8FB			Second: 00 to 59	word	Second	2	R
B8FC		Alarm 03 Date	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
B8FD			Date: 1 to 31	word	Date	2	R
B8FE		Alarm 03 Time	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
B8FF			Second: 00 to 59	word	Second	2	R
⋮		⋮	⋮	byte	Year, Month	2	R
C0C0		Alarm 500 Date	Year: 00 to 99 Month: 1 to 12	byte	Year, Month	2	R
C0C1			Date: 1 to 31	word	Date	2	R
C0C2		Alarm 500 Time	Hour: 00 to 23 Minute: 00 to 59	byte	Hour, Minute	2	R
C0C3			Second: 00 to 59	word	Second	2	R
Multi Tariff: 0xC100 to 0xC289 (Not supported by DPM-C530)							

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
C100	449409	Tariff mode settings	0: Schedule 1: DI control (0x588 and 0x589 must be set to general mode.) (Only applicable for DPM-C532/C532M) 2: Communication command	word		2	R/W
C101	449410	Tariff schedule mode enable	0: Disable 1: Enable (After the tariff schedule mode is enabled, the setting values in 0xC10A to 0xC21D are read-only.)	word		2	R/W
C102	449411	Tariff schedule error code	0: Correct schedule setting (If there is an error in setting or the schedule mode is not enabled, the energy value will not be accumulated.) bit0: Incorrect date and time formats. bit1: Time period overlapped. bit2: The end time is earlier than the start time. bit3: The end date is earlier than the start date. Bit4: Incorrect date and time formats of exceptional days. bit5: Duplicate exceptional days.	word		2	R
C103	449412	Tariff schedule execution status	0: Not executed 1: In execution	word		2	R

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
			2: Exceptional days are in execution.				
C104	449413	Time period of executing tariff schedule	Schedule: 1 to 8 or 1 to 20 (high byte) Time period: 1 to 8 (low byte)	byte		2	R
C105	449414	Tariff communication command	0: Switch to T1 rate 1: Switch to T2 rate 2: Switch to T3 rate 3: Switch to T4 rate	word	Rate	2	R/W
C106	449415	Tariff rate log reset	1: Reset T1 rate log 2: Reset T2 rate log 3: Reset T3 rate log 4: Reset T4 rate log	word	Rate	2	W
C10A	449419	Tariff schedule 1 setting	0: Disable bit0: Sunday bit1: Monday bit2: Tuesday bit3: Wednesday bit4: Thursday bit5: Friday bit6: Saturday	word	Day	2	R/W
C10B	449420	Start date for tariff schedule 1	Month: 1 to 12 (high byte) Date: 1 to 31 (low byte)	byte	Month, Date	2	R/W
C10C	449421	End date for tariff schedule 1	Month: 1 to 12 (high byte) Date: 1 to 31 (low byte)	byte	Month, Date	2	R/W
C10D	449422	Start time 1 for tariff schedule 1	Hour: 00 to 24 (high byte) Minute: 00 to 59 (low byte) (Setting both start time and end time to 00:00 means the time period is closed.)	byte	Hour, Minute	2	R/W
C10E	449423	End time for tariff schedule 1	Hour: 00 to 24 (high byte) Minute: 00 to 59 (low byte)	byte	Hour, Minute	2	R/W

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
			(Setting both start time and end time to 00:00 means the time period is closed.)				
C10F	449424	Rate type 1 for tariff schedule 1	0: T1 1: T2 2: T3 3: T4	word	Rate	2	R/W
C110	449425	Start time 2 for tariff schedule 1	Hour: 00 to 24 (high byte) Minute: 00 to 59 (low byte) (Setting both start time and end time to 00:00 means the time period is closed.)	byte	Hour, Minute	2	R/W
C111	449426	End time 2 for tariff schedule 1	Hour: 00 to 24 (high byte) Minute: 00 to 59 (low byte) (Setting both start time and end time to 00:00 means the time period is closed.)	byte	Hour, Minute	2	R/W
C112	449427	Rate type 2 for tariff schedule 1	0: T1 1: T2 2: T3 3: T4	word	Rate	2	R/W
C113	449428	Start time 3 for tariff schedule 1	Hour: 00 to 24 (high byte) Minute: 00 to 59 (low byte) (Setting both start time and end time to 00:00 means the time period is closed.)	byte	Hour, Minute	2	R/W
C114	449429	End time 3 for tariff schedule 1	Hour: 00 to 24 (high byte) Minute: 00 to 59 (low byte) (Setting both start time and end time to 00:00 means the time period is closed.)	byte	Hour, Minute	2	R/W
C115	449430	Rate type 3 for tariff	0: T1	word	Rate	2	R/W

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
		schedule 1	1: T2 2: T3 3: T4				
C116	449431	Start time 4 for tariff schedule 1	Hour: 00 to 24 (high byte) Minute: 00 to 59 (low byte) (Setting both start time and end time to 00:00 means the time period is closed.)	byte	Hour, Minute	2	R/W
C117	449432	End time 4 for tariff schedule 1	Hour: 00 to 24 (high byte) Minute: 00 to 59 (low byte) (Setting both start time and end time to 00:00 means the time period is closed.)	byte	Hour, Minute	2	R/W
C118	449433	Rate type 4 for tariff schedule 1	0: T1 1: T2 2: T3 3: T4	word	Rate	2	R/W
C119	449434	Start time 5 for tariff schedule 1	Hour: 00 to 24 (high byte) Minute: 00 to 59 (low byte) (Setting both start time and end time to 00:00 means the time period is closed.)	byte	Hour, Minute	2	R/W
C11A	449435	End time 5for tariff schedule 1	Hour: 00 to 24 (high byte) Minute: 00 to 59 (low byte) (Setting both start time and end time to 00:00 means the time period is closed.)	byte	Hour, Minute	2	R/W
C11B	449436	Rate type 5 for tariff schedule 1	0: T1 1: T2 2: T3 3: T4	word	Rate	2	R/W
C11C	449437	Start time 6 for tariff	Hour: 00 to 24 (high byte)	byte	Hour,	2	R/W

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
		schedule 1	Minute: 00 to 59 (low byte) (Setting both start time and end time to 00:00 means the time period is closed.)		Minute		
C11D	449438	End time 6 for tariff schedule 1	Hour: 00 to 24 (high byte) Minute: 00 to 59 (low byte) (Setting both start time and end time to 00:00 means the time period is closed.)	byte	Hour, Minute	2	R/W
C11E	449439	Rate type 6 for tariff schedule 1	0: T1 1: T2 2: T3 3: T4	word	Rate	2	R/W
C11F	449440	Start time 7 for tariff schedule 1	Hour: 00 to 24 (high byte) Minute: 00 to 59 (low byte) (Setting both start time and end time to 00:00 means the time period is closed.)	byte	Hour, Minute	2	R/W
C120	449441	End time 7 for tariff schedule 1	Hour: 00 to 24 (high byte) Minute: 00 to 59 (low byte) (Setting both start time and end time to 00:00 means the time period is closed.)	byte	Hour, Minute	2	R/W
C121	449442	Rate type 7 for tariff schedule 1	0: T1 1: T2 2: T3 3: T4	word	Rate	2	R/W
C122	449443	Start time 8 for tariff schedule 1	Hour: 00 to 24 (high byte) Minute: 00 to 59 (low byte) (Setting both start time and end time to 00:00 means the time period is closed.)	byte	Hour, Minute	2	R/W

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
C123	449444	End time 8 for tariff schedule 1	Hour: 00 to 24 (high byte) Minute: 00 to 59 (low byte) (Setting both start time and end time to 00:00 means the time period is closed.)	byte	Hour, Minute	2	R/W
C124	449445	Rate type 8 for tariff schedule 1	0: T1 1: T2 2: T3 3: T4	word	Rate	2	R/W
C125	449446	Tariff schedule 2 setting	0: Disable bit0: Sunday bit1: Monday bit2: Tuesday bit3: Wednesday bit4: Thursday bit5: Friday bit6: Saturday	word	Day	2	R/W
C126	449447	Start date for tariff schedule 2	Month: 1 to 12 (high byte) Date: 1 to 31 (low byte)	byte	Month, Date	2	R/W
C127	449448	End date for tariff schedule 2	Month: 1 to 12 (high byte) Date: 1 to 31 (low byte)	byte	Month, Date	2	R/W
C128	449449	Start time 1 for tariff schedule 2	Hour: 00 to 24 (high byte) Minute: 00 to 59 (low byte) (Setting both start time and end time to 00:00 means the time period is closed.)	byte	Hour, Minute	2	R/W
C129	449450	End time 1 for tariff schedule 2	Hour: 00 to 24 (high byte) Minute: 00 to 59 (low byte) (Setting both start time and end time to 00:00 means the time period is closed.)	byte	Hour, Minute	2	R/W
C12A	449451	Rate type 1 for tariff	0: T1	word	Rate	2	R/W

