ADW2xx series rail type multiloop power instrument

Installation and Operation Instruction V1.1

Acrel Co.,Ltd

DECLARATION

This company reserve power of revision of product specification described in this manual, without notice. Before ordering, please consult local agent for the latest specification of product.
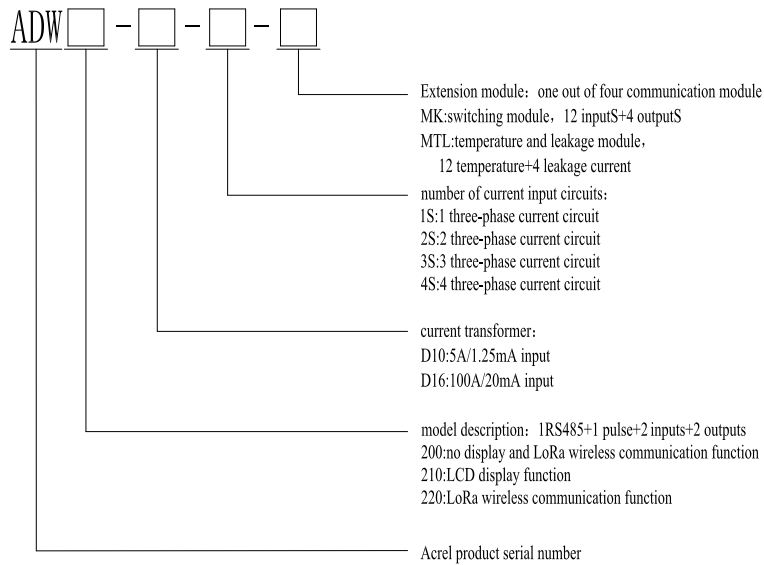
CONTENTS

1 General

ADW2XX series rail type multi-loop power meters are mainly used for measuring the full electric parameters of multiple three-phase circuits,Up to four three-phase loop current inputs can be connected simultaneously.It Can measure voltage and current, power, power factor, phase angle, unbalance, harmonic and other parameters.

2 Product type and specification

2.1 Naming rule

ADW□ - □ - □ - □

Extension module：one out of four communication module
MK:switching module，12 inputS+4 outputS
MTL:temperature and leakage module，
    12 temperature+4 leakage current

number of current input circuits：
1S:1 three-phase current circuit
2S:2 three-phase current circuit
3S:3 three-phase current circuit
4S:4 three-phase current circuit

current transformer：
D10:5A/1.25mA input
D16:100A/20mA input

model description：1RS485+1 pulse+2 inputs+2 outputs
200:no display and LoRa wireless communication function
210:LCD display function
220:LoRa wireless communication function

Acrel product serial number

note: The extended function Module can be selected at most simultaneouslyMK+MTL+AWT Wireless Communication Module (See section 3.1 for optional wireless expansion module).

2.2 Specifications and models of auxiliary transformers

Table 1　Specification model of ADW2xx series auxiliary transformer

Voltage specification	Instrument type	Current specification	Matching current transformer
3×220/380V	ADW2xx-D10-NS(5A)	3×5A	AKH-0.66/K-∅ 10N 0.5s
	ADW2xx-D16-NS(100A)	3×100A	AKH-0.66/K-∅ 16N 0.5s
/	ADW200-MTL	/	AKH-0.66-L-45 1s

3 Product function and Technical parameter

3.1 Product function

✧ Full electric parameter measurement of N(1,2,3,4) three-phase circuit,external Current transformer;

✧ Monitoring three Phase Voltage/Current、Zero sequence Current、Frequency;

✧ Monitoring three Phase power 、total power (active、reactive、apparent);

✧ Monitoring three Phase power-factor、totalpower-factor;

✧ Monitoring Voltage/Current Phase Angle、Voltage/Current Degree of unbalance;

✧ Monitoring Voltage、Current total Harmonic and 2-31 Fractional harmonics;

✧ Record of voltage、current and power extremum of current month and last month;

✧ Maximum Current、Maximum power demand and real time Current、real time power demand;

✧ 200 event records,Record the action of DIDO;

✧ Support over-voltage, over-current, phase failure,DI linkage and other alarm output;

◇ 4 time zones 14 Periods rate setting;

◇ Four quadrant electric energy,12-month multi rate electric energy;

◇ 31 days four quadrant and multi rate electric energy freezing;

◇ 2 channel Switching inputs、2 channel Switching outputs、RS485、Active pulse output(Switchable corresponding circuit).

The following auxiliary functions can be extended through its RJ45 interface:

◇ (MK)　　　　　　　12 channel Switching inputs+4 channel Switching outputs;

◇ (MTL)　　　　　　12 channel external NTC temperature +4 channel residual current measurement (leakage current);

◇ (AWT100-2G)　　　2G Wireless Communication

◇ (AWT100-4G)　　　4G Wireless Communication

◇ (AWT100-NB)　　　NB-IoT Wireless Communication

◇ (AWT100-LoRa)　　LoRa Wireless Communication

◇ (AWT100-LW)　　　LoRaWAN Wireless Communication

3.2 Subject Technical parameters

Table 2　ADW2xx series subject Technical parameter

Auxiliary power			AC/DC 85～265V;consumption≤10VA;
input	Frequency		45～65Hz;
	Voltage		AC 3×220V/380V;
			Overload: 1.2 times of rated value (continuous); 2 times of rated value / 1s;
			Power consumption:≤ 0.5VA;
	Current		AC 5A、100A;(External opening transformer)
			Overload: 1.2 times of rated value (continuous); 10 times of rated value / 1s;
			Power consumption:≤ 0.5VA;
measurement accuracy			Frequency 0.05Hz, voltage and current 0.5 level, active electric energy level 1, reactive electric energy level 2; 2-31 times harmonic accuracy: ± 1%;
Features	Pulse output		Output mode: optocoupler pulse with open collector; pulse constant can be set;
	Communication		RS485、Modbus-RTU;Baud rate 1200～38400;
	Switching	input	Dry contact input、Built in power supply;
		output	Output mode:Relay normally open contact output; contact rating:AC 250V/3A　DC 30V/3A;

3.3 Module technical parameters

Table 3 ADW2xx series Module technical parameters

Switching Module	Power	RJ45 interface、DC 12V、Power consumption≤1W;
	Communication	RJ45 interface、Modbus-RTU;(Communication with the main Part)
	Switching input	Dry contact input、Built in power supply;
	Switching output	Output mode:Relay normally open contact output; contact rating:AC 250V/3A　DC 30V/3A;

Temperature and leakage module	Power	RJ45 interface、DC 12V、Power consumption≤1W
	Communication	RJ45 interface、Modbus-RTU;(Communication with the main Part)
	temperature measurement	-20～100℃;
	Leakage measurement	10～3000mA;
	measurement accuracy	temperature ±2℃、Leakage 1.0%;

3.4 Other technical parameters

Table 4 Other technical parameters

Safety	Power frequency withstand voltage	>AC 2kV/1min;
	Insulation resistance	>100MΩ;
Environment		working temperature:-20℃～+60℃; Storage temperature:-40℃～+70℃; relative humidity:≤95%　No condensation; Altitude:≤2500m;
electromagnetic compatibility		Better than grade 3;

4 Dimension and installation instructions

4.1 Dimension(unit:mm)

(1) ADW2xx series main part and Module dimensions
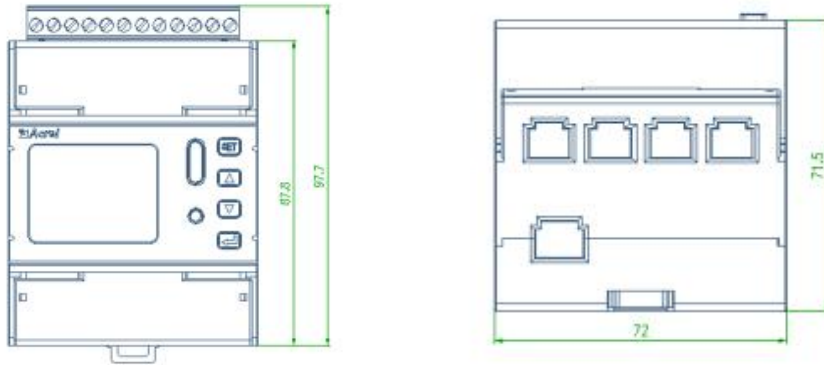
Picture 1   ADW2xx series main part dimensions

Picture 2   ADW2xx series Module dimensions

Table 5　ADW2xx series main part and Module dimensions

	Dimension(mm)				Rail size(mm)	tolerance(mm)
	long	width	high	With terminal length		
ADW2xx	87.8	72	71.5	97.7	35	±1
ADW2xx Module	87.8	36	71.5	105.5	35	

