

# ADL200(MID)

Installation and operation instruction T1. 2

## **Declaration**

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## Contents

1	General	1	_
2	Function	1	_
3	Technical parameter	1	_
4	Outline (unit: mm) —	2	_
5	Wiring and installing	3	_
6	Analysis and elimination of common faults	3	_
7	Operation and display	3	_
8	Communication description	7	_

#### 1 Overview

ADL200 single phase electric meter is designed for single phase active energy measurement on low voltage system, at the same time it can measure the electrical parameters like voltage, current, power and so on. There is also RS485 can be chosen. The electricity meter has advantages of smaller volume, high precision, good EMC, easily installing etc. All meters meet the related technical requirements of electricity meter in the IEC62053-21 \tag{IEC62053-22} standards.

## 2 Function

Function	Function description		
Measurement of energy	Single-phase active kWh (positive and negative)		
Measurement	Voltage, Current, Active power, Reactive power, Apparent power,		
of electrical parameters	of electrical Power factor and Frequency		
LCD Display	8 bits section LCD display		
Key programming	3 keys to set parameters like code, address, baud rate and other parameters		
Pulse output	Active energy pulse output		
Date and Time 3 months historical energy data frozen storage Adapt 4 time zones, 4 time interval lists, 14 time interval by day and 4 tariff rates		□F	
Communication	Communication interface: RS485, Communication protocol: MODBUS-RTU	<b>■</b> C	

(■: Standard; □: Optional)

## 3 Technical parameter

#### 3.1 Electric performance

	Reference voltage	AC 230V
Input voltage	Reference frequency	50Hz
	Power consumption	<10VA
Input ourment	Reference current	0.5-10(80)A
Input current	Consumption	<4VA
Measurement	Accuracy of measuring	Class B
performance	Range of measuring	000000.00~42949672.95kWh
Clock accuracy		Error≤0.5s/d

A ativa mulaa	Pulse width	80±20ms
Active pulse	Pulse constant	1000imp/kWh
	Interface	RS485(A+、B-)
Communication	Connection mode	Shielded twisted pair conductors
	Protocol	MODBUS-RTU

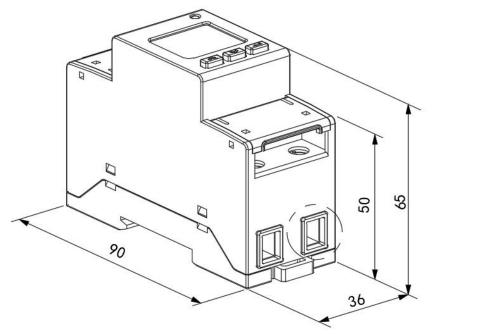
## 3.2 Mechanical performance

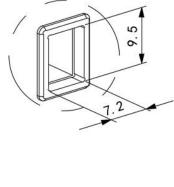
Outline	Length × Width × Height	90mm×36mm×65mm
Strong current	<1.8Nm	
terminal Torque		

## 3.3 Work environment

Tammamatuma man aa	Work temperature	-25°C to +55°C
Temperature range	Storage Temperature	-40°C to +70°C
Relative humidity		≤95%(No condensation)
Altitude		<2000m

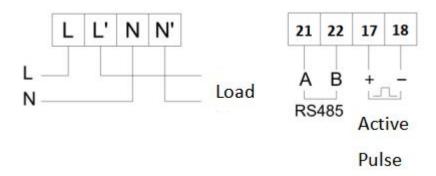
## 4 Outline (unit: mm)





Meter outlook and size

### 5 wiring and installing



## 6 Diagnosis, analysis and elimination of common faults

#### 6.1 Auxiliary power failure

Failure performance: the meter flashes or does not light up after being powered on.

#### **Troubleshooting:**

- 1. Check whether the wiring is consistent with the wiring diagram of the instrument, and whether the wiring is loose or falling off.
- 2. Use a multimeter to measure whether the input voltage value is within the normal working voltage range of the instrument.

#### 6.2 Signal input failure

Failure performance: After the meter is powered on, the display power or energy count is not accurate.

**Troubleshooting:** Switch the display interface of the meter to the power (active P, power factor) interface, check whether the power display is negative and whether the power factor is between 0.8-0.95, and then check whether the input and output of the current signal line are reversed (That is, the incoming line of the current must be consistent with the incoming end of the instrument), and consistent with the wiring on the meter.

#### 6.3 communication failure

Failure performance: After the meter is powered on, it cannot communicate with the host computer normally. Troubleshooting:

- 1. The voltage value between the communication output A and B of the measuring instrument should be between +(4.4-4.5)V.
- 2. Check whether the communication wiring method is correctly wired according to the wiring diagram (that is, the communication terminal A/B of the instrument should correspond to the communication serial port A/B).