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
		schedule 2	1: T2 2: T3 3: T4				
C12B	449452	Start time 2 for tariff schedule 2	Hour: 00 to 24 (high byte) Minute: 00 to 59 (low byte) (Setting both start time and end time to 00:00 means the time period is closed.)	byte	Hour, Minute	2	R/W
C12C	449453	End time 2 for tariff schedule 2	Hour: 00 to 24 (high byte) Minute: 00 to 59 (low byte) (Setting both start time and end time to 00:00 means the time period is closed.)	byte	Hour, Minute	2	R/W
C12D	449454	Rate type 2 for tariff schedule 2	0: T1 1: T2 2: T3 3: T4	word	Rate	2	R/W
C12E	449455	Start time 3 for tariff schedule 2	Hour: 00 to 24 (high byte) Minute: 00 to 59 (low byte) (Setting both start time and end time to 00:00 means the time period is closed.)	byte	Hour, Minute	2	R/W
C12F	449456	End time 3 for tariff schedule 2	Hour: 00 to 24 (high byte) Minute: 00 to 59 (low byte) (Setting both start time and end time to 00:00 means the time period is closed.)	byte	Hour, Minute	2	R/W
C130	449457	Rate type 3 for tariff schedule 2	0: T1 1: T2 2: T3 3: T4	word	Rate	2	R/W
C131	449458	Start time 4 for tariff	Hour: 00 to 24 (high byte)	byte	Hour,	2	R/W

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
		schedule 2	Minute: 00 to 59 (low byte) (Setting both start time and end time to 00:00 means the time period is closed.)		Minute		
C132	449459	End time 4 for tariff schedule 2	Hour: 00 to 24 (high byte) Minute: 00 to 59 (low byte) (Setting both start time and end time to 00:00 means the time period is closed.)	byte	Hour, Minute	2	R/W
C133	449460	Rate type 4 for tariff schedule 2	0: T1 1: T2 2: T3 3: T4	word	Rate	2	R/W
C134	449461	Start time 5 for tariff schedule 2	Hour: 00 to 24 (high byte) Minute: 00 to 59 (low byte) (Setting both start time and end time to 00:00 means the time period is closed.)	byte	Hour, Minute	2	R/W
C135	449462	End time 5 for tariff schedule 2	Hour: 00 to 24 (high byte) Minute: 00 to 59 (low byte) (Setting both start time and end time to 00:00 means the time period is closed.)	byte	Hour, Minute	2	R/W
C136	449463	Rate type 5 for tariff schedule 2	0: T1 1: T2 2: T3 3: T4	word	Rate	2	R/W
C137	449464	Start time 6 for tariff schedule 2	Hour: 00 to 24 (high byte) Minute: 00 to 59 (low byte) (Setting both start time and end time to 00:00 means the time period is closed.)	byte	Hour, Minute	2	R/W

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
C138	449465	End time 6 for tariff schedule 2	Hour: 00 to 24 (high byte) Minute: 00 to 59 (low byte) (Setting both start time and end time to 00:00 means the time period is closed.)	byte	Hour, Minute	2	R/W
C139	449466	Rate type 6 for tariff schedule 2	0: T1 1: T2 2: T3 3: T4	word	Rate	2	R/W
C13A	449467	Start time 7 for tariff schedule 2	Hour: 00 to 24 (high byte) Minute: 00 to 59 (low byte) (Setting both start time and end time to 00:00 means the time period is closed.)	byte	Hour, Minute	2	R/W
C13B	449468	End time 7 for tariff schedule 2	Hour: 00 to 24 (high byte) Minute: 00 to 59 (low byte) (Setting both start time and end time to 00:00 means the time period is closed.)	byte	Hour, Minute	2	R/W
C13C	449469	Rate type 7 for tariff schedule 2	0: T1 1: T2 2: T3 3: T4	word	Rate	2	R/W
C13D	449470	Start time 8 for tariff schedule 2	Hour: 00 to 24 (high byte) Minute: 00 to 59 (low byte) (Setting both start time and end time to 00:00 means the time period is closed.)	byte	Hour, Minute	2	R/W
C13E	449471	End time 8 for tariff schedule 2	Hour: 00 to 24 (high byte) Minute: 00 to 59 (low byte) (Setting both start time and end time to 00:00 means	byte	Hour, Minute	2	R/W

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
			the time period is closed.)				
C13F	449472	Rate type 8 for tariff schedule 2	0: T1 1: T2 2: T3 3: T4	word	Rate	2	R/W
⋮	⋮	⋮					
C1C7	449608	Tariff schedule 8 setting	0: Disable bit0: Sunday bit1: Monday bit2: Tuesday bit3: Wednesday bit4: Thursday bit5: Friday bit6: Saturday	word	Day	2	R/W
C1C8	449609	Start date for tariff schedule 8	Month: 1 to 12 (high byte) Date: 1 to 31 (low byte)	byte	Month, Date	2	R/W
C1C9	449610	End date for tariff schedule 8	Month: 1 to 12 (high byte) Date: 1 to 31 (low byte)	byte	Month, Date	2	R/W
C1CA	449611	Start time 1 for tariff schedule 8	Hour: 00 to 24 (high byte) Minute: 00 to 59 (low byte) (Setting both start time and end time to 00:00 means the time period is closed.)	byte	Hour, Minute	2	R/W
C1CB	449612	End time 1 for tariff schedule 8	Hour: 00 to 24 (high byte) Minute: 00 to 59 (low byte) (Setting both start time and end time to 00:00 means the time period is closed.)	byte	Hour, Minute	2	R/W
C1CC	449613	Rate type 1 for tariff schedule 8	0: T1 1: T2 2: T3	word	Rate	2	R/W

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
			3: T4				
C1CD	449614	Start time 2 for tariff schedule 8	Hour: 00 to 24 (high byte) Minute: 00 to 59 (low byte) (Setting both start time and end time to 00:00 means the time period is closed.)	byte	Hour, Minute	2	R/W
C1CE	449615	End time 2 for tariff schedule 8	Hour: 00 to 24 (high byte) Minute: 00 to 59 (low byte) (Setting both start time and end time to 00:00 means the time period is closed.)	byte	Hour, Minute	2	R/W
C1CF	449616	Rate type 2 for tariff schedule 8	0: T1 1: T2 2: T3 3: T4	word	Rate	2	R/W
C1D0	449617	Start time 3 for tariff schedule 8	Hour: 00 to 24 (high byte) Minute: 00 to 59 (low byte) (Setting both start time and end time to 00:00 means the time period is closed.)	byte	Hour, Minute	2	R/W
C1D1	449618	End time 3 for tariff schedule 8	Hour: 00 to 24 (high byte) Minute: 00 to 59 (low byte) (Setting both start time and end time to 00:00 means the time period is closed.)	byte	Hour, Minute	2	R/W
C1D2	449619	Rate type 3 for tariff schedule 8	0: T1 1: T2 2: T3 3: T4	word	Rate	2	R/W
C1D3	449620	Start time 4 for tariff schedule 8	Hour: 00 to 24 (high byte) Minute: 00 to 59 (low byte) (Setting both start time and	byte	Hour, Minute	2	R/W

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
			end time to 00:00 means the time period is closed.)				
C1D4	449621	End time 4 for tariff schedule 8	Hour: 00 to 24 (high byte) Minute: 00 to 59 (low byte) (Setting both start time and end time to 00:00 means the time period is closed.)	byte	Hour, Minute	2	R/W
C1D5	449622	Rate type 4 for tariff schedule 8	0: T1 1: T2 2: T3 3: T4	word	Rate	2	R/W
C1D6	449623	Start time 5 for tariff schedule 8	Hour: 00 to 24 (high byte) Minute: 00 to 59 (low byte) (Setting both start time and end time to 00:00 means the time period is closed.)	byte	Hour, Minute	2	R/W
C1D7	449624	End time 5 for tariff schedule 8	Hour: 00 to 24 (high byte) Minute: 00 to 59 (low byte) (Setting both start time and end time to 00:00 means the time period is closed.)	byte	Hour, Minute	2	R/W
C1D8	449625	Rate type 5 for tariff schedule 8	0: T1 1: T2 2: T3 3: T4	word	Rate	2	R/W
C1D9	449626	Start time 6 for tariff schedule 8	Hour: 00 to 24 (high byte) Minute: 00 to 59 (low byte) (Setting both start time and end time to 00:00 means the time period is closed.)	byte	Hour, Minute	2	R/W
C1DA	449627	End time 6 for tariff schedule 8	Hour: 00 to 24 (high byte) Minute: 00 to 59 (low byte)	byte	Hour, Minute	2	R/W

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
			(Setting both start time and end time to 00:00 means the time period is closed.)				
C1DB	449628	Rate type 6 for tariff schedule 8	0: T1 1: T2 2: T3 3: T4	word	Rate	2	R/W
C1DC	449629	Start time 7 for tariff schedule 8	Hour: 00 to 24 (high byte) Minute: 00 to 59 (low byte) (Setting both start time and end time to 00:00 means the time period is closed.)	byte	Hour, Minute	2	R/W
C1DD	449630	End time 7 for tariff schedule 8	Hour: 00 to 24 (high byte) Minute: 00 to 59 (low byte) (Setting both start time and end time to 00:00 means the time period is closed.)	byte	Hour, Minute	2	R/W
C1DE	449631	Rate type 7 for tariff schedule 8	0: T1 1: T2 2: T3 3: T4	word	Rate	2	R/W
C1DF	449632	Start time 8 for tariff schedule 8	Hour: 00 to 24 (high byte) Minute: 00 to 59 (low byte) (Setting both start time and end time to 00:00 means the time period is closed.)	byte	Hour, Minute	2	R/W
C1E0	449633	End time 8 for tariff schedule 8	Hour: 00 to 24 (high byte) Minute: 00 to 59 (low byte) (Setting both start time and end time to 00:00 means the time period is closed.)	byte	Hour, Minute	2	R/W
C1E1	449634	Rate type 8 for tariff	0: T1	word	Rate	2	R/W