(2) dimension of transformer
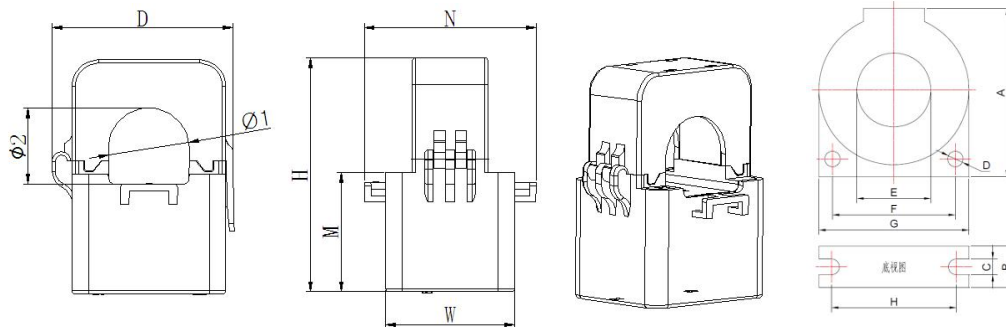
Table 6　dimension of transformer

Current Transformer	Dimension(mm)					Perforation size (mm)		tolerance(mm)
	W	H	D	M	N	Φ1	Φ2	
AKH-0.66/K-∅ 10N	27	44	32	25	36	10	9	±1
AKH-0.66/K-∅ 16N	31	50	36	27	42	16	17	

Residual Current Transformer	Current	A/mm	B/mm	C/mm	D/mm	E/mm	F/mm	G/mm	H/mm	weight /kg
AKH-0.66-L-45 1s	16-100	77	25	5	6	45	64	75	68	0.18

4.2 Installation instructions

Adw2xx installation mode is rail type; Up to 4 three-phase current connections
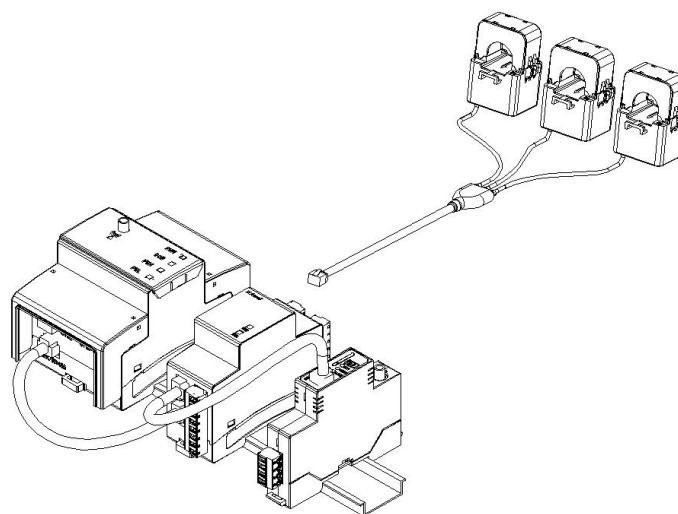
Picture 4 Guide rail installation

4.3 Wiring instructions

The terminal block is shown in the figure below
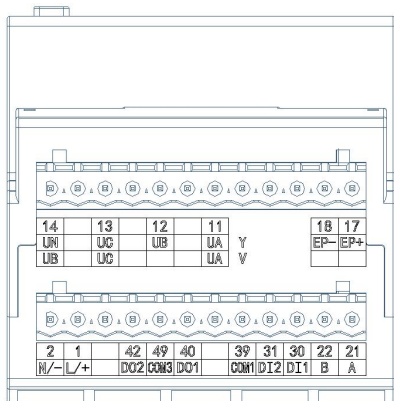
Picture 5   subject connecting terminal
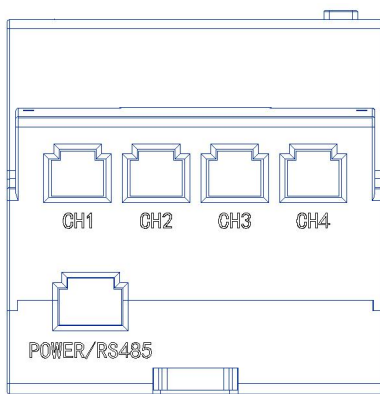
picture 6   Module connecting terminal
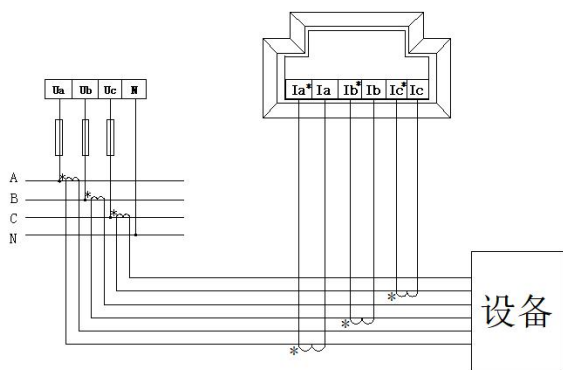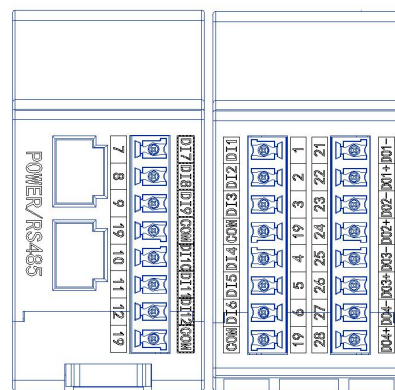
Picture 7 Three-phase four-wire (secondary current access)
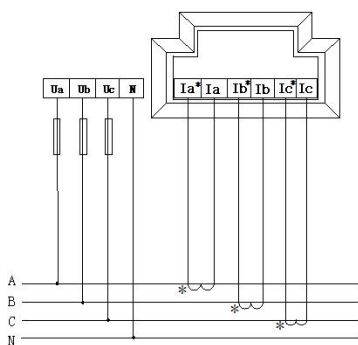
Picture 8 Three-phase four-wire (direct current connection)
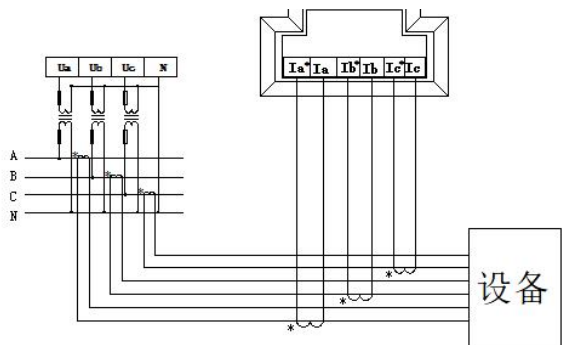
Picture 9 Three-phase four-wire
(secondary connection of voltage and current)
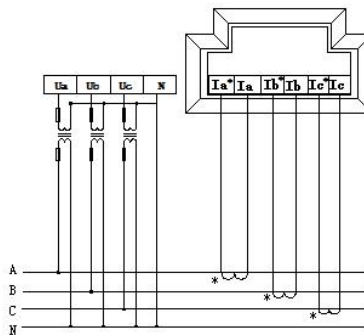
Picture 10 Three-phase four-wire
(direct connection of voltage and current)
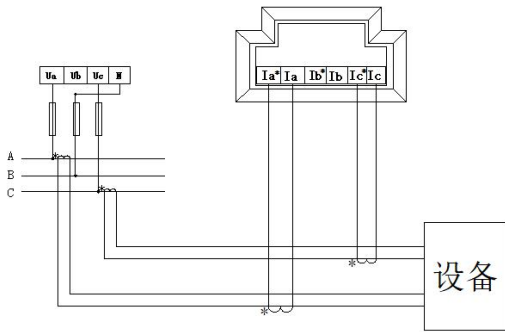
Picture 11 Three-phase three-wire
(current is connected via transformer)
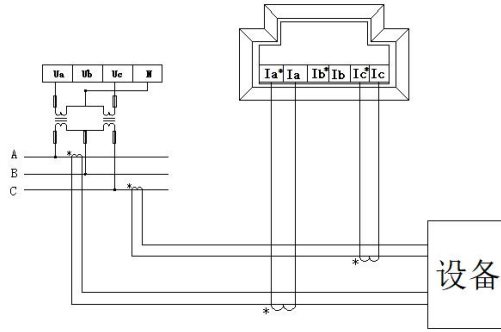
Picture 12 Three-phase three-wire
(voltage and current are connected through the transformer)

5 How to use

5.1 Panel description

SET key(SET)	In measurement mode, press this key to enter programming mode. The meter prompts for a password. After entering the correct password (0001), the meter can be programmed. In programming mode, it is used to return to the previous menu.
Up key(▲)	In measurement mode, for switching circuits; In programming mode, it is used to switch the number of digits in the same level menu or data..
Down key(▼)	In measurement mode, it is used to switch display items; In programming mode, it is used to switch the menu of the same level or increase the number of digits..
ENTER key(↵)	In measurement mode, it is used to switch display items; In programming mode, it is used to confirm the selection of menu items and confirm the modification of parameters..