## 7 Operation and display

#### 7.1 Key description

Key icon	Key name	Key function	
		View voltage and current in	
	Vayana	the view interface.	
	Key up	Up and flashing shift in the	
		programming interface.	
		View power in the view	
		interface.	
<b>*</b>	V 1	Scroll down and modify	
	Key down	flashing bits in the programming	
		interface.	
		View electrical energy in the	
		viewing interface.	
		Long press 3S to enter/exit	
42	Key setting	the menu.	
		Short press OK in the	
		programming interface to save the	
		settings.	

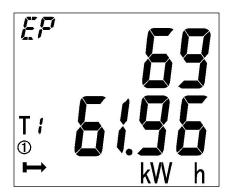
### 7.2 display description

Show total energy when connected. Change information while pressing down key. Display information as following:

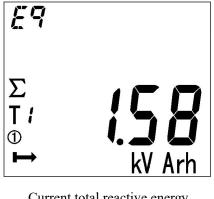
U、I、F、Time、MODBUS Address、Baud、parity、Meter Number with six digits high and six digits low、Version、CRC、ALL—display;		
Total active power total reactive power total apparent power total power factor;		
Total active energy, forward active total energy, reverse active total energy, total active spike energy, total active peak energy, total active flat energy, total active valley energy, total reactive energy, forward reactive total energy, reverse total reactive energy, total reactive spike energy, total reactive peak energy, total reactive flat energy, total reactive valley energy.		

#### Note:

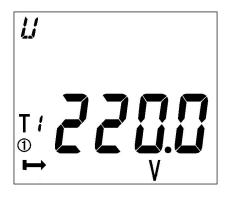
- 1. Listed above are the names of all display interfaces of the ADL200 meter with multi-tariff rate function. Three buttons can switch different types of display content, the switching sequence is as described above.
- 2. For the ADL200 meter without the multi-tariff rate function, it does not display the date, time and various types of time-sharing energy (the energy in the four rate periods of sharp, peak, flat and valley).
- 3 T1, T2, T3, and T4 in the display interface represent the four rates respectively, sharp, peak, flat and valley, and indicates the current running time table.
- 4. The arrow represent the DIR settings, from left to right means that DIR is set to 0; if the arrow is from right to left, it indicates that DIR is set to 1.



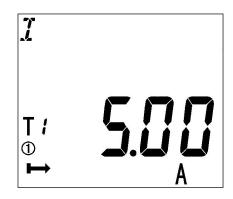
Current total active energy(6961.96kWh)



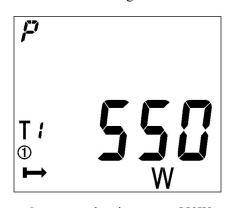
Current total reactive energy



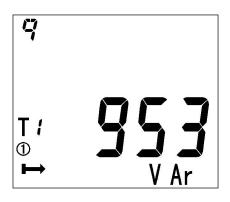
Voltage



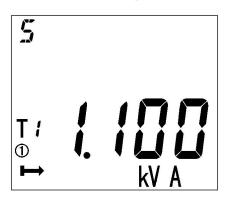
Current



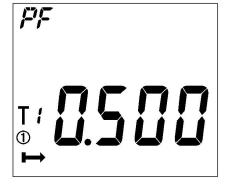
Current total active power 550W



Current total reactive power 953var



Current total apparent power 1.100kVA

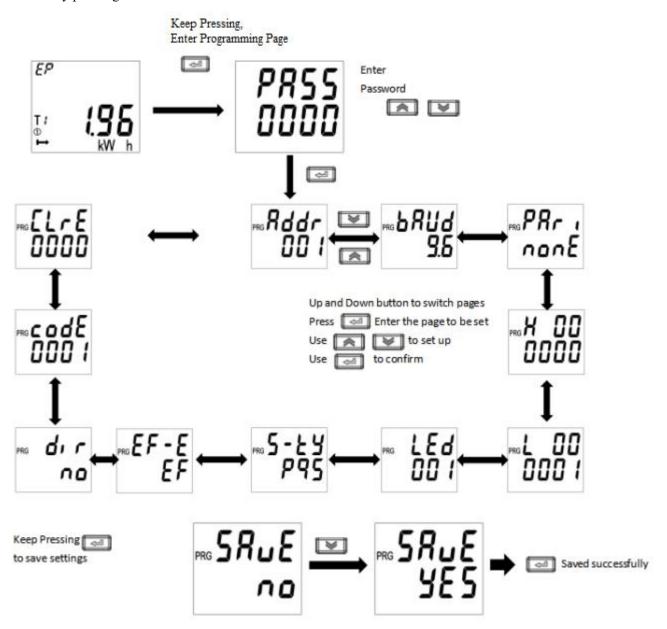


Current total power factor 0.500

Note, the above is just a part of the display interface. The display mode of other interfaces is similar to the above figure. You can judge the display meaning according to the information displayed on the interface.