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
		schedule 8	1: T2 2: T3 3: T4				
C1E2	449635	Exceptional day 1 setting of tariff	0: Disable 1: Enable	word		2	R/W
C1E3	449636	Date of exceptional day 1 of tariff	Month: 1 to 12 (high byte) Date: 1 to 31 (low byte)	byte	Month, Date	2	R/W
C1E4	449637	Schedule of exceptional day 1 of tariff	0: S1 1: S2 2: S3 3: S4 4: S5 5: S6 6: S7 7: S8	word	Schedule	2	R/W
C1E5	449638	Exceptional day 2 setting of tariff	0: Disable 1: Enable	word		2	R/W
C1E6	449639	Date of exceptional day 2 of tariff	Month: 1 to 12 (high byte) Date: 1 to 31 (low byte)	byte	Month, Date	2	R/W
C1E7	449640	Schedule of exceptional day 2 of tariff	0: S1 1: S2 2: S3 3: S4 4: S5 5: S6 6: S7 7: S8	word	Schedule	2	R/W
⋮	⋮	⋮					
C21B	449692	Exceptional day 20 setting of tariff	0: Disable 1: Enable	word		2	R/W
C21C	449693	Date of exceptional	Month: 1 to 12 (high byte)	byte	Month,	2	R/W

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
		day 20 of tariff	Date: 1 to 31 (low byte)		Date		
C21D	449694	Schedule of exceptional day 20 of tariff	0: S1 1: S2 2: S3 3: S4 4: S5 5: S6 6: S7 7: S8	word	Schedule	2	R/W
Modbus Address 0xC255 to 0xC289 DI/DO Setting (Only applicable for DPM-C532/C532M)							
C255	449750	DI reset of energy value	0: Disable 1: DI1 falling-edge trigger 2: DI2 falling-edge trigger 3: DI3 falling-edge trigger 4: DI4 falling-edge trigger	word		2	R/W
C256	449751	DI reset of max/min value	0: Disable 1: DI1 falling-edge trigger 2: DI2 falling-edge trigger 3: DI3 falling-edge trigger 4: DI4 falling-edge trigger	word		2	R/W
C257	449752	Reset DI metering count	1: Reset DI1 metering count 2: Reset DI2 metering count 3: Reset DI3 metering count 4: Reset DI4 metering count	word		2	W
C258	449753	ON delay time for DI1 input filter	0 to 3000	word	ms	2	R/W
C259	449754	OFF delay time for DI1 input filter	Input Filters ON Delay Time	word	ms	2	R/W
C25A	449755	ON delay time for DI2 input filter	Input Filters OFF Delay Time	word	ms	2	R/W

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
C25B	449756	OFF delay time for DI2 input filter		word	ms	2	R/W
C25C	449757	ON delay time for DI3 input filter		word	ms	2	R/W
C25D	449758	OFF delay time for DI3 input filter		word	ms	2	R/W
C25E	449759	ON delay time for DI4 input filter		word	ms	2	R/W
C25F	449760	OFF delay time for DI4 input filter		word	ms	2	R/W
C260	449761	DI1 metering mode	0: Pulse 1: Transition	word		2	R/W
C261	449762	DI2 metering mode		word		2	R/W
C262	449763	DI3 metering mode		word		2	R/W
C263	449764	DI4 metering mode		word		2	R/W
C264	449765	DI1 metering count	0 to 999,999 The count value would start increasing from 0 once it reaches 999,999.	dword		4	R
C265	449766						
C266	449767	DI2 metering count		dword		4	R
C267	449768						
C268	449769	DI3 metering count		dword		4	R
C269	449770						
C26A	449771	DI4 metering count		dword		4	R
C26B	449772						
C27C	449789	DO1 alarm type 1	0: None Bit0: Alarm to over current Bit1: Alarm to under current Bit2: Alarm to over neutral current Bit3: Alarm to over voltage L to L Bit4: Alarm to under voltage L to L	bits		2	R/W
C27D	449790	DO2 alarm type 1		bits		2	R/W

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
			Bit5: Alarm to over voltage L to N Bit6: Alarm to under voltage L to N Bit7: Alarm to over voltage unbalance Bit8: Alarm to over current unbalance Bit9: Alarm to over active power Bit10: Alarm to over reactive power Bit11: Alarm to over apparent power Bit12: Alarm to lead PF Bit13: Alarm to lag PF Bit14: Alarm to lead DPF Bit15: Alarm to lag DPF				
C27E	449791	DO1 alarm type 2	0: None Bit0: Alarm to over current demand Bit1: Alarm to over active power demand Bit2: Alarm to over reactive power demand Bit3: Alarm to over apparent power demand Bit4: Alarm to over frequency Bit5: Alarm to under frequency Bit6: Alarm to over voltage THD	bits		2	R/W
C27F	449792	DO2 alarm type 2		bits		2	R/W

Device Address (Hex)	Modbus Address (Dec)	Item	Range	Data Type	Unit	Data Size (byte)	Read (R) / Write (W)
			Bit7: Alarm to over current THD Bit8: Alarm to phase loss Bit9: Alarm to meter reset Bit10: Alarm to phase rotation Bit11: Alarm to over DUI Bit12: Alarm to over EUI				
C282	449795	DO1 controlled by DI	0: DI 1	word		2	R/W
C283	449796	DO2 controlled by DI	1: DI 2	word		2	R/W
C286	449799	Pulse rate 1	For each pulse: 1 to 100,000 (Wh per Pulse)	dword	Wh	4	R/W
C287	449800						
C288	449801	Pulse rate 2		dword	Wh	4	R/W
C289	449802						
Modbus Address 0xC300 to 0xC453 Modbus Master Monitor (Only applicable for DPM-C530E/C530EM)							
C300	449921	Monitor Word (1)		word		2	R
C301	449922	Monitor Word (2)		word		2	R
⋮	⋮	⋮					
C39F	450080	Monitor Word (160)		word		2	R
C440	450241	Monitor State (1)	Bit 0 to 15 record the status of MW (1 to 16) components (unit: bits) BIT: 1 indicates normal, 0 indicates abnormal	bits		2	R
C441	450242	Monitor State (2)	Bit 0 to 15 record the status of MW (17 to 32) components (unit: bits) BIT: 1 indicates normal, 0 indicates abnormal	bits		2	R

C442	450243	Monitor State (3)	Bit 0 to 15 record the status of MW (33 to 48) components (unit: bits) BIT: 1 indicates normal, 0 indicates abnormal	bits		2	R
C443	450244	Monitor State (4)	Bit 0 to 15 record the status of MW (49 to 64) components (unit: bits) BIT: 1 indicates normal, 0 indicates abnormal	bits		2	R
C444	450245	Monitor State (5)	Bit 0 to 15 record the status of MW (65 to 80) components (unit: bits) BIT: 1 indicates normal, 0 indicates abnormal	bits		2	R
C445	450246	Monitor State (6)	Bit 0 to 15 record the status of MW (81 to 96) components (unit: bits) BIT: 1 indicates normal, 0 indicates abnormal	bits		2	R
C446	450247	Monitor State (7)	Bit 0 to 15 record the status of MW (97 to 112) components (unit: bits) BIT: 1 indicates normal, 0 indicates abnormal	bits		2	R
C447	450248	Monitor State (8)	Bit 0 to 15 record the status of MW (113 to 128) components (unit: bits) BIT: 1 indicates normal, 0 indicates abnormal	bits		2	R
C448	450249	Monitor State (9)	0 to 15 record the status of MW(129 to 144) components (unit: bits) BIT: 1 indicates normal, 0 indicates abnormal	bits		2	R

C449	450250	Monitor State (10)	Bit 0 to 15 record the status of MW(145 to 160) components (unit: bits) BIT: 1 indicates normal, 0 indicates abnormal	bits		2	R
Modbus Master Setting: 0xE000 to 0xE1CF							
E000	457345	RS485 Master Configuration	0: Master- Gateway 1: Master- Monitor	word		2	R/W
E001	457346	Start Monitor	0: Stop Monitoring 1: Start Monitoring	word		2	R/W
E002	457347	Modbus Timeout	Modbus Timeout: 5 to 10000	word	ms	2	R/W
E003	457348	Delay Time	Delay Time: 0 to 10000	word	ms	2	R/W
E090	457489	Monitor Configuration (1) - ID	0 to 247 (0: indicates no device)	word		2	R/W
E091	457490	Monitor Configuration (1) - Address	0 to 65535	word		2	R/W
E092	457491	Monitor Configuration (2) - ID	0 to 247 (0: indicates no device)	word		2	R/W
E093	457492	Monitor Configuration (2) - Address	0 to 65535	word		2	R/W
⋮	⋮	⋮					
E1CE	457807	Monitor Configuration (160) - ID	0 to 247 (0: indicates no device)	word		2	R/W
E1CF	457808	Monitor Configuration (160) - Address	0 to 65535	word		2	R/W

5.2 Modbus Communication

5.2.1 Supported Modbus Function Codes

Function Code	Modbus Name	Description
0x03	Read Holding Registers	Read the contents of read location
0x06	Preset Single Registers	Preset the contents of written location
0x10	Preset Multiple Registers	Preset the contents of written locations
0xFE	Read Data Log/THD/alarm Log	Read the contents of data log/THD/alarm log

When the protocol is Modbus RTU, the maximum number of addresses in which data can be read is 125 for function code 0x03, and the maximum number of addresses in which data can be written is 123 for function code 0x10. When the protocol is Modbus ASCII, the maximum number of addresses in which data can be read is 60 for function code 0x03, and the maximum number of addresses in which data can be written is 59 for function code 0x10. The function code 0xFE can be used only when the protocol is Modbus RTU.