5.2 Display description

The following figure is the screen when all character fields and indication contents are all lit.
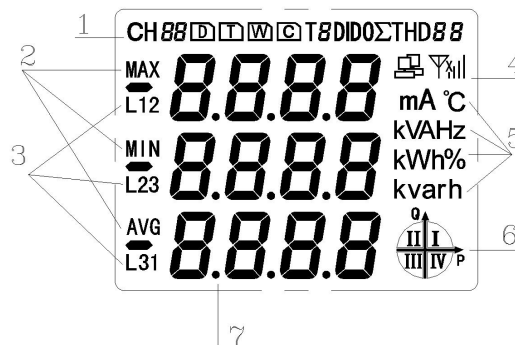
picture 13

Table 7

Number	Display content	Description
1	CH01,CH02,CH03,CH04	Circuit 1-4
	Σ	sum
	I/P/Q/S/PF/U/HZ/	Identifies the content displayed in the current measurement data display area 88:Current/Active power/Reactive power/apparent power/power-factor/Voltage/Frequency
	THD88	Number of harmonics
	D,T,W,C	Type of expansion module:D: SwitchingModule ,T: Temperature measurement module ,W :Wireless communication module ,C: RS485
	T1,T2,T3,T4	Current rate:T1 tip,T2 peak,T3 level,T4 Valley
2	MAX/MIN/AVG	Max / Min / Average Record
3	L1,L2,L3,L12,L23,L31	L1,L2,L3 Phase value,L12,L23,L31 Line value
4		When lit, it indicates that the current communication is normal
5	Indicate the unit of measurement data	Current:A,kA;Voltage:V,Kv;Active power:KW,MW;mA:Milliamp;°C:temperature,Reactive power:Kvar,MVar;apparent power:KVA,MVA;percentage:%
6	angle	Four-quadrant power
7	Measurement data display area	Current, voltage, power, power factor, time, parameter settings, etc.

5.3 Information view

5.3.1 The meter measures voltage, current, power, power factor, frequency, demand, electric energy, extreme value and other electrical parameters, which can be viewed through the meter screen, but some parameters can only be read through communication. For specific information, see the address information table.

An example of the display of basic power is shown below
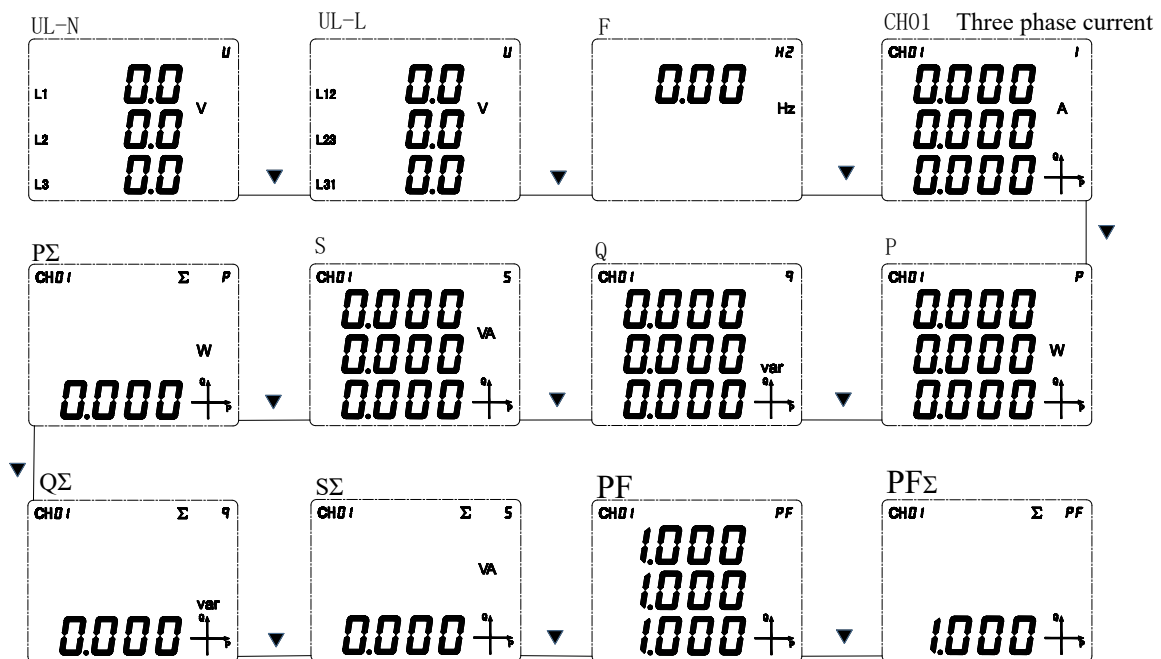
Note:1."L1","L2","L3" represents three-phase voltage

2. "CH01","CH02","CH03","CH04" represents four circuits

3. To view the electrical parameters of the remaining circuits, press the "▲" button to switch to view, for example: to view the three-phase current of the remaining circuit, you can operate to the three-phase current of circuit 1 as shown above, and then press the "▲" button to switch to view the remaining Three-phase current of the loop, as shown below

Three phase current of loop 1

CH01   I
0.000
0.000 A
0.000 ⊣⊢

▲

Three phase current of loop 2

CH02   I
0.000
0.000 A
0.000 ⊣⊢

▲

Three phase current of loop 3

CH03   I
0.000
0.000 A
0.000 ⊣⊢

▲

Three phase current of loop 4

CH04   I
0.000
0.000 A
0.000 ⊣⊢
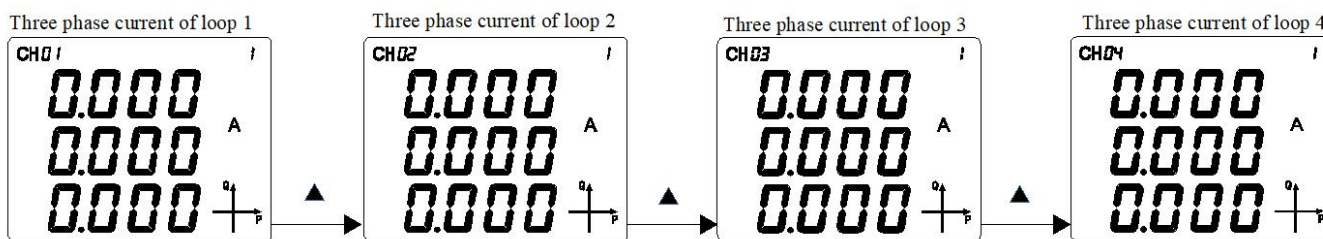
5.3.2 ELectric energy metering

The meter can measure A / B / C phase positive active energy, forward total active energy, A / B / C reverse active energy, reverse total active energy, A / B / C phase positive reactive energy, forward Total reactive energy, A / B / C reverse reactive energy, reverse total reactive energy, voltage / current fractional harmonics. Users can manually reset the clear energy data according to their own needs (requires user password).

Phase voltage

L1 0.0 V
L2 0.0
L3 0.0 ↵

A Phase positive active energy
CH01
EP,A
kWh
0.0.0 ⊣⊢ ▼

B Phase positive active energy
CH01
EP,b
kWh
0.00 ⊣⊢ ▼

C Phase positive active energy
CH01
EP,C
kWh
0.00 ⊣⊢ ▼

C Phase reverse active energy
CH01
EPEC
kWh
0.00 ⊣⊢ ▼

B Phase reverse active energy
CH01
EPEb
kWh
0.00 ⊣⊢ ▼

A Phase reverse active energy
CH01
EPEA
kWh
0.00 ⊣⊢ ▼

Positive total active energy ▼
CH01
EP,
kWh
0.00 ⊣⊢

▼

reverse total active energy
CH01
EPE
kWh
0.00 ⊣⊢ ▼

A Phase positive reactive energy
CH01
EQLA
kvarh
0.00 ⊣⊢ ▼

B Phase positive reactive energy
CH01
EQLb
kvarh
0.00 ⊣⊢ ▼

C Phase positive reactive energy
CH01
EQLC
kvarh
0.00 ⊣⊢ ▼

C Phase reverse reactive energy
CH01
EQCC
kvarh
0.00 ⊣⊢ ▼

B Phase reverse reactive energy
CH01
EQCb
kvarh
0.00 ⊣⊢ ▼

A Phase reverse reactive energy
CH01
EQCA
kvarh
0.00 ⊣⊢ ▼

positive total reactive energy ▼
CH01
EQL
kvarh
0.00 ⊣⊢

▼

reverse total reactive energy
CH01
EQC
kvarh
0.00 ⊣⊢ ↵

Voltage harmonics
CH01   THDU
0.00
0.00
0.00 ↵

Current harmonics
CH01   THD I
0.00
0.00
0.00 ↵

Press Enter in any interface to directly reach the harmonic interface

Note:For electrical parameters of other circuits, refer to 5.3.1 Note 3

5.4 Setting Options

The detailed description of the setup menu is shown below.