### 7.3 Programming display menu

Press at any main menu and get in interface, and then press show of the code. If you enter a wrong code, it will show "0000" and enter the code again; and if you enter a right code, you can set the parameter. After setting the parameter, it will show and save the change by pressing without save by pressing of the parameter.



#### 7.4 Items can be set

Setting items description

Mum		Secondly menu		
Mum	Symbol	Meaning	Range	
1	ADDR	Communication address	1-247	
2	2 David	David David satting	David satting	1200、2400、4800、
	Baud	Baud setting	9600、19200、38400	

3	Pari	Parity setting	None, Odd, Even		
4	LED	Doolsground light gotting	0-255 minutes,		
4	LED	Background light setting	0- ever bright		
5	S-TY	Apparent power	PQS,RMS		
	calculation	r QS,RMS			
6	EE E Sot multi toriff	FF F Set	EF-E	Set multi-tariff	EF-YES
0	ET-E	Set muni-tarm	E-NO		
7	DIR Current direction	Current direction	no-forward		
/	DIK	Current direction	yes-reverse		
8	CoDE	Code setting	1-9999		

## 8 Communication description

## 8.1 Communication protocol

The meters adapt Modbus-RTU. Please refer to the relevant standards for more information. The multi-tariff data mean nothing when multi-tariff function (F) is not applied.

## 8.2 MODBUS Address list

Address	Variable	Length	Attributes	Note
0000Н	Current combined total active energy	4	R	
0002H	Current combined spike active energy	4	R	Uint32
0004H	Current combined peak active energy	4	R	unit: 0.01kWh
0006Н	Current combined flat active energy	4	R	unit: 0.01kwn
0008H	Current combined valley active energy	4	R	
000AH	Code	2	R/W	
000BH	Voltage	2	R	unit: 0.1V
000CH	Current	2	R	unit: 0.01A
000DH	Active power	2	R	unit: 0.001kW
000EH	Reactive power	2	R	unit: 0.001kvar
000FH	Apparent power	2	R	unit: 0.001kVA
0010H	power factor	2	R	unit: 0.001
0011H	Frequency	2	R	unit: 0.01Hz
0012H	Year, month	2	R/W	
0013H	Day, hour	2	R/W	
0014H	Minute, second	2	R/W	
0015H	Address	1	R/W	1~247
				00:1200
				01:2400
0015H	Communication baud rate	1	R/W	02:4800
0013H	Communication band rate	1	IN/ W	03:9600
				04:19200
				05:38400
0016H	light time	2	R/W	0-255
0017H~	Reserve			
0021H	Keseive			