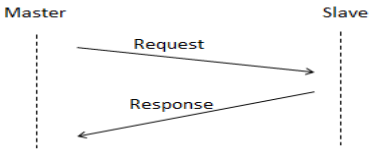
5.2.2 Modbus Communication Protocol

Modbus RTU mode is adopted with Modbus Master sending out the Request, in which the Function Code uses 0x03 to request response from Slave to correspond to values in Modbus address. In Response, Modbus Slave responds to the values of Modbus address in the Master request. The packet format of IEEE754 is used for the address of floating point numbers that corresponds to the register values found in table 5.1, using 2's complement packet format. The format is as follows:

Low Word		High Word	
High Byte	Low Byte	High Byte	Low Byte

The packet formats (2's complement) for the address of integers that corresponds to the register values found in table 5.1 are shown in the example below.

Read:



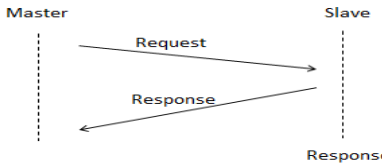
Request

Slave Address	1 ~ 255
Function Code	03h
Start Address (High)	00h ~ FFh
Start Address (Low)	00h ~ FFh
Number of Points (High)	00h
Number of Points (Low)	00h ~ FFh
Error Check (Low)	CRC
Error Check (High)	CRC

Response

Slave Address	1 ~ 255
Function Code	03h,
Byte Count	00h ~ FFh
Data (High)	00h
Data (Low)	00h ~ FFh
Error Check (Low)	CRC
Error Check (High)	CRC

Write:



Request

Slave Address	1 ~ 255
Function Code	06h
Start Address (High)	00h ~ FFh
Start Address (Low)	00h ~ FFh
Number of Points (High)	00h
Number of Points (Low)	00h ~ FFh
Error Check (Low)	CRC
Error Check (High)	CRC

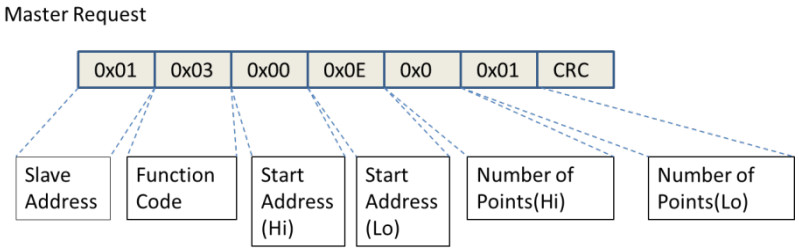
Response

Slave Address	1 ~ 255
Function Code	06h
Start Address (High)	00h ~ FFh
Start Address (Low)	00h ~ FFh
Number of Points (High)	00h
Number of Points (Low)	00h ~ FFh
Error Check (Low)	CRC
Error Check (High)	CRC

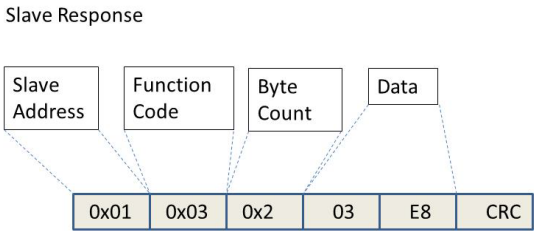
Example:

For Modbus Master, such as PLC or data collector, it uses Modbus protocol to get the value of primary-side CT setting (Register address 0x000E) on the power meter (Modbus Slave) (Slave address 0x1). The register value is 1000.

The packet format for Request sent out by Modbus Master (PLC or data collector) is as follows:

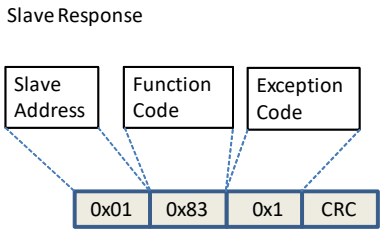


The packet format for Response from Modbus Slave (power meter) is as follows:



After receiving response from the power meter, Modbus Master acquires the value of currents from the primary-side current transformer (register address 0x000E), which is 1000.

Should Modbus Slave (power meter) receive an abnormal Request, the format of the abnormal packet that Slave responds with is as follows.



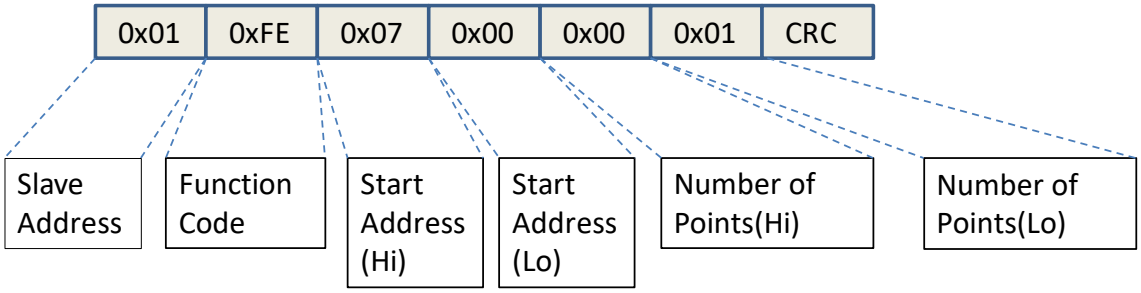
5.2.3 Packet Format for Modbus Function Code 0xFE

The function code 0xFE can be used only when the protocol is Modbus RTU. It is for reading the data of Data Log, individual harmonics from 2nd through 31st, and alarm log. The packet format of 0xFE is similar to that of Modbus RTU. The Modbus Master sends out requests with function code 0xFE asking the Slave to respond with corresponding values in Modbus addresses. Modbus Slave then responds to Master with the corresponding values in Response.

- **Example 1 (Individual harmonics):**

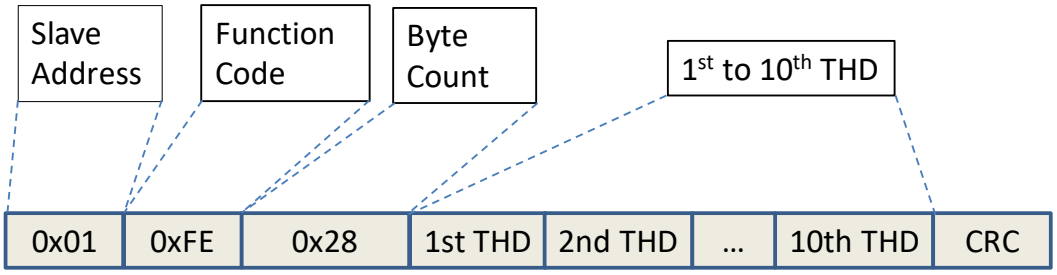
If the Modbus Master (a PLC or data collector) reads recorded data from the meter with function code 0xFE in Modbus address 0x700, the Request packet format is as below (it is the same as Modbus RTU, but the Number of Points must be 1.)

Master Request



The Response packet format of the Modbus slave (Power Meter) is as below (the part before Byte Count is the same as Modbus RTU. The individual harmonics from 1st through 10th is 10 continuous harmonics data. The order is as below. The address is 0x700, while the length of data is totally 40 bytes.)

Slave Response

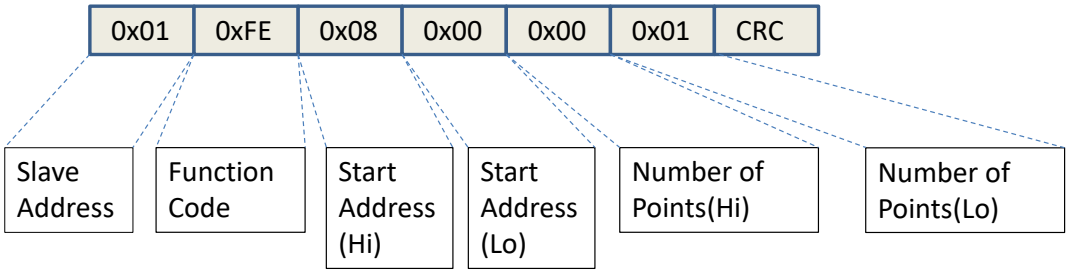


Note: The total data length of the addresses 0x702, 0x705, 0x708, 0x70B, 0x70E, 0x711 is 44 bytes.