First level	second level	Third level	Description
SYS	**CodE**	0～9999	password
	PLUS	1600～6400	Pulse constant
	bLCd	0～250s	Backlight duration
	AP	L1 L2 L3 L4 t,mE 1L1 1L2 1L3 1L4	Energy pulse selection L1-L4:Active energy pulses in 4 loops **t,mE**: Clock pulse 1L1-1L4:1L represents one degree of active energy and one pulse,1-4 represent 4 circuits
	CLr	6401: Clear Demand records 6402: Clear Extreme Record 6403: Clear Historical power 6404: Clear Frozen data 6405: Clear power 6406: Clear Multiple rates electricity 6407: Clear event records	Clear records
in	**LinE**	3P4L:3 phase 3 wire 3P3L:3 phase 4 wire	Wiring
	U.Pri	220-65000V	One-time voltage rating
	U.SEC	220-65000V	Secondary voltage rating
	i.Pri	5-50000A	Measure the current rating at one time, there are four circuits
	i.SEC	5A、100A	Secondary test current rating
	U.nom	220-65000V	Nominal secondary voltage
	F.nom	45-65Hz	Nominal frequency
Com1	**Addr**	1～247	Communication address
	bAUd	1200,2400,4800,9600,19200,38400	Communication Baud rate
	dAtA	n.8.2 :	Communication Check mode

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		no check,2 Stop bit **n.8.1** : no check,1 Stop bit **o.8.1** :Odd parity **E.8.1** :Even parity	
dᴍd	**ᴍodE**	**SLiP** :slip **Fiᴚ** :fix	Demand mode
	ᴚid	1-999s	Demand slip Time
	Pd	1-30s	Demand Time
do-1 **do-2**	**SEL**	0:remote control 1-34:alarm	Alarm working mode (See section 5.4.6)
	AL.CH	CH1-4	Alarm loop
	dLY	0-9999	delay
	bAnd	1	Alarm hysteresis
	AL.Hi	999	High alarm setting
	AL.Lo	0	Low alarm set point
	In.≝0	ON or OFF	Zero alarm enable

5.4.1 Enter programming mode

Display interface

L1	**0.0**	u
L2	**0.0**	V
L3	**0.0**	

SET →

Enter the password input interface, the flashing part is the password input part

CodE
0000

▼ →

input password
（Initial password 0001）

CodE
0001

↵ →

Enter programming interface

SYS
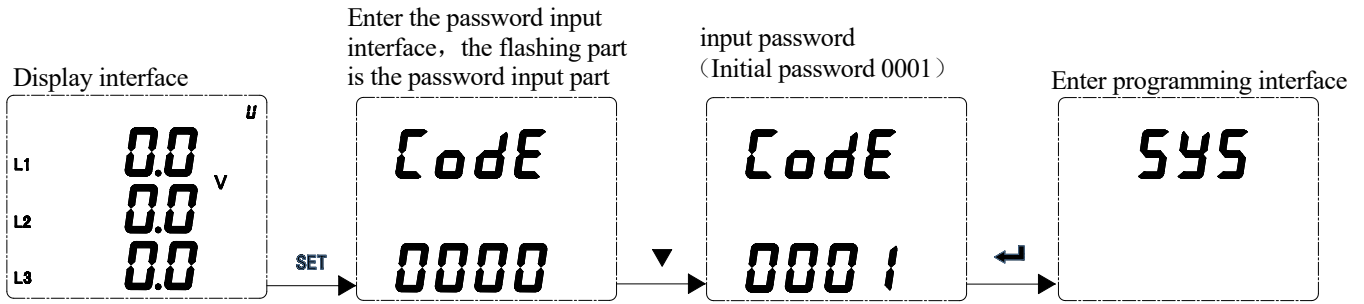
5.4.2 Modify User password,pulse constant,backlight duration,selection of electric energy pulse and clear record.

Programming interface

SYS

SET →

User password interface

SYS
CodE

↵ →

Press the up and down keys to modify the password

SYS
CodE
112

▲ ▼

Pulse constant interface

SYS
PLUS

↵ →

Press the up and down keys to modify the Pulse constant

SYS
PLUS
1600

▲ ▼

Backlight duration interface

SYS
bLCd

↵ →

Press the up and down keys to modify the Backlight duration

SYS
bLCd
250

When set to 0, the backlight is always on. When set to 1-9999, the backlight is off after 1-9999 seconds.

▲ ▼

Selection of electric energy pulse interface

SYS
AP

↵ →

Press the up and down keys to modify the Selection of electric energy pulse

SYS
AP
L1

L1,L2,L3,L4:electric energy pulse of 4 circuits
time:Clock pulses
1L1,1L2,1L3,1L4:one pulse per kilowatt hour of 4 circuits

▲ ▼

Clear record interface

SYS
CLr

↵ →

Press the up and down keys to modify the Clear record

SYS
CLr
6401

6401：clear demand record
6402：clear Extreme record
6403：clear historical electric energy
6404：clear freezing data
6405：clear electric energy
6406：clear multi electric energy
6407：clear event record

5.4.3 Modify Connection Mode,One(two)-time voltage(Current) rating,Nominal secondary voltage and Nominal frequency.
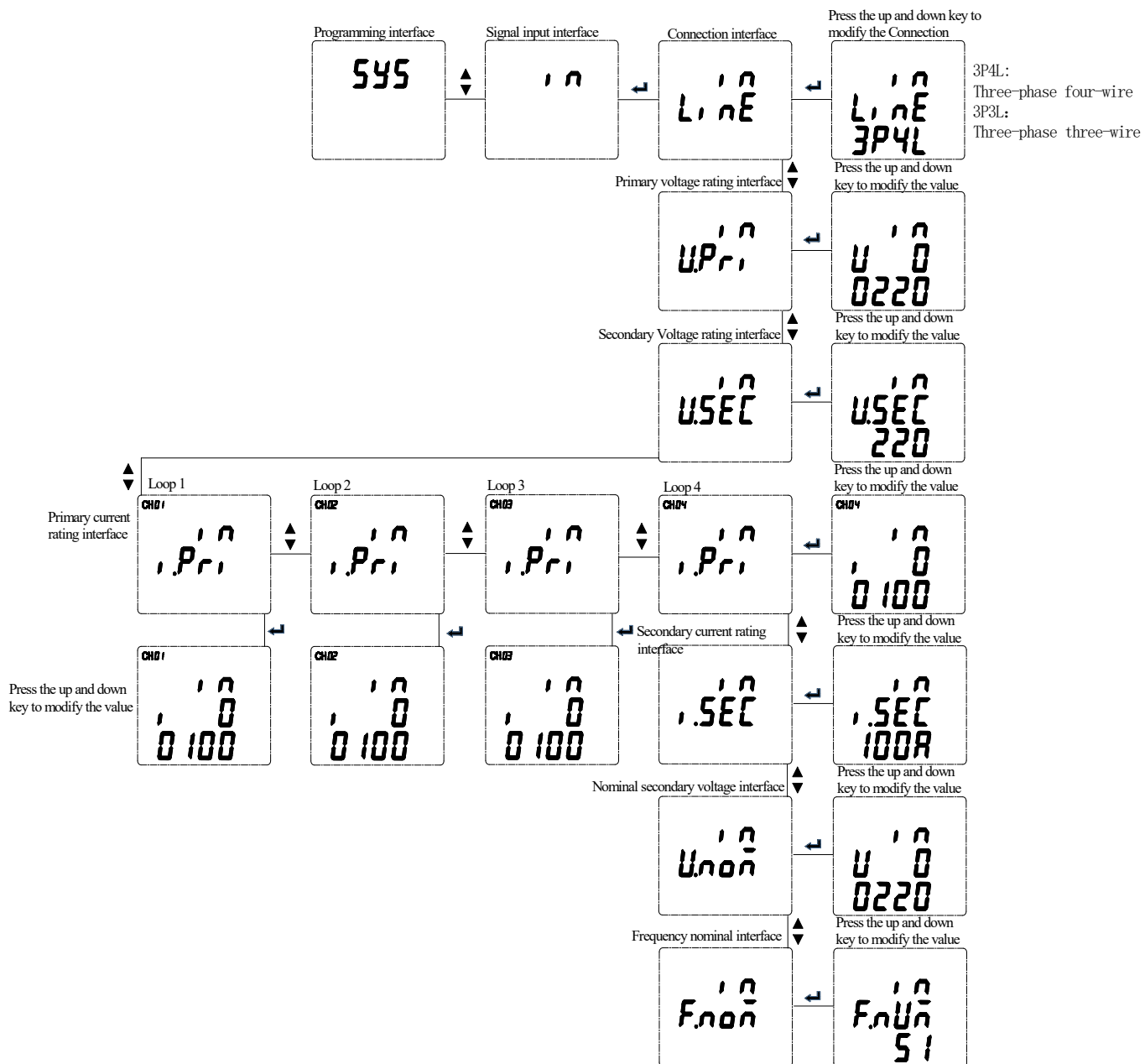
5.4.4 Modify Communication Address, Baud Rate and Check mode.