10024H		T			
0026H         Peak active energy of last month         4         R           0028H         Flat active energy of last month         4         R           0028H         Valley active energy of last month         4         R           002CH         Total active energy of last 2 month         4         R           0030H         Peak active energy of last 2 month         4         R           0030H         Peak active energy of last 2 month         4         R           0034H         Valley active energy of last 2 month         4         R           0036H         Total active energy of last 3 month         4         R           0036H         Total active energy of last 3 month         4         R           0037H         Peak active energy of last 3 month         4         R           0036H         Valley active energy of last 3 month         4         R           0045H         Reserve         2         R/W         Bitt0-0-E-no. 1-EF-YES: Bitt1-0-forward, 1-reverse; Bit3: 0-PQS 1-RMS.           0045H         Parity         2         R/W         0000:None           0047H         Reserve         0000:None         0001:Odd           0049H~         Reserve         0000:Dd-         0000:Even <td< td=""><td>0022H</td><td>Total active energy of last month</td><td>4</td><td>R</td><td></td></td<>	0022H	Total active energy of last month	4	R	
0028H         Flat active energy of last month         4         R           002AH         Valley active energy of last month         4         R           002CII         Total active energy of last 2 month         4         R           002EH         Spike active energy of last 2 month         4         R           0030H         Peak active energy of last 2 month         4         R           0032H         Flat active energy of last 2 month         4         R           0034H         Valley active energy of last 3 month         4         R           0036H         Total active energy of last 3 month         4         R           003AH         Peak active energy of last 3 month         4         R           003AH         Peak active energy of last 3 month         4         R           003CH         Flat active energy of last 3 month         4         R           003H         Valley active energy of last 3 month         4         R           004H         Reserve         2         R/W         Bit0:0-E-no, 1-EF-YES; Bit1:0-forward, 1-reverse; Bit3: 0-PQS 1-RMS.           004H         Reserve         2         R/W         0000:None 000:None 0	0024H	Spike active energy of last month	4	R	
002AH         Valley active energy of last month         4         R           002CH         Total active energy of last 2 month         4         R           002EH         Spike active energy of last 2 month         4         R           0030H         Peak active energy of last 2 month         4         R           0032H         Flat active energy of last 2 month         4         R           0036H         Total active energy of last 3 month         4         R           0036H         Total active energy of last 3 month         4         R           003AH         Peak active energy of last 3 month         4         R           003CH         Flat active energy of last 3 month         4         R           003CH         Valley active energy of last 3 month         4         R           0040H-         Reserve         Bitto-beard         1         R           0044H         Reserve         Bitto-beard         1         Bitto-beard         1-EF-YES;         Bitto-beard	0026H	Peak active energy of last month	4	R	
002CH         Total active energy of last 2 month         4         R           002EH         Spike active energy of last 2 month         4         R           0032H         Peak active energy of last 2 month         4         R           0032H         Flat active energy of last 2 month         4         R           0034H         Valley active energy of last 3 month         4         R           0036H         Total active energy of last 3 month         4         R           0038H         Spike active energy of last 3 month         4         R           003CH         Flat active energy of last 3 month         4         R           003EH         Valley active energy of last 3 month         4         R           003EH         Valley active energy of last 3 month         4         R           004H         Reserve         Reserve         Bitto-0-E-no. 1-EF-VES; Bitto-forward. 1-reverse;	0028H	Flat active energy of last month	4	R	
002EH         Spike active energy of last 2 month         4         R           0030H         Peak active energy of last 2 month         4         R           0032H         Flat active energy of last 2 month         4         R           0034H         Valley active energy of last 3 month         4         R           0038H         Spike active energy of last 3 month         4         R           003CH         Flat active energy of last 3 month         4         R           003CH         Flat active energy of last 3 month         4         R           003CH         Flat active energy of last 3 month         4         R           0043H         Valley active energy of last 3 month         4         R           0044H         Reserve         Reserve           0045H         Reserve         Reserve           0045H         Reserve         Reserve           0048H         Parity         2         R/W         Bit0:0-E-no, 1-EF-YES; Bit1:0-forward, 1-reverse; Bit3: 0-PQS 1-RMS.           0049H-004FH         Reserve         0000:None 0001:Odd 0002:Even           0049H-004FH         Reserve         Serial Number         4         R/W         SN[14] The last eight bits make up 0.           0050H-004FH         Reserve	002AH	Valley active energy of last month	4	R	
O303H   Peak active energy of last 2 month   4	002CH	Total active energy of last 2 month	4	R	
0032H   Peak active energy of last 2 month   4   R           0032H   Flat active energy of last 2 month   4   R           0034H   Name of the peak active energy of last 3 month   4   R           0034H   R           0036H   Total active energy of last 3 month   4   R           0038H   Spike active energy of last 3 month   4   R           0038H   Peak active energy of last 3 month   4   R           0036H   Peak active energy of last 3 month   4   R           0036H   Peak active energy of last 3 month   4   R           0036H   Peak active energy of last 3 month   4   R           0036H   Peak active energy of last 3 month   4   R           0046H   Peak active energy of last 3 month   4   R           0046H   Peak active energy of last 3 month   4   R           0046H   Reserve         0046H   Peak active energy of last 3 month   4   R           0046H   Peak active energy of last 3 month   4   R           0046H   Peak active energy of last 3 month   4   R           0046H   Peak active energy of last 3 month   4   R           0046H   Reserve   Peak energy   Peak energy	002EH	Spike active energy of last 2 month	4	R	11. 133