- **Example 2 (Data Log):**

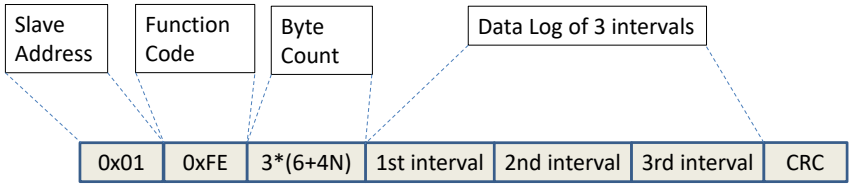
If the Modbus Master (a PLC or data collector) reads recorded data from the meter with a self-defined communication protocol in Modbus address 0x800, the Request packet format is as below (it is the same as Modbus RTU, but the Number of Points must be 1.):

Master Request



The Response packet format of the Modbus slave (Power Meter) is as below (the part before Byte Count is the same as Modbus RTU. The Data Log of 3 intervals is the data of 3 continuous recording intervals. The order is as below. If N parameters are selected, the length of data is totally 3*(6+4N) bytes.)

Slave Response



The content of one of the 3 data log intervals:

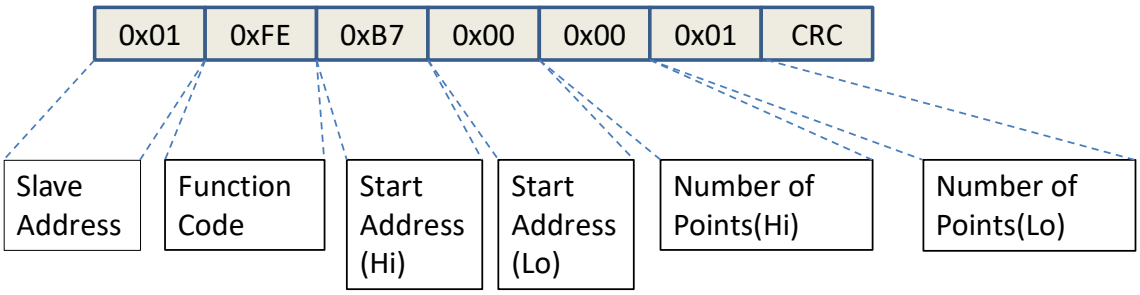
Sequence	Item	Data size(byte)	Sequential Order	
1	Year	1		
2	Month	1		
3	Day	1		
4	Hour	1		
5	Minutes	1		
6	Second	1		
7	Selected Parameter 1	4	Low word	High byte
				Low byte
			High word	High byte
				Low byte
8	Selected Parameter 2	4	Low word	High byte
				Low byte

			High word	High byte
				Low byte
…	…	…	…	…
N	Selected Parameter N	4	Low word	High byte
				Low byte
			High word	High byte
				Low byte

- **Example 3 (Alarm Log):**

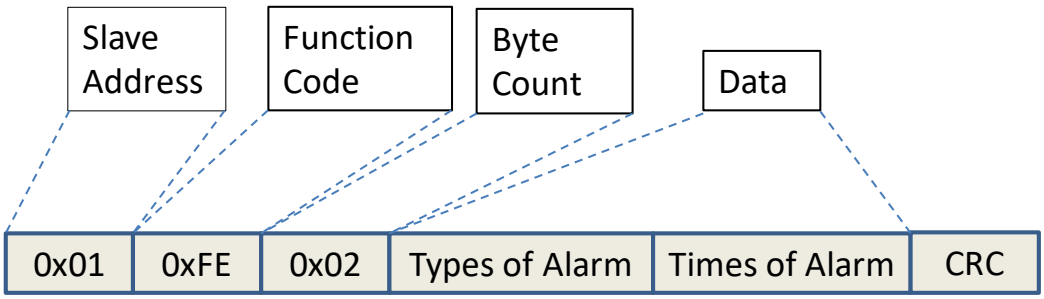
If the Modbus Master (a PLC or data collector) reads recorded data from the meter with a self-defined communication protocol in Modbus address 0xB700, the Request packet format is as below (it is the same as Modbus RTU function code 0x03, the only difference is that the function code is changed to 0xFE):

Master Request



The Response packet format of the Modbus slave (Power Meter) is as below. (The part before Byte Count is the same as Modbus RTU.)

Slave Response



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Chapter 6 Error Codes

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6.1 Error Codes

When an error occurs during operation, the power monitor sends an error code through Modbus. The following table lists the error codes and causes.

Error Code	Name	Description
0x01	Illegal function	Incorrect function code
0x02	Illegal data address	Incorrect data address to read or write
0x03	Illegal data value	Incorrect data format (for example, data length)
0x04	Slave device failure	Slave cannot execute the command.
0x0B	No response from Device	The device does not respond. (Applicable only for DPM-C530E/C530EM)

6.2 Alarm Types

The power meter supports 29 types of alarms. You can activate the alarm in the registers 0x1F–0xDD. When an alarm is triggered, the data (such as alarm type and alarm triggered time) are stored in registers 0xB700–0xC0C3. The following table lists the details and descriptions for the alarm types.

Number	Alarm Type	Description
1	Over Current	The measured current exceeds the setting value.
2	Under Current	The measured current is below the setting value.
3	Over Neutral Current	The measured neutral current exceeds the setting value.
4	Over Voltage LL	The measured line voltage exceeds the setting value.
5	Under Voltage LL	The measured line voltage is below the setting value.
6	Over Voltage LN	The measured phase voltage exceeds the setting value.
7	Under Voltage LN	The measured phase voltage is below the setting value.
8	Over Volt Unbalance	The measured voltage unbalance exceeds the setting value.
9	Over AMP Unbalance	The measured current unbalance is below the setting value.
10	Over Active power	The measured total active power exceeds the setting value.
11	Over Reactive Power	The measured total reactive power exceeds the setting value.
12	Over Apparent Power	The measured total apparent power exceeds the setting value.
13	LEAD PF	The leading power factor is below the setting value.
14	Lag PF	The lagging power factor is below the setting value.

Number	Alarm Type	Description
15	Lead DPF	The leading power factor demand is below the setting value.
16	Lag DPF	The lagging power factor demand is below the setting value.
17	Over Current Demand	The current demand exceeds the setting value.
18	Over kW Demand	The total active power factor demand exceeds the setting value.
19	Over kVAR Demand	The total reactive power factor demand exceeds the setting value
20	Over kVA Demand	The total apparent power factor demand exceeds the setting value
21	Over Frequency	The measured frequency exceeds the setting value.
22	Under Frequency	The measured frequency is below the setting value.
23	Over Voltage THD	The total harmonic distortion for voltage exceeds the setting value.
24	Over Current THD	The total harmonic distortion for current exceeds the setting value.
25	Phase Loss	When the power is unbalanced, the voltage is below the setting value.
26	Meter Reset	The power meter is resetting.
27	Phase Rotation	Phase A and phase C are incorrectly swapped.
28	Over DUI	The Demand Use Intensity (DUI) value exceeds the setting value.
29	Over EUI	The Energy Use Intensity (EUI) value exceeds the setting value.

6.3 Tariff Setting Errors

After enabling tariff schedule mode, the related settings would be checked. If an error occurs, tariff schedule mode would be turned off while the error logs would be stored in the register 0xC102. Related error codes are listed as shown below.

Error code	Item	Description
Bit0	Incorrect date and time formats	Incorrect settings for 30 and 31-day months
Bit1	Time period overlapped	Overlapped time periods in a single schdule
Bit2	The end time is earlier than the start time	The end time of the time period is earlier than the start time.
Bit3	The end date is earlier than the start date	The end date of the duration is earlier than the start date.
Bit4	Incorrect formats for time and exceptional days	Incorrect settings for 30 and 31-day months
Bit5	Duplicate exceptional days	Duplicate date set for exceptional days

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Chapter 7 BACnet MS/TP (Applicable only for DPM-C530)

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7.1 BACnet Introduction

BACnet is an ASHRAE, Inc.(American Society of Heating, Refrigerating and Air-Conditioning Engineer, Inc.) communication protocol for building automation and control networks. DPM's BACnet is based on version 2004. BACnet's regulations are related to several kinds of physical layer's interfaces. The physical layers built inside DPM are achieved via MS/TP interface. The BACnet of DPM supports a device type called B-ASC. B-ASC supports six types of services such as DS-RP-B, DS-RPM-B, DS-WP-B, DM-DDB-B, DM-DOB-B and DM-DCC-B.