Programming interface

SYS

Communication interface

bUS

Communication address interface

bUS Addr

modify the Communication address

bUS Addr 015

Press the up and down keys to modify the Baud rate

Baud rate interface

bUS bAud

bUS bAud 1.2

1. 2： 1200
2. 4： 2400
4. 8： 4800
9. 6： 9600
19. 2： 19200
38. 4： 38400

Press the up and down keys to modify the Communication check

Communication check interface

bUS dAtA

bUS dAtA n.8.1

n.8.2： no check,2 stop bit
n.8.1： no check,1 stop bit
o.8.1： odd check
E.8.1： even check

5.4.5 Modify Demand mode ,Slip Time and Computing Time.

Programming interface

SYS

Demand interface

dnd

Working mode interface

dnd nodE

Press the up and down keys to modify the working mode

dnd nodE SLiP

SLiP :Silp
FiY :fix

Press the up and down keys to modify the Silp time

Silp time interface

dnd Yid

dnd Yid 50

Press the up and down keys to modify the Computing time

Computing time interface

dnd Pd

dnd Pd 15
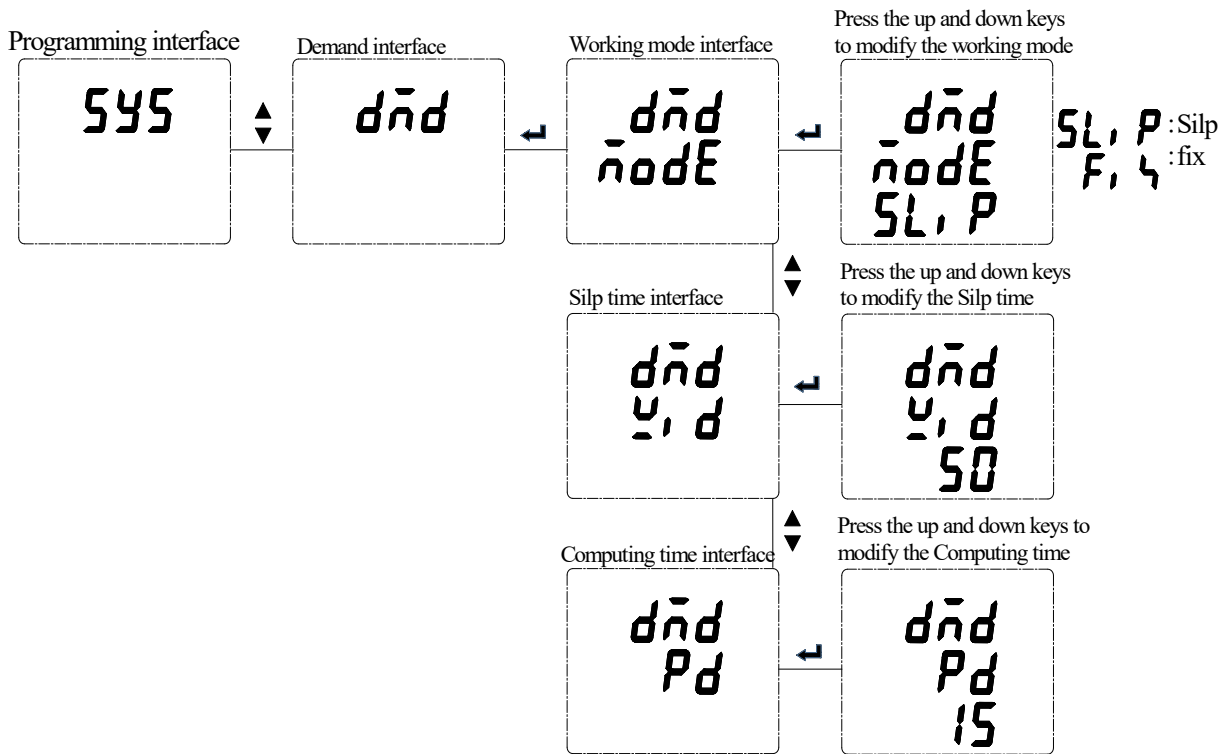
5.4.6 Modify Switching Working mode,Alarm circuit ,Delay Time,Hysteresisi,HIGH alarm ,LOW alarm and Zero alarm enable.

Programming interface

Alarm operation mode interface

Press the up and down keys to modify the working mode

1 channel alarm

```
5YS
```

```
do-1
```

```
do-1
SEL
```

```
do-1
SEL
0. do
```

0：remote
1-33：alarm
（See table 8
for details）

2 channel alarm

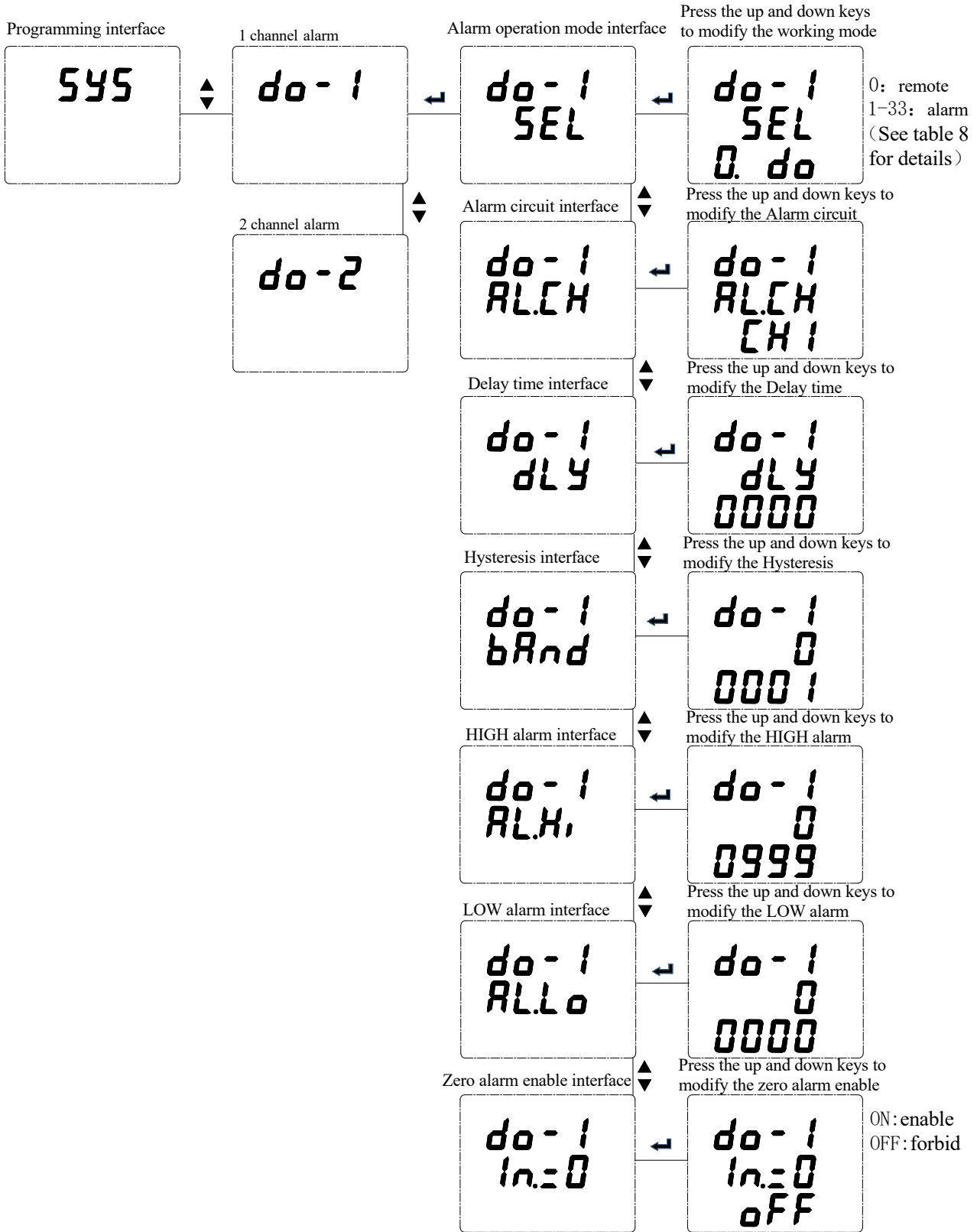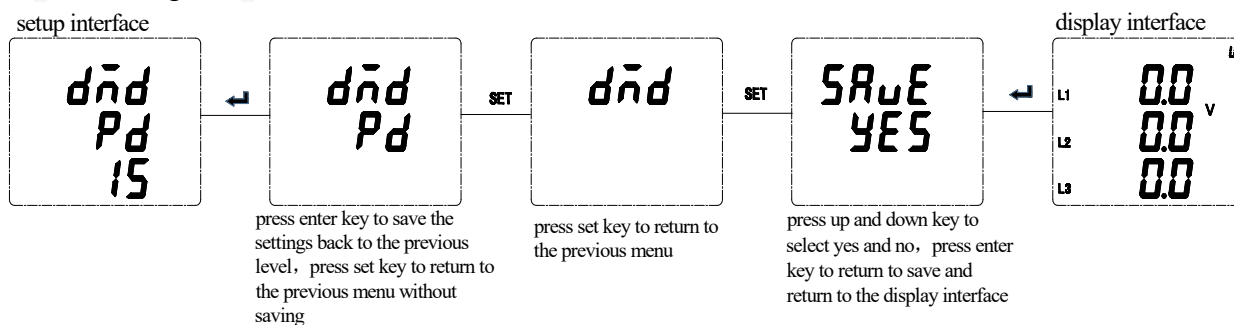Alarm circuit interface