0032H         Flat active energy of last 2 month         4         R           0036H         Valley active energy of last 2 month         4         R           0036H         Total active energy of last 3 month         4         R           0038H         Spike active energy of last 3 month         4         R           003CH         Plat active energy of last 3 month         4         R           003EH         Valley active energy of last 3 month         4         R           0046H-0044H         Reserve         Bitt0:0-E-no, 1-EF-YES; Bitt:0-forward, 1-reverse; Bit3: 0-PQS 1-RMS.           0045H         Control status         2         R/W         Bitt:0-forward, 1-reverse; Bit3: 0-PQS 1-RMS.           0046H-0047H         Reserve         2         R/W         0000:None           0048H         Parity         2         R/W         0001:Odd 0002:Even           0049H-0047H         Reserve         4         R/W         SN[14] The last eight bits make up 0.           0050H-004FH         Reserve         4         R         R/W         SN[14] The last eight bits make up 0.           0050H-0067H         Reserve         4         R         R           0068H         Current forward active total energy         4         R	0030H	Peak active energy of last 2 month	4	R	
0036H         Total active energy of last 3 month         4         R           0038H         Spike active energy of last 3 month         4         R           003AH         Peak active energy of last 3 month         4         R           003EH         Plat active energy of last 3 month         4         R           0040H- 0044H- 0044H         Reserve         Feserve         Bit0:0-E-no, 1-EF-YES; Bit1:0-forward, 1-reverse; Bit3: 0-PQS 1-RMS.           0046H- 0047H         Reserve         Feserve         Bit0:0-E-no, 1-EF-YES; Bit1:0-forward, 1-reverse; Bit3: 0-PQS 1-RMS.           0048H- 0047H         Reserve         Ferrity         2         R/W         0000:None 0001:Odd 0002:Even           0049H- 004BH         Reserve         Serial Number         4         R/W         SN[14] The last eight bits make up 0.           0050H- 006TH         Reserve         A         R/W         SN[14] The last eight bits make up 0.           0050H- 006TH         Current forward active total energy         4         R         A           006EH         Current forward active pake energy         4         R         A           006EH         Current forward active pake energy         4         R         A           0070H         Current reversing active total energy         4         R <td>0032H</td> <td>Flat active energy of last 2 month</td> <td>4</td> <td>R</td> <td>unit: 0.01kwn</td>	0032H	Flat active energy of last 2 month	4	R	unit: 0.01kwn
0038H         Spike active energy of last 3 month         4         R           003AH         Peak active energy of last 3 month         4         R           003CH         Flat active energy of last 3 month         4         R           004BH         Valley active energy of last 3 month         4         R           0040H- 0044H         Reserve         Bitt0:0-E-no, 1-EF-YES: Bitt0:0-forward, 1-reverse; Bit3: 0-PQS 1-RMS.           0045H         Reserve         2         R/W         0000:None 0001:Odd 0002:Even           0048H         Parity         2         R/W         0000:None 0002:Even           0049H- 004BH         Reserve         4         R/W         SN[14] The last eight bits make up 0.           0050H- 006TH         Reserve         4         R         A         R           006AH         Current forward active total energy         4         R         A         A         A         R         A	0034H	Valley active energy of last 2 month	4	R	
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003CH         Flat active energy of last 3 month         4         R           0040H- 0044H         Valley active energy of last 3 month         4         R           0040H- 0044H         Reserve         Bit0:0-E-no, 1-EF-YES; Bit1:0-forward, 1-reverse; Bit3: 0-PQS 1-RMS.           0046H- 0047H         Reserve         00000:None 0000:None 0000:Even           0048H         Parity         2         R/W         0000:None 0000:Even           0049H- 004FH         Serial Number         4         R/W         SN[14] The last eight bits make up 0.           0050H- 0067H         Reserve         4         R/W         N[14] The last eight bits make up 0.           0050H- 0068H         Current forward active total energy         4         R           006AH         Current forward active spike energy         4         R           006CH         Current forward active spike energy         4         R           0070H         Current forward active valley energy         4         R           0072H         Current reversing active total energy         4         R           0076H         Current reversing active total energy         4         R           0078H         Current reversing active peak energy         4         R           0078H         Current reversi	0038H	Spike active energy of last 3 month	4	R	
003EH         Valley active energy of last 3 month         4         R           0040H- 0044H         Reserve         Bit0:0-E-no, 1-EF-YES; Bit1:0-forward, 1-reverse; Bit3: 0-PQS 1-RMS.           0045H         Control status         2         R/W         Bit0:0-E-no, 1-EF-YES; Bit1:0-forward, 1-reverse; Bit3: 0-PQS 1-RMS.           0046H- 0047H         Reserve         00000:None 00001:Odd 0002:Even           0049H- 004BH         Serial Number         4         R/W         SN[14] The last eight bits make up 0.           0050H- 0067H         Reserve         4         R/W         SN[14] The last eight bits make up 0.           0050H- 0068H         Current forward active total energy         4         R         A           006CH         Current forward active spike energy         4         R         A           006CH         Current forward active peak energy         4         R         Uint32           0070H         Current reversing active total energy         4         R         Uint32           0072H         Current reversing active total energy         4         R         Uint32           0076H         Current reversing active peak energy         4         R         Uint32           0076H         Current reversing active peak energy         4         R         R <td>003AH</td> <td>Peak active energy of last 3 month</td> <td>4</td> <td>R</td> <td></td>	003AH	Peak active energy of last 3 month	4	R	