7.2 BACnet MS/TP Support

BACnet Component	Description
Protocol Version	1
Protocol Revision	7
Standardized device profile(Annex L)	BACnet Application Controller (B-ASC)
BACnet Interoperability Building Blocks Supported (Annex K)	DS-RP-B (Data Sharing-Read Property-B)
	DS-WP-B (Data Sharing-Write Property-B)
	DS-RPM-B(Data Sharing-Read Property Multiple)
	DM-DDB-B (Device Management-Dynamic Device Binding-B)
	DM-DOB-B (Device Management-Dynamic Object Binding-B)
	DM-DCC-B (Device Management-Device Communication Control-B)
Data Link layer options	MS/TP master (Clause 9) Baud rate (s): 9600, 19200, 38400
Character Sets Supported:	ANSI X3.4 Indicating support for multiple character sets does not imply that they can all be supported simultaneously
Supported services	readProperty readPropertyMultiple writeProperty deviceCommunicationControl who-Has I-Have who-Is I-Am
Segmentation	Segmentation is not supported
Device Address Binding	Static device binding is not supported

7.3 Object and Property

BACnet supports 2 object types: Device, Analog Value (AV). Please refer to the following table for the corresponding object type of each property.

Property ID	Property Name	Object Type	
		Device	Analog Value
11	APDU Timeout	V	
12	Application Software_Version	V	
28	Description	V	V
30	Device_Address_Binding	V	
36	Event_State		V
44	Firmware_Revision	V	
62	Max_APDU_Length_Accepted	V	
63	Max_Info_Frames	V	
64	Max_Master	V	
70	Model_Name	V	
73	Number_of_APDU_Retries	V	
75	Object_Identifier	V * 1	V
76	Object_List	V	
77	Object_Name	V * 1	V
79	Object_Type	V	V
81	Out_of_Service		V
85	Present_Value		V * 2
87	Priority_Array		V * 3
96	Protocol_Object_Types_Supported	V	
97	Protocol_Services_Supported	V	
98	Protocol_Version	V	
104	Relinquish_Default		V * 3
107	Segmentation_Supported	V	
111	Status_Flags		V
112	System_Status	V	
117	Units		V
120	Vendor_Identifier	V	
121	Vendor_Name	V	
139	Protocol_Revision	V	
155	Database_Revision	V	

***Note:** *1. The Object_Identifier and Object_Name properties of a device are featured to be writable.

*2. The Present_Value property of some AV objects is commandable.

*3. Only commandable objects support Priority_Array and Relinquish_Default.linquish_Default)

7.4 AV Objects

The AV objects are categorized as commandable and read-only case.

- Commandable case: We can use Write_Service to access the Present_Value property of commandable AV objects. Thus, the commandable AV objects are linking to the system parameters in DPM.
- Read-only case: We can use Read_Service to access the Present_Value property of read-only AV objects. Thus, these read-only AV objects are linking to the measurement parameters of DPM.

7.4.1 Commandable Analog Value Object

In DPM, we have AV_000 to AV_010 supporting commandable Present_Value property. For these AV_Objectes, we also can use (Multi)Read_Service to access Priority_Array and Relinquish_Defalut properties.

Object No.	Object Description	Object Name	Read/Write	Range	Unit
AV000	AV_000_Power_System	AV_000_Power_System	R / W	0: 3φ4W 1: 3φ3W 2: 1φ2W 3: 1φ3W	
AV001	AV_001_Primary_CT	AV_001_Primary_CT	R / W	1 to 9999	A
AV002	AV_002_Secondary_CT	AV_002_Secondary_CT	R / W	0: 1 A 1: 5 A 2: 2.5 A	A
AV003	AV_003_Primary_PT	AV_003_Primary_PT	R / W	1 to 9999	V
AV004	AV_004_Secondary_PT	AV_004_Secondary_PT	R / W	1 to 9999	V

Object No.	Object Description	Object Name	Read/Write	Range	Unit
AV005	AV_005_Number_of_Transformer	AV_005_Number_of_Transformer	R / W	0: 3CT3PT 1: 3CT2PT 2: 3CT0PT 3: 2CT3PT 4: 2CT2PT 5: 2CT0PT 6: 1CT3PT 7: 1CT2PT 8: 1CT0PT	
AV006	AV_006_Demand_Mode	AV_006_Demand_Mode	R / W	0: block	
AV007	AV_007_Demand_Interval	AV_007_Demand_Interval	R / W	0 to 60	min
AV008	AV_008_Phase Rotation	AV_008_Phase Rotation	R / W	0: ABC 1: CBA	
AV009	AV_009_UI_Language	AV_009_UI_Language	R / W	0: English 1: Traditional Chinese 2: Simplify Chinese	
AV010	AV_010_Reset_Parameter	AV_010_Reset_Parameter	R / W	0x5768: kWh	

7.4.2 Read-only Analog Value Object

In DPM, we have AV_011 to AV_087 with read-only Present_Value property. Therefore, AV Objects numbering from AV_000 to AV_010 do NOT have Priority_Array and Relinquish_Default properties.

Object No.	Object Description	Object Name	Read/Write	Range	Unit
AV011	AV_011_Reserved	AV_011_Reserved	R		
AV012	AV_012_Reserved	AV_012_Reserved	R		
AV013	AV_013_Reserved	AV_013_Reserved	R		
AV014	AV_014_Reserved	AV_014_Reserved	R		
AV015	AV_015_Voltage_L-N_AN	AV_015_Voltage_L-N_AN	R	0.000 to 99999.999	V

Object No.	Object Description	Object Name	Read/Write	Range	Unit
AV016	AV_016_Voltage_L-N_BN	AV_016_Voltage_L-N_BN	R	0.000 to 99999.999	V
AV017	AV_017_Voltage_L-N_CN	AV_017_Voltage_L-N_CN	R	0.000 to 99999.999	V
AV018	AV_018_Voltage_L-N_AVG	AV_018_Voltage_L-N_AVG	R	0.000 to 99999.999	V
AV019	AV_019_Voltage_L-L_AB	AV_019_Voltage_L-L_AB	R	0.000 to 99999.999	V
AV020	AV_020_Voltage_L-L_BC	AV_020_Voltage_L-L_BC	R	0.000 to 99999.999	V
AV 021	AV_021_Voltage_L-L_CA	AV_021_Voltage_L-L_CA	R	0.000 to 99999.999	V
AV 022	AV_022_Voltage_L-L_AVG	AV_022_Voltage_L-L_AVG	R	0.000 to 99999.999	V
AV 023	AV_023_Unbalance_Voltage_L-N_AN	AV_023_Unbalance_Voltage_L-N_AN	R	0.00 to 99.99	%
AV 024	AV_024_Unbalance_Voltage_L-N_BN	AV_024_Unbalance_Voltage_L-N_BN	R	0.00 to 99.99	%
AV 025	AV_025_Unbalance_Voltage_L-N_CN	AV_025_Unbalance_Voltage_L-N_CN	R	0.00 to 99.99	%
AV 026	AV_026_Unbalance_Voltage_L-N_AVG	AV_026_Unbalance_Voltage_L-N_AVG	R	0.00 to 99.99	%
AV 027	AV_027_Unbalance_Voltage_L-L_AB	AV_027_Unbalance_Voltage_L-L_AB	R	0.00 to 99.99	%
AV 028	AV_028_Unbalance_Voltage_L-L_BC	AV_028_Unbalance_Voltage_L-L_BC	R	0.00 to 99.99	%
AV 029	AV_029_Unbalance_Voltage_L-L_CA	AV_029_Unbalance_Voltage_L-L_CA	R	0.00 to 99.99	%
AV 030	AV_030_Unbalance_Voltage_L-L_AVG	AV_030_Unbalance_Voltage_L-L_AVG	R	0.00 to 99.99	%
AV 031	AV_031_Current_A	AV_031_Current_A	R	0.000 to 99999.999	A
AV 032	AV_032_Current_B	AV_032_Current_B	R	0.000 to 99999.999	A
AV 033	AV_033_Current_C	AV_033_Current_C	R	0.000 to 99999.999	A
AV 034	AV_034_Current_AVG	AV_034_Current_AVG	R	0.000 to 99999.999	A