Press the up and down keys to modify the Alarm circuit

```
do-2
```

```
do-1
AL.CH
```

```
do-1
AL.CH
CH1
```

Delay time interface

Press the up and down keys to modify the Delay time

```
do-1
dLY
```

```
do-1
dLY
0000
```

Hysteresis interface

Press the up and down keys to modify the Hysteresis

```
do-1
bAnd
```

```
do-1
0
0001
```

HIGH alarm interface

Press the up and down keys to modify the HIGH alarm

```
do-1
AL.Hi
```

```
do-1
0
0999
```

LOW alarm interface

Press the up and down keys to modify the LOW alarm

```
do-1
AL.Lo
```

```
do-1
0
0000
```

Zero alarm enable interface

Press the up and down keys to modify the zero alarm enable

```
do-1
In.=0
```

```
do-1
In.=0
oFF
```

ON：enable
OFF：forbid

Table 8

do.1	1 channel Switching
AL.CH	Selection of circuit

14

	Alarm item settings								
	00	01	02	03	04		05	06	07
	remote control	UA	UB	UC	phase voltage maximum value		UAB	UBC	UCA
	08		09	10	11	12		13	14
	line voltage maximum value		IA	IB	IC	current maximum value		PA	PB
	15	16	17	18	19	20	21	22	23
	PC	Psum	QA	QB	QC	Qsum	SA	SB	SC
	24	25	26	27	28	29	30		31
SEL	Ssum	PFA	PFB	PFC	PFsum	F	Voltage imbalance		Current imbalance
	32			33			34		
	DI1(linkage)			DI2(linkage)			Segment Phase		
	The corresponding channel "In.=0" needs to be set to "Lo.on"						The second way DO can be set		
dLY	When the alarm item SEL is 00 (remote control), DLY indicates the duration after the switching amount is activated. When the alarm item SEL is not 00 (alarm), DLY indicates the delay time before the switching action.								
bAnd	Hysteresis setting								
AL.Hi	High alarm value setting (do not set the maximum 9999)								
AL.Lo	Low alarm value setting (do not set minimum 0)								
In.=0	Whether low alarm is allowed when the signal is 0, Lo.on is enabled, Lo.of is forbidden								

5.4.7 Save settings and exit

setup interface

press enter key to save the settings back to the previous level，press set key to return to the previous menu without saving

press set key to return to the previous menu

press up and down key to select yes and no，press enter key to return to save and return to the display interface

display interface

6 Communication instruction

6.1 Communication address

The specific ADW2XX Register addresses are listed below:

Word address	Variable	word size	Read / write	Unit	Data type	Default value	Notes
00H	Communication address	1	R/W		uint16_t	1	1-247
01H	Communication Baud rate	1	R/W		uint16_t	3:9600	0:1200 1:2400 2:4800 3:9600 4:19200 5:38400
02H	Communication Check mode	1	R/W		uint16_t	0	0:N 8 1 1:E 8 1 2:O 8 1 3:N 8 2

03H	Reserve	1	R/W				
04H	Reserve	1	R/W				
05H	Backlight duration	1	R/W	S	uint16_t	30	0-250S,0 represent Constant brightness
06H-07H	Master sends	2	R		uint32_t		
08H-09H	Reserve	2	R		uint32_t		
0AH-0BH	Reserve	2	R/W				
0CH	Number of electrical pulses per degree	1	R/W		uint16_t	1	1,10,100
0DH	Spreading factor	1	R/W		uint16_t	9	7-12
0EH	Channel	1	R/W		uint16_t	5	0-45
0FH	Wiring	1	R/W		uint16_t	0	0:3P4L 2:3P3L
10H	Clear records	1	W		uint16_t		0x6401: Clearance demand records 0x6402: Clearing extreme records 0x6403: Clearing Historical Power 0x6404: Clearing Frozen data 0x6405: Clearing Power 0x6406: Clearing Multiple rates electricity 0x6407: Clearing event records
11H	Pulse constant	1	R/W		uint16_t	1600	1600-6400
12H	Energy pulse selection	1	R/W		uint16_t	0	0:L1 Loop active energy pulse 1:L2 Loop active energy pulse 2:L3 Loop active energy pulse 3:L4 Loop active energy pulse 4: Clock pulse 5:L1 Loop active electrical energy once for one pulse 6:L2 Loop active electrical energy once for one pulse 7:L3 Loop active electrical energy once for one pulse 8:L4 Loop active electrical energy once for one pulse
13H	One-time voltage rating	1	R/W	V	uint16_t	220	220-65000V
14H	L1 Primary Current rating	1	R/W	A	uint16_t	100	5-50000A
15H	L2 Primary Current rating	1	R/W	A	uint16_t	100	5-50000A
16H	L3 Primary Current rating	1	R/W	A	uint16_t	100	5-50000A
17H	L4 Primary Current rating	1	R/W	A	uint16_t	100	5-50000A
18H	Secondary Current	1	R/W	A	uint16_t	100	5A、100A

	rating						
19H	Secondary Voltage Nominal value	1	R/W	V	uint16_t	220	220-65000V
1AH	Frequency Nominal value	1	R/W	Hz	uint16_t	50	
1BH	Phase loss alarm set value	1	R/W	V	uint16_t	10	
1CH	Relay DO1 alarm selection circuit number	1	R/W		uint16_t	0	0x00:CH1 0x01:CH2 0x02:CH3 0x03:CH4
1DH	#1 Relay DO1 working mode	1	R/W		uint16_t	0	0: remote control 1-34:alarm(For details, see 5.4.6)
1EH	#1 Delay time	1	R/W	S	uint16_t	0	0-9999
1FH	#1 Alarm hysteresis	1	R/W		uint16_t	1	Consistent with the rated value of one measurement
20H	#1 High alarm setting	1	R/W		uint16_t	999	Consistent with the rated value of one measurement
21H	#1 Low alarm set point	1	R/W		uint16_t	0	Consistent with the rated value of one measurement
22H	#1 Zero alarm enable	1	R/W		uint16_t	0	0:Forbid 1:Enable
23H-29H	#2 Relay DO2 configuration	7	R/W		uint16_t		Same as relay 1
2AH	#DO1_S1	1	R/W				Relay state setting of digital module 1 0:open 1:close
2BH	#DO2_S1	1	R/W				
2CH	#DO3_S1	1	R/W				
2DH	#DO4_S1	1	R/W				
2EH	#DO1_S2	1	R/W				Relay state setting of digital module 2 0:open 1:close
2FH	#DO2_S2	1	R/W				
30H	#DO3_S2	1	R/W				
31H	#DO4_S2	1	R/W				
32H	Year/Months	1	R/W		uint16_t		
33H	Day/ week	1	R/W		uint16_t		
34H	Time/Minutes	1	R/W		uint16_t		
35H	second/Reserve	1	R/W		uint16_t		
36H	DI1	1	R/W		uint16_t		
37H	DI2	1	R/W		uint16_t		
38H	Day freeze time	1	R/W		uint16_t	0x0016	High byte:Reserve Low byte:hour
39H	Demand mode	1	R/W		uint16_t	0	0: Slip type 1: Fixed type
3AH	Demand slip time (t)	1	R/W		uint16_t	60	1-9999S
3BH	Demand calculation cycle (T)	1	R/W		uint16_t	15	1-30t
3CH	DO1	1	R/W		uint16_t		0:open 1:close
3DH	DO2	1	R/W		uint16_t		0:open 1:close