0040H~ 0044H         Reserve         Bit0:0-E-no, 1-EF-YES; Bit1:0-forward, 1-reverse; Bit3: 0-PQS 1-RMS.           0046H~ 0047H         Reserve         0000:None 0000:None 0001:Odd 0002:Even           0049H~ 0049H~ 0049H 004FH         Reserve         Serial Number         4         R/W         SN[14] The last eight bits make up 0.           0050H~ 0067H         Reserve         Serial Number         4         R/W         SN[14] The last eight bits make up 0.           0050H~ 0066H         Current forward active total energy         4         R           006CH         Current forward active spike energy         4         R           006H         Current forward active peak energy         4         R           0070H         Current forward active valley energy         4         R           0072H         Current reversing active total energy         4         R           0074H         Current reversing active total energy         4         R           0076H         Current reversing active total energy         4         R           0078H         Current reversing active flat energy         4         R	003CH	Flat active energy of last 3 month	4	R	
Reserve   Bit0:0-E-no, 1-EF-YES; Bit1:0-forward, 1-reverse; Bit3: 0-PQS 1-RMS.	003EH	Valley active energy of last 3 month	4	R	
0045H   Control status   2   R/W   Bit0:0-E-no, 1-EF-YES: Bit1:0-forward, 1-reverse; Bit3: 0-PQS 1-RMS.	0040H~	D.		'	
Control status   2	0044H	Reserve			
Control status   2					Bit0:0-E-no,
0045H         Control status         2         R/W         1-reverse; Bit3: 0-PQS 1-RMS.           0046H~ 0047H         Reserve         00000:None           0048H         Parity         2         R/W         0000:None 0001:Odd 0002:Even           0049H~ 004BH         Reserve         Serial Number         4         R/W         SN[14] The last eight bits make up 0.           0050H~ 0067H         Reserve         Serial Number         4         R           0068H         Current forward active total energy         4         R           006AH         Current forward active spike energy         4         R           006EH         Current forward active flat energy         4         R           0070H         Current reversing active total energy         4         R           0072H         Current reversing active total energy         4         R           0074H         Current reversing active spike energy         4         R           0076H         Current reversing active peak energy         4         R           0078H         Current reversing active flat energy         4         R		Control status			1-EF-YES;
1-reverse; Bit3: 0-PQS				D/W	Bit1:0-forward,
1-RMS.	0045H		2	R/W	1-reverse;
0046H~ 0047H       Reserve         0048H 0048H       Parity       2       R/W       0000:None 0001:Odd 0002:Even 0002:Even 00049H~ 0002:Even 00049H~ 0002:Even 00049H~ 0004FH         004CH~ 004FH       Serial Number       4       R/W       SN[14] The last eight bits make up 0.         0050H~ 0050H~ 0067H       Reserve         0068H       Current forward active total energy       4       R         006CH       Current forward active spike energy       4       R         006EH       Current forward active flat energy       4       R         0070H       Current forward active valley energy       4       R         0072H       Current reversing active total energy       4       R         0074H       Current reversing active spike energy       4       R         0076H       Current reversing active spike energy       4       R         0078H       Current reversing active flat energy       4       R					Bit3: 0-PQS
0047H       Reserve         0048H       Parity       2       R/W       0000:None 0001:Odd 0002:Even 0001:Odd 0002:Even 00049H~         004BH       Reserve       Serial Number       4       R/W       SN[14] The last eight bits make up 0.         0050H~ 0050H~ 0067H       Reserve       Reserve         0068H       Current forward active total energy       4       R         006CH       Current forward active spike energy       4       R         006EH       Current forward active flat energy       4       R         0070H       Current forward active valley energy       4       R         0072H       Current reversing active total energy       4       R         0074H       Current reversing active total energy       4       R         0076H       Current reversing active spike energy       4       R         0078H       Current reversing active flat energy       4       R					1-RMS.
0048H       Parity       2       R/W       0000:None 0001:Odd 0002:Even         0049H~ 004BH       Reserve       8       Serial Number       4       R/W       SN[14] The last eight bits make up 0.         0050H~ 0067H       Reserve       4       R       R         006AH       Current forward active total energy       4       R         006CH       Current forward active spike energy       4       R         006EH       Current forward active flat energy       4       R         0070H       Current forward active valley energy       4       R         0072H       Current reversing active total energy       4       R         0074H       Current reversing active total energy       4       R         0076H       Current reversing active peak energy       4       R         0078H       Current reversing active flat energy       4       R	0046H~	Восоми			
0048H       Parity       2       R/W       0001:Odd 0002:Even         0049H~ 004BH       Reserve       Serial Number       4       R/W       SN[14] The last eight bits make up 0.         0050H~ 0050H~ 0067H       Reserve       Reserve       4       R         0068H       Current forward active total energy       4       R         006CH       Current forward active spike energy       4       R         006EH       Current forward active flat energy       4       R         0070H       Current forward active valley energy       4       R       Uint32         0072H       Current reversing active total energy       4       R       Uint32         0074H       Current reversing active total energy       4       R         0076H       Current reversing active spike energy       4       R         0078H       Current reversing active flat energy       4       R	0047H	Reserve			
0049H~ 004BH Reserve   004CH~ 004FH Serial Number 4 R/W SN[14] The last eight bits make up 0.   0050H~ 0067H Reserve   0068H Current forward active total energy 4 R   006AH Current forward active spike energy 4 R   006CH Current forward active peak energy 4 R   006EH Current forward active flat energy 4 R   0070H Current forward active valley energy 4 R   0072H Current reversing active total energy 4 R   0074H Current reversing active spike energy 4 R   0076H Current reversing Active peak energy 4 R   0078H Current reversing active flat energy 4 R					0000:None
0049H~ 004BH       Reserve         004CH~ 004FH       Serial Number       4       R/W       SN[14] The last eight bits make up 0.         0050H~ 0067H       Reserve         0068H       Current forward active total energy       4       R         006AH       Current forward active spike energy       4       R         006CH       Current forward active peak energy       4       R         006EH       Current forward active flat energy       4       R         0070H       Current reversing active total energy       4       R         0072H       Current reversing active total energy       4       R         0074H       Current reversing active spike energy       4       R         0076H       Current reversing Active peak energy       4       R         0078H       Current reversing active flat energy       4       R	0048H	Parity	2	R/W	0001:Odd