Object No.	Object Description	Object Name	Read/Write	Range	Unit
AV 035	AV_035_Current_Neutral	AV_035_Current_Neutral	R	0.000 to 99999.999	A
AV 036	AV_036_Unbalance_Current_A	AV_036_Unbalance_Current_A	R	0.00 to 99.99	%
AV 037	AV_037_Unbalance_Current_B	AV_037_Unbalance_Current_B	R	0.00 to 99.99	%
AV 038	AV_038_Unbalance_Current_C	AV_038_Unbalance_Current_C	R	0.00 to 99.99	%
AV 039	AV_039_Unbalance_Current_AVG	AV_039_Unbalance_Current_AVG	R	0.00 to 99.99	%
AV 040	AV_040_Power_Factor_Total	AV_040_Power_Factor_Total	R	-1.00000 to 1.00000	
AV 041	AV_041_Power_Factor_A	AV_041_Power_Factor_A	R	-1.00000 to 1.00000	
AV 042	AV_042_Power_Factor_B	AV_042_Power_Factor_B	R	-1.00000 to 1.00000	
AV 043	AV_043_Power_Factor_C	AV_043_Power_Factor_C	R	-1.00000 to 1.00000	
AV 044	AV_044_Displacement_Power_Factor_Total	AV_044_Displacement_Power_Factor_Total	R	-1.00000 to 1.00000	
AV 045	AV_045_Displacement_Power_Factor_A	AV_045_Displacement_Power_Factor_A	R	-1.00000 to 1.00000	
AV 046	AV_046_Displacement_Power_Factor_B	AV_046_Displacement_Power_Factor_B	R	-1.00000 to 1.00000	
AV 047	AV_047_Displacement_Power_Factor_C	AV_047_Displacement_Power_Factor_C	R	-1.00000 to 1.00000	
AV 048	AV_048_Frequency	AV_048_Frequency	R	0.0000 to 99.9999	Hz
AV 049	AV_049_Active_Power_Total	AV_049_Active_Power_Total	R	-99999.999 to 99999.999	kW
AV 050	AV_050_Active_Power_A	AV_050_Active_Power_A	R	-99999.999 to 99999.999	kW
AV 051	AV_051_Active_Power_B	AV_051_Active_Power_B	R	-99999.999 to 99999.999	kW
AV 052	AV_052_Active_Power_C	AV_052_Active_Power_C	R	-99999.999 to 99999.999	kW
AV 053	AV_053_Reactive_Power_Total	AV_053_Reactive_Power_Total	R	-99999.999 to 99999.999	kVAR

Object No.	Object Description	Object Name	Read/Write	Range	Unit
AV 054	AV_054_Reactive_Power_A	AV_054_Reactive_Power_A	R	-99999.999 to 99999.999	kVAR
AV 055	AV_055_Reactive_Power_B	AV_055_Reactive_Power_B	R	-99999.999 to 99999.999	kVAR
AV 056	AV_056_Reactive_Power_C	AV_056_Reactive_Power_C	R	-99999.999 to 99999.999	kVAR
AV 057	AV_057_Apparent_Power_Total	AV_057_Apparent_Power_Total	R	0.000 to 99999.999	kVA
AV 058	AV_058_Apparent_Power_A	AV_058_Apparent_Power_A	R	0.000 to 99999.999	kVA
AV 059	AV_059_Apparent_Power_B	AV_059_Apparent_Power_B	R	0.000 to 99999.999	kVA
AV 060	AV_060_Apparent_Power_C	AV_060_Apparent_Power_C	R	0.000 to 99999.999	kVA
AV 061	AV_061_Active_Energy-delivered	AV_061_Active_Energy-delivered	R	0.000 to 4294967.295	kWh
AV 062	AV_062_Active_Energy-received	AV_062_Active_Energy-received	R	0.000 to 4294967.295	kWh
AV 063	AV_063_Reactive_Energy-delivered	AV_063_Reactive_Energy-delivered	R	0.000 to 4294967.295	kVARh*
AV 064	AV_064Reactive_Energy-received	AV_064Reactive_Energy-received	R	0.000 to 4294967.295	kVARh*
AV 065	AV_065_Apparent_Energy-delivered	AV_065_Apparent_Energy-delivered	R	0.000 to 4294967.295	kVAh*
AV 066	AV_066_Apparent_Energy-received	AV_066_Apparent_Energy-received	R	0.000 to 4294967.295	kVAh*
AV 067	AV_067_THD_Current_A	AV_067_THD_Current_A	R	0.000 to 999.999	%
AV 068	AV_068_THD_Current_B	AV_068_THD_Current_B	R	0.000 to 999.999	%
AV 069	AV_069_THD_Current_C	AV_069_THD_Current_C	R	0.000 to 999.999	%
AV 070	AV_070_THD_Voltage_L-N_AN	AV_070_THD_Voltage_L-N_AN	R	0.000 to 999.999	%
AV 071	AV_071_THD_Voltage_L-N_BN	AV_071_THD_Voltage_L-N_BN	R	0.000 to 999.999	%
AV 072	AV_072_THD_Voltage_L-N_CN	AV_072_THD_Voltage_L-N_CN	R	0.000 to 999.999	%

Object No.	Object Description	Object Name	Read/Write	Range	Unit
AV 073	AV_073_THD_Voltage_L-L_AB	AV_073_THD_Voltage_L-L_AB	R	0.000 to 999.999	%
AV 074	AV_074_THD_Voltage_L-L_BC	AV_074_THD_Voltage_L-L_BC	R	0.000 to 999.999	%
AV 075	AV_075_THD_Voltage_L-L_CA	AV_075_THD_Voltage_L-L_CA	R	0.000 to 999.999	%
AV 076	AV_076_THD_Current	AV_076_THD_Current	R	0.000 to 999.999	%
AV 077	AV_077_THD_Voltage	AV_077_THD_Voltage	R	0.000 to 999.999	%
AV 078	AV_078_Present_Demand_Current	AV_078_Present_Demand_Current	R	0.000 to 99999.999	A
AV 079	AV_079_Previous_Demand_Current	AV_079_Previous_Demand_Current	R	0.000 to 99999.999	A
AV 080	AV_080_Present_Demand_Active_Power	AV_080_Present_Demand_Active_Power	R	0.000 to 99999.999	kW
AV 081	AV_081_Previous_Demand_Active_Power	AV_081_Previous_Demand_Active_Power	R	0.000 to 99999.999	kW
AV 082	AV_082_Present_Demand_Reactive_Power	AV_082_Present_Demand_Reactive_Power	R	0.000 to 99999.999	kVAR
AV 083	AV_083_Previous_Demand_Reactive_Power	AV_083_Previous_Demand_Reactive_Power	R	0.000 to 99999.999	kVAR
AV 084	AV_084_Present_Demand_Apparent_Power	AV_084_Present_Demand_Apparent_Power	R	0.000 to 99999.999	kVA
AV 085	AV_085_Previous_Demand_Apparent_Power	AV_085_Previous_Demand_Apparent_Power	R	0.000 to 99999.999	kVA

***Note:** Because KVARh and KVA are not supported in BACnet standard, kWh is used in Unit Property.

7.5 BACnet MS/TP Parameter Settings

(1) Path: Select “Menu” → choose “0. Setup” and press “Enter”→ choose “3. Communicaiton” and press “Enter” → the following display is shown.

- **Station address:** While communicating via BACnet, MAC address is used for this parameter with the range of option 1 to 127, the default is set as 1.
- **Protocol:** Communication mode, which can be chosen between RTU, ASCII, and BACNET. The default is set to RTU.
- **Baud Rate:** The default setting is 9600 bps. When using BACnet, the baud rate value would change to 38400 bps automatically.
- **Data Bit:** The data length of data packet. The default is set as 8 bits, which cannot be changed in BACnet mode.
- **Parity:** Odd and even checking bit for communication. The default is set to None, which cannot be changed in BACnet mode.
- **Stop Bit:** Signal for completion of packet transmission. The default is set to1 bit, which cannot be changed in BACnet mode.

(2) Path: Select “Menu” → choose “0. Setup” and press “Enter”→ choose “10. BACnet” and press “Enter” → the following display is shown.

- **Max Master:** The highest MS/TP master address. The default is set to 127.
- **Device ID:** The device identifier in BACnet MS/TP. The default is set to10.

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Appendix A Accessories

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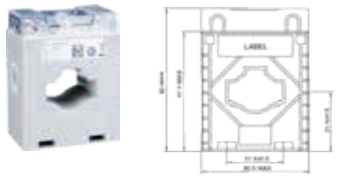
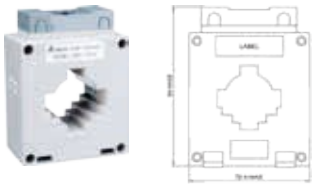
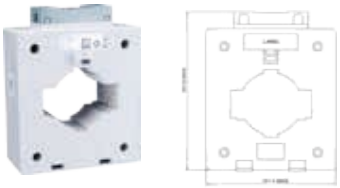
When measured current is higher than the rated specification for the device, use of an external current transformer (CT) is necessary.

A.1 DCTMC Series

Model Number	Measurement Accuracy	Primary Current	Secondary Current	Rated Burden (VA)	External Dimension*1 (mm)	Size of Opening*1 (mm)
DCT-MC010-5	1.0%	100 A	5 A	1.5	80*60*38	20*30.5
DCT-MC020-5	0.5%	200 A	5 A	3.75		
DCT-MC030-5	0.5%	300 A	5 A	5	98*74.5*43	42*42
DCT-MC040-5	0.5%	400 A	5 A	7.5		
DCT-MC050-5	0.5%	500 A	5 A	5	127*103*45	51*61
DCT-MC060-5	0.5%	600 A	5 A	10		

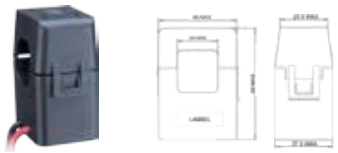
*1: See the following table for detailed information on the external dimensions and sizes of opening.