Address	Variable		word size	Read / write		Data type		Notes

3EH	Reserve	1					
3FH-45H	First timetable Start time of period 1:Day Start time of period 1:Months …… Fourth of timetable Start time of period 4:Day Start time of period 4:Months	3x4	R/W		uint8_t		timetable: 01 correspond First 02 correspond Second
46H-5BH	First timetable: Period 1 Rate Number Start time of period 1:Minutes Start time of period 1:Time …… Period 14 Rate Number Start time of period 14:Minutes Start time of period 14:Time	3x14	R/W		uint8_t		Rate number: 01 correspond tip 02 correspond peak 03 correspond level 04 correspond Valley
5CH-70H	Second timetable: Period 1 Rate Number Start time of period 1:Minutes Start time of period 1:Time …… Period 14 Rate Number Start time of period 14:Minutes Start time of period 14:Time	3x14	R/W		uint8_t		Rate number: 01 correspond tip 02 correspond peak 03 correspond level 04 correspond Valley
71H	Meter reading day	1	R/W		uint16_t	0x1C13	Time-Day
72H-78H	Instrument serial number	7*2	R/W		Uint8_t	Acrel000 001234	ASCII code

Power parameter of loop 1:

Address	Variable	word size	Read / write	Unit	Data type
100-101	CH01 A Phase Voltage	2	R	V	float
102-103	CH01 B Phase Voltage	2	R	V	float
104-105	CH01 C Phase Voltage	2	R	V	float
106-107	CH01 AB line Voltage	2	R	V	float

108-109	CH01 BC line Voltage	2	R	V	float
10A-10B	CH01 CA line Voltage	2	R	V	float
10C-10D	CH01 Frequency	2	R	Hz	float
10E-10F	CH01 A Phase Current	2	R	A	float
110-111	CH01 B Phase Current	2	R	A	float
112-113	CH01 C Phase Current	2	R	A	float
114-115	CH01 Zero sequence Current	2	R	A	float
116-117	CH01 A Phase Active power	2	R	W	float
118-119	CH01 B Phase Active power	2	R	W	float
11A-11B	CH01 C Phase Active power	2	R	W	float
11C-11D	CH01 total Active power	2	R	W	float
11E-11F	CH01 A Phase Reactive power	2	R	Var	float
120-121	CH01 B Phase Reactive power	2	R	Var	float
122-123	CH01 C Phase Reactive power	2	R	Var	float
124-125	CH01 total Reactive power	2	R	Var	float
126-127	CH01 A Phase apparent power	2	R	VA	float
128-129	CH01 B Phase apparent power	2	R	VA	float
12A-12B	CH01 C Phase apparent power	2	R	VA	float
12C-12D	CH01 total apparent power	2	R	VA	float
12E-12F	CH01 A Phase power-factor	2	R		float
130-131	CH01 B Phase power-factor	2	R		float
132-133	CH01 C Phase power-factor	2	R		float
134-135	CH01 total power-factor	2	R		float
136-137	CH01 A Phase Positive active energy	2	R	kWh	float
138-139	CH01 B Phase Positive active energy	2	R	kWh	float
13A-13B	CH01 C Phase Positive active energy	2	R	kWh	float
13C-13D	CH01 total Positive active energy	2	R	kWh	float
13E-13F	CH01 A Phase Reverse active energy	2	R	kWh	float
140-141	CH01 B Phase Reverse active energy	2	R	kWh	float
142-143	CH01 C Phase Reverse active energy	2	R	kWh	float
144-145	CH01 total Reverse active energy	2	R	kWh	float
146-147	CH01 A Phase Forward reactive energy	2	R	kvarh	float
148-149	CH01 B Phase Forward reactive energy	2	R	kvarh	float
14A-14B	CH01 C Phase Forward reactive energy	2	R	kvarh	float
14C-14D	CH01 total Forward reactive energy	2	R	kvarh	float
14E-14F	CH01 A Phase Reverse reactive energy	2	R	kvarh	float
150-151	CH01 B Phase Reverse reactive energy	2	R	kvarh	float
152-153	CH01 C Phase Reverse reactive energy	2	R	kvarh	float
154-155	CH01 total Reverse reactive energy	2	R	kvarh	float

Electrical parameters for loops 2, 3, 4:Power parameter of reference circuit 1:

156-157	CH02 A Phase Voltage	1AC-1AD	CH03 A Phase Voltage	202-203	CH04 A Phase Voltage
158-159	CH02 B Phase Voltage	1AE-1AF	CH03 B Phase Voltage	204-205	CH04 B Phase Voltage
15A-15B	CH02 C Phase Voltage	1B0-1B1	CH03 C Phase Voltage	206-207	CH04 C Phase Voltage
15C-15D	CH02 AB Line Voltage	1B2-1B3	CH03 AB Line Voltage	208-209	CH04 AB Line Voltage
15E-15F	CH02 BC Line Voltage	1B4-1B5	CH03 BC Line Voltage	20A-20B	CH04 BC Line Voltage

160-161	CH02 CA Line Voltage	1B6-1B7	CH03 CA Line Voltage	20C-20D	CH04 CA Line Voltage
162-163	CH02 Frequency	1B8-1B9	CH03 Frequency	20E-20F	CH04 Frequency
164-165	CH02 A Phase Current	1BA-1BB	CH03 A Phase Current	210-211	CH04 A Phase Current
164-165	CH02 B Phase Current	1BC-1BD	CH03 B Phase Current	212-213	CH04 B Phase Current
166-167	CH02 C Phase Current	1BE-1BF	CH03 C Phase Current	214-215	CH04 C Phase Current
168-169	CH02 Zero sequence Current	1C0-1C1	CH03 Zero sequence Current	216-217	CH04 Zero sequence Current
16A-16B	CH02 A Phase Active power	1C2-1C3	CH03 A Phase Active power	218-219	CH04 A Phase Active power
16C-16D	CH02 B Phase Active power	1C4-1C5	CH03 B Phase Active power	21A-21B	CH04 B Phase Active power
16E-16F	CH02 C Phase Active power	1C6-1C7	CH03 C Phase Active power	21C-21D	CH04 C Phase Active power
170-171	CH02 total Active power	1C8-1C9	CH03 total Active power	21E-21F	CH04 total Active power
172-173	CH02 A Phase Reactive power	1CA-1CB	CH03 A Phase Reactive power	220-221	CH04 A Phase Reactive power
174-175	CH02 B Phase Reactive power	1CC-1CD	CH03 B Phase Reactive power	222-223	CH04 B Phase Reactive power
176-177	CH02 C Phase Reactive power	1CE-1CF	CH03 C Phase Reactive power	224-225	CH04 C Phase Reactive power
178-179	CH02 total Reactive power	1D0-1D1	CH03 total Reactive power	226-227	CH04 total Reactive power
17A-17B	CH02 A Phase apparent power	1D2-1D3	CH03 A Phase apparent power	228-229	CH04 A Phase apparent power
17C-17D	CH02 B Phase apparent power	1D4-1D5	CH03 B Phase apparent power	22A-22B	CH04 B Phase apparent power
17E-17F	CH02 C Phase apparent power	1D6-1D7	CH03 C Phase apparent power	22C-22D	CH04 C Phase apparent power
180-181	CH02 total apparent power	1D8-1D9	CH03 total apparent power	22E-22F	CH04 total apparent power
182-183	CH02 A Phase power-factor	1DA-1DB	CH03 A Phase power-factor	230-231	CH04 A Phase power-factor
184-185	CH02 B Phase power-factor	1DC-1DD	CH03 B Phase power-factor	232-233	CH04 B Phase power-factor
186-187	CH02 C Phase power-factor	1DE-1DF	CH03 C Phase power-factor	234-235	CH04 C Phase power-factor
188-189	CH02 total power-factor	1E0-1E1	CH03 total power-factor	236-237	CH04 total power-factor
18A-18B	CH02 A Phase Positive active energy	1E2-1E3	CH03 A Phase Positive active energy	238-239	CH04 A Phase Positive active energy
18C-18D	CH02 B Phase Positive active energy	1E4-1E5	CH03 B Phase Positive active energy	23A-23B	CH04 B Phase Positive active energy
18E-18F	CH02 C Phase Positive active energy	1E6-1E7	CH03 C Phase Positive active energy	23C-23D	CH04 C Phase Positive active energy