Reserve  O04CH~ O04FH  Serial Number  4 R/W  SN[14]  The last eight bits make up 0.  O050H~ O067H  Current forward active total energy  4 R  O06CH  Current forward active peak energy  4 R  O06EH  Current forward active flat energy  4 R  O070H  Current forward active valley energy  4 R  O070H  Current reversing active total energy  4 R  O072H  Current reversing active total energy  4 R  O074H  Current reversing active peak energy  4 R  O076H  Current reversing active spike energy  4 R  O078H  Current reversing active peak energy  4 R  O078H  Current reversing active peak energy  4 R  Current reversing active spike energy  4 R  O078H  Current reversing active flat energy  4 R					0002:Even
004CH~ 004FH Serial Number 4 R/W SN[14] The last eight bits make up 0.   0050H~ 0067H Reserve   0068H Current forward active total energy 4 R   006AH Current forward active spike energy 4 R   006CH Current forward active peak energy 4 R   006EH Current forward active flat energy 4 R   0070H Current forward active valley energy 4 R   0072H Current reversing active total energy 4 R   0074H Current reversing active spike energy 4 R   0076H Current reversing Active peak energy 4 R   0078H Current reversing active flat energy 4 R	0049H~	Reserve			
004CH~ 004FHSerial Number4R/WThe last eight bits make up 0.0050H~ 0067HReserve0068HCurrent forward active total energy4R006AHCurrent forward active spike energy4R006CHCurrent forward active peak energy4R006EHCurrent forward active flat energy4R0070HCurrent forward active valley energy4R0072HCurrent reversing active total energy4R0074HCurrent reversing active spike energy4R0076HCurrent reversing Active peak energy4R0078HCurrent reversing active flat energy4R	004BH	Reserve			
The last eight bits make up 0.  0050H~ 0067H  Reserve  0068H Current forward active total energy 4 R  006AH Current forward active spike energy 4 R  006CH Current forward active peak energy 4 R  006EH Current forward active flat energy 4 R  0070H Current forward active valley energy 4 R  0072H Current reversing active total energy 4 R  0074H Current reversing active spike energy 4 R  0076H Current reversing Active peak energy 4 R  0078H Current reversing active flat energy 4 R  0078H Current reversing active flat energy 4 R	004CH~	Serial Number	4	R/W	SN[14]
D050H~ D067H  Reserve  Current forward active total energy 4 R  D06AH Current forward active spike energy 4 R  D06CH Current forward active peak energy 4 R  D070H Current forward active valley energy 4 R  D072H Current reversing active total energy 4 R  D074H Current reversing active spike energy 4 R  D076H Current reversing active spike energy 4 R  D076H Current reversing active spike energy 4 R  D076H Current reversing Active peak energy 4 R  D078H Current reversing active flat energy 4 R		Serial Tunioei		10 **	The last eight
Reserve  0068H Current forward active total energy 4 R  006AH Current forward active spike energy 4 R  006CH Current forward active peak energy 4 R  006EH Current forward active flat energy 4 R  0070H Current forward active valley energy 4 R  0072H Current reversing active total energy 4 R  0074H Current reversing active spike energy 4 R  0076H Current reversing Active peak energy 4 R  0078H Current reversing active flat energy 4 R	001111				bits make up 0.
0067H         0068H       Current forward active total energy       4       R         006AH       Current forward active spike energy       4       R         006CH       Current forward active peak energy       4       R         006EH       Current forward active flat energy       4       R         0070H       Current forward active valley energy       4       R         0072H       Current reversing active total energy       4       R         0074H       Current reversing active spike energy       4       R         0076H       Current reversing Active peak energy       4       R         0078H       Current reversing active flat energy       4       R		Reserve			
006AH Current forward active spike energy 4 R 006CH Current forward active peak energy 4 R 006EH Current forward active flat energy 4 R 0070H Current forward active valley energy 4 R 0072H Current reversing active total energy 4 R 0074H Current reversing active spike energy 4 R 0076H Current reversing Active peak energy 4 R 0078H Current reversing active flat energy 4 R					T
006CH       Current forward active peak energy       4       R         006EH       Current forward active flat energy       4       R         0070H       Current forward active valley energy       4       R         0072H       Current reversing active total energy       4       R         0074H       Current reversing active spike energy       4       R         0076H       Current reversing Active peak energy       4       R         0078H       Current reversing active flat energy       4       R			-		
006EH       Current forward active flat energy       4       R         0070H       Current forward active valley energy       4       R       Uint32         0072H       Current reversing active total energy       4       R       unit: 0.01kWh         0074H       Current reversing active spike energy       4       R         0076H       Current reversing Active peak energy       4       R         0078H       Current reversing active flat energy       4       R		1 00			
0070H       Current forward active valley energy       4       R       Uint32         0072H       Current reversing active total energy       4       R       unit: 0.01kWh         0074H       Current reversing active spike energy       4       R         0076H       Current reversing Active peak energy       4       R         0078H       Current reversing active flat energy       4       R		1 0,			
0072H Current reversing active total energy 4 R 0074H Current reversing active spike energy 4 R 0076H Current reversing Active peak energy 4 R 0078H Current reversing active flat energy 4 R			4	R	
0074H       Current reversing active spike energy       4       R         0076H       Current reversing Active peak energy       4       R         0078H       Current reversing active flat energy       4       R					
0076H Current reversing Active peak energy 4 R 0078H Current reversing active flat energy 4 R		5 5,	4	R	unit: 0.01kWh
0078H Current reversing active flat energy 4 R	0074H	Current reversing active spike energy	4	R	
	0076H	Current reversing Active peak energy	4	R	
007AH   Current reversing Active valley energy   4   D	0078H	Current reversing active flat energy	4	R	
00/All   Cultent reversing Active valley energy   4   K	007AH	Current reversing Active valley energy	4	R	