Model Number	Dimension (mm)	
DCT-MC010-5	External Dimension：80 x 60 x 38 Size of Opening：20 x 30.5	
DCT-MC020-5		
DCT-MC030-5	External Dimension：98 x 74.5 x 43 Size of Opening：42 x 42	
DCT-MC040-5		
DCT-MC050-5	External Dimension：127 x 103 x 45 Size of Opening：51 x 61	
DCT-MC060-5		

A.2 DCTCS Series

Model Type	Measurement Accuracy	Primary Current	Secondary Current	Wire length (mm)	External Dimension*1 (mm)	Size of Opening*1 (mm)
DCT-CS010-5	1%	100 A	5 A	1000	66.8*49.8*34.2	23.8*25.2
DCT-CS020-5	1%	200 A	5 A	1000		
DCT-CS030-5	1%	300 A	5 A	1000		
DCT-CS040-5	1%	400 A	5 A	1000	85*69*42.5	36.5*36.5
DCT-CS050-5	1%	500 A	5 A	1000		
DCT-CS060-5	1%	600 A	5 A	1000		

*1: See the following table for detailed information on the external dimensions and sizes of opening.

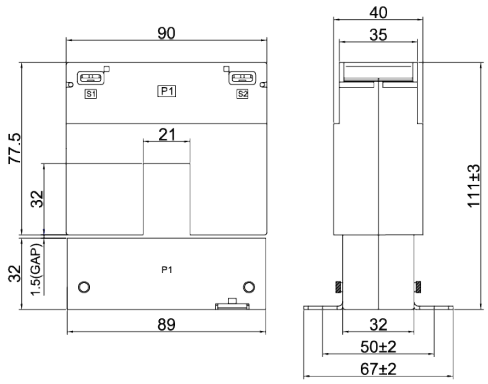
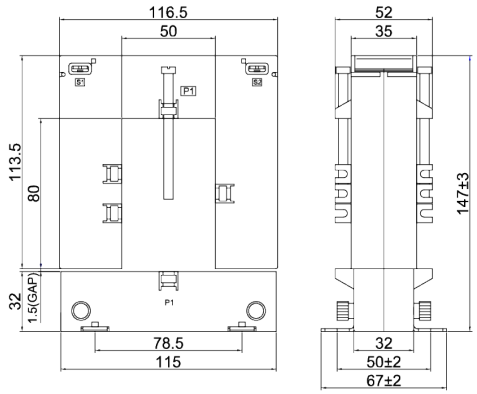
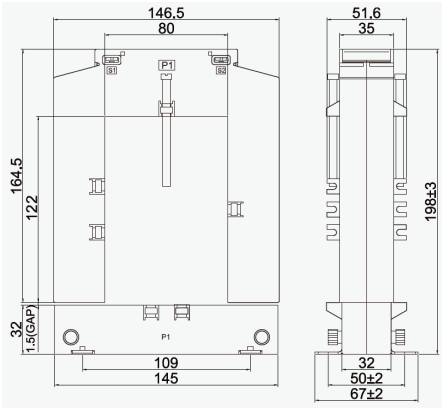
Model	Dimension (Unit: mm)	
DCT-CS010-5	External Dimension：66.8 x 49.8 x 34.2 Size of Opening：23.8 x 25.2	
DCT-CS020-5		
DCT-CS030-5		
DCT-CS040-5	External Dimension：85 x 69 x 42.5 Size of Opening：36.5 x 36.5	
DCT-CS050-5		
DCT-CS060-5		

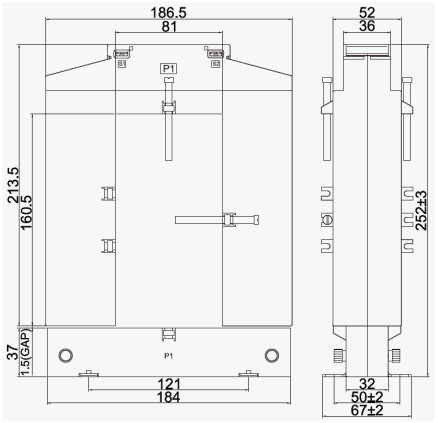
A.3 DCT1000 Series

Electromagnetic Compatibility: CE-marking, IEC61869-2.

Model Number	Measurement Accuracy	Primary Current	Secondary Current	Rated Burden (VA)	External Dimension*1 (mm)	Size of Opening*1 (mm)
DCT-S301C	1.0%	100 A	5 A	1.5	90 x 40 x 111	21 x 32
DCT-S211C	0.5%	200 A	5 A	1		
DCT-S221C	0.5%	300 A	5 A	1.5		
DCT-S231C	0.5%	400 A	5 A	2.5		
DCT-S241C	0.5%	500 A	5 A	2.5	116.5 x 52 x 147	50 x 80
DCT-S251C	0.5%	600 A	5 A	2.5		
DCT-S261C	0.5%	750 A	5 A	2.5		
DCT-S271C	0.5%	1000 A	5 A	5		
DCT-S281C	0.5%	1500 A	5 A	7.5	146.5 x 51.6 x 198	80 x 122
DCT-S291C	0.5%	2000 A	5 A	10	186.5 x 52 x 252	81 x 160.5
DCT-S2A1C	0.5%	2500 A	5 A	15		
DCT-S2B1C	0.5%	3000 A	5 A	20		

*1: See the following table for detailed information on the external dimensions and sizes of opening.

Model Number	Dimension (mm)	
DCT-S301C DCT-S211C DCT-S221C DCT-S231C	External Dimension: 90 x 40 x 111 Size of Opening: 21 x 32 	
DCT-S241C DCT-S251C DCT-S261C DCT-S271C	External Dimension: 116.5 x 52 x 147 Size of Opening: 50 x 80 	
DCT-S281C	External Dimension: 146.5 x 51.6 x 198 Size of Opening: 80 x 122 	

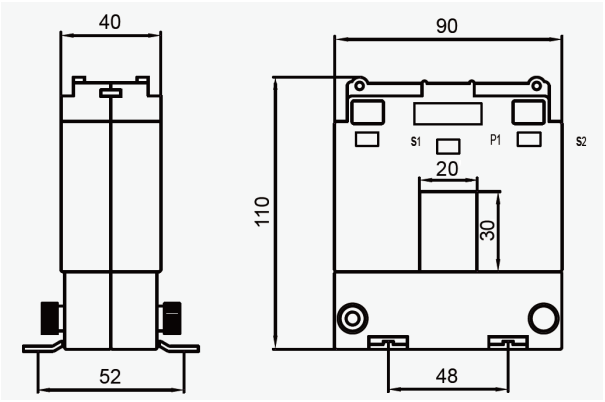
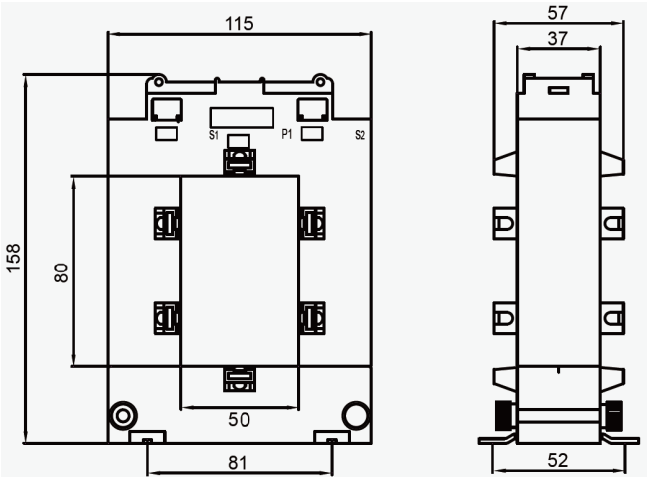
Model Number	Dimension (mm)	
DCT-S291C	External Dimension: 186.5 x 52 x 252 Size of Opening: 81 x 160.5 	
DCT-S2A1C		
DCT-S2B1C		

A.4 DCT2000 Series

Electromagnetic Compatibility: UL, UL2808.

Model Number	Measurement Accuracy	Primary Current	Secondary Current	Rated Burden (VA)	External Dimension*1 (mm)	Size of Opening*1 (mm)
DCT-S201B	1.0%	100 A	5 A	1	90 x 40 x 110	20 x 30
DCT-S211B	0.5%	200 A	5 A	1		
DCT-S221B	0.5%	300 A	5 A	1.5		
DCT-S231B	0.5%	400 A	5 A	1.5	115 x 57 x 158	50 x 80
DCT-S241B	0.5%	500 A	5 A	2.5		
DCT-S251B	0.5%	600 A	5 A	2.5		
DCT-S261B	0.5%	750 A	5 A	2.5		
DCT-S2C1B	0.5%	800 A	5 A	3.75		
DCT-S271B	0.5%	1000 A	5 A	5		

*1: See the following table for detailed information on the external dimensions and sizes of opening.

<table>
<tr><th>Model Number</th><th colspan="2">Dimension (mm)</th></tr>
<tr><td>DCT-S201B
DCT-S211B
DCT-S221B</td><td>External Dimension:
90 x 40 x 110
Size of Opening:
20 x 30
  </td><td> 
</td></tr>
<tr><td>DCT-S231B
DCT-S241B
DCT-S251B
DCT-S261B
DCT-S2C1B
DCT-S271B</td><td>External Dimension:
115 x 57 x 158
Size of Opening:
50 x 80
  </td><td> 
</td></tr>
</table>

MEMO

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