007C~0	D			
0AFH	Reserve			
00B0H	Current total reactive energy	4	R	Uint32 unit: 0.01kvarh
00B2H	Current spike reactive energy	4	R	
00B4H	Current peak reactive energy	4	R	
00B6H	Current flat reactive energy	4	R	
00B8H	Current valley reactive energy	4	R	
00BAH	Current forward reactive total energy	4	R	
00BCH	Current forward reactive spike energy	4	R	
00BEH	Current forward reactive peak energy	4	R	
00C0H	Current forward reactive flat energy	4	R	
00C2H	Current forward reactive valley energy	4	R	
00C4H	Current reversing reactive total energy	4	R	
00C6H	Current reversing reactive spike energy	4	R	
00C8H	Current reversing reactive peak energy	4	R	
00CAH	Current reversing reactive flat energy	4	R	
00ССН	Current reversing reactive valley energy	4	R	
00CEH~ 52FFH	Reserve			
5300H	Voltage	4	R	
5302H	Current	4	R	Float Note that the units of power are W, var and VA.
5304H	Active power	4	R	
5306H	Reactive power	4	R	
5308H	Apparent power	4	R	
530AH	power factor	4	R	
530CH	Frequency	4	R	
530EH-	Reserve			
F008H	Keseive			
F009H	Device model	2	R	A200(HEX)

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