190-191	CH02 total Positive active energy	1E8-1E9	CH03 total Positive active energy	23E-23F	CH04 total Positive active energy
192-193	CH02 A Phase Reverse active energy	1EA-1EB	CH03 A Phase Reverse active energy	240-241	CH04 A Phase Reverse active energy
194-195	CH02 B Phase Reverse active energy	1EC-1ED	CH03 B Phase Reverse active energy	242-243	CH04 B Phase Reverse active energy
196-197	CH02 C Phase Reverse active energy	1EE-1EF	CH03 C Phase Reverse active energy	244-245	CH04 C Phase Reverse active energy
198-199	CH02 total Reverse active energy	1F0-1F1	CH03 total Reverse active energy	246-247	CH04 total Reverse active energy
19A-19B	CH02 A Phase Forward reactive energy	1F2-1F3	CH03 A Phase Forward reactive energy	248-249	CH04 A Phase Forward reactive energy
19C-19D	CH02 B Phase Forward reactive energy	1F4-1F5	CH03 B Phase Forward reactive energy	24A-24B	CH04 B Phase Forward reactive energy
19E-19F	CH02 C Phase Forward reactive energy	1F6-1F7	CH03 C Phase Forward reactive energy	24C-24D	CH04 C Phase Forward reactive energy
1A0-1A1	CH02 total Forward reactive energy	1F8-1F9	CH03 total Forward reactive energy	24E-24F	CH04 total Forward reactive energy
1A2-1A3	CH02 A Phase Reverse reactive energy	1FA-1FB	CH03 A Phase Reverse reactive energy	250-251	CH04 A Phase Reverse reactive energy
1A4-1A5	CH02 B Phase Reverse reactive energy	1FC-1FD	CH03 B Phase Reverse reactive energy	252-253	CH04 B Phase Reverse reactive energy
1A6-1A7	CH02 C Phase Reverse reactive energy	1FE-1FF	CH03 C Phase Reverse reactive energy	254-255	CH04 C Phase Reverse reactive energy
1AA-1AB	CH02 total Reverse reactive energy	200-201	CH03 total Reverse reactive energy	256-257	CH04 total Reverse reactive energy

Harmonic data:

Word address	Variable	word size	Read / write	Unit	Data type	Notes
300-301	A Phase Voltage Phase Angle	2	R		float	
302-303	B Phase Voltage Phase Angle	2	R		float	
304-305	C Phase Voltage Phase Angle	2	R		float	
306-307	CH01 A Phase Current Phase Angle	2	R		float	
308-309	CH01 B Phase Current Phase Angle	2	R		float	
30A-30B	CH01 C Phase Current Phase Angle	2	R		float	
30C-30D	CH02 A Phase Current Phase Angle	2	R		float	
30E-30F	CH02 B Phase Current Phase Angle	2	R		float	
310-311	CH02 C Phase Current Phase Angle	2	R		float	
312-313	CH03 A Phase Current Phase Angle	2	R		float	
314-315	CH03 B Phase Current Phase Angle	2	R		float	
316-317	CH03 C Phase Current Phase Angle	2	R		float	
318-319	CH04 A Phase Current Phase Angle	2	R		float	

31A-31B	CH04 B Phase Current Phase Angle	2	R		float	
31C-31D	CH04 C Phase Current Phase Angle	2	R		float	
31E-31F	Voltage degree of unbalance	2	R		float	
320-321	CH01 Current degree of unbalance	2	R		float	
322-323	CH02 Current degree of unbalance	2	R		float	
324-325	CH03 Current degree of unbalance	2	R		float	
326-327	CH04 Current degree of unbalance	2	R		float	
328-329	A Phase Voltage deviation	2	R		float	
32A-32B	B Phase Voltage deviation	2	R		float	
32C-32D	C Phase Voltage deviation	2	R		float	
32E-32F	AB Line Voltage deviation	2	R		float	
330-331	BC Line Voltage deviation	2	R		float	
332-333	CA Line Voltage deviation	2	R		float	
334-335	Frequency deviation	2	R		float	
336	A Phase Voltage total Harmonic Distortion rate	1	R		int16_t	0.01%
337	B Phase Voltage total Harmonic Distortion rate	1	R		int16_t	0.01%
338	C Phase Voltage total Harmonic Distortion rate	1	R		int16_t	0.01%
339	CH01 A Phase Current total Harmonic Distortion rate	1	R		int16_t	0.01%
33A	CH01 B Phase Current total Harmonic Distortion rate	1	R		int16_t	0.01%
33B	CH01 C Phase Current total Harmonic Distortion rate	1	R		int16_t	0.01%
33C	CH02 A Phase Current total Harmonic Distortion rate	1	R		int16_t	0.01%
33D	CH02 B Phase Current total Harmonic Distortion rate	1	R		int16_t	0.01%
33E	CH02 C Phase Current total Harmonic Distortion rate	1	R		int16_t	0.01%
33F	CH03 A Phase Current total Harmonic Distortion rate	1	R		int16_t	0.01%
340	CH03 B Phase Current total Harmonic Distortion rate	1	R		int16_t	0.01%
341	CH03 C Phase Current total Harmonic Distortion rate	1	R		int16_t	0.01%
342	CH04 A Phase Current total Harmonic Distortion rate	1	R		int16_t	0.01%
343	CH04 B Phase Current total Harmonic Distortion rate	1	R		int16_t	0.01%
344	CH04 C Phase Current total Harmonic Distortion rate	1	R		int16_t	0.01%
345	A Phase Voltage 2 times Harmonic Distortion rate	2	R		int16_t	0.01%
	B Phase Voltage 2 times Harmonic Distortion rate	2	R		int16_t	0.01%
	C Phase Voltage 2 times Harmonic Distortion rate	2	R		int16_t	0.01%
	....	2	R		int16_t	0.01%
	A Phase Voltage 31 times Harmonic Distortion rate	2	R		int16_t	0.01%
	B Phase Voltage 31 times Harmonic Distortion rate	2	R		int16_t	0.01%
39E	C Phase Voltage 31 times Harmonic Distortion rate	2	R		int16_t	0.01%
39F	CH01 A Phase Current 2 times Harmonic Distortion rate	2	R		int16_t	0.01%
	CH01 B Phase Current 2 times Harmonic Distortion rate	2	R		int16_t	0.01%
	CH01 C Phase Current 2 times Harmonic Distortion rate	2	R		int16_t	0.01%
	....	2	R		int16_t	0.01%
	CH01 A Phase Current 31 times Harmonic Distortion rate	2	R		int16_t	0.01%
	CH01 B Phase Current 31 times Harmonic Distortion rate	2	R		int16_t	0.01%
3F8	CH01 C Phase Current 31 times Harmonic Distortion rate	2	R		int16_t	0.01%
3F9	CH02 A Phase Current 2 times Harmonic Distortion rate	2	R		int16_t	0.01%
	CH02 B Phase Current 2 times Harmonic Distortion rate	2	R		int16_t	0.01%

	CH02 C Phase Current 2 times Harmonic Distortion rate	2	R		int16_t	0.01%
	....	2	R		int16_t	0.01%
	CH02 A Phase Current 31 times Harmonic Distortion rate	2	R		int16_t	0.01%
	CH02 B Phase Current 31 times Harmonic Distortion rate	2	R		int16_t	0.01%
452	CH02 C Phase Current 31 times Harmonic Distortion rate	2	R		int16_t	0.01%
453	CH03 A Phase Current 2 times Harmonic Distortion rate	2	R		int16_t	0.01%
	CH03 B Phase Current 2 times Harmonic Distortion rate	2	R		int16_t	0.01%
	CH03 C Phase Current 2 times Harmonic Distortion rate	2	R		int16_t	0.01%
	....	2	R		int16_t	0.01%
	CH03 A Phase Current 31 times Harmonic Distortion rate	2	R		int16_t	0.01%
	CH03 B Phase Current 31 times Harmonic Distortion rate	2	R		int16_t	0.01%
4AC	CH03 C Phase Current 31 times Harmonic Distortion rate	2	R		int16_t	0.01%
4AD	CH04 A Phase Current 2 times Harmonic Distortion rate	2	R		int16_t	0.01%
	CH04 B Phase Current 2 times Harmonic Distortion rate	2	R		int16_t	0.01%
	CH04 C Phase Current 2 times Harmonic Distortion rate	2	R		int16_t	0.01%
	....	2	R		int16_t	0.01%
	CH04 A Phase Current 31 times Harmonic Distortion rate	2	R		int16_t	0.01%
	CH04 B Phase Current 31 times Harmonic Distortion rate	2	R		int16_t	0.01%
506	CH04 C Phase Current 31 times Harmonic Distortion rate	2	R		int16_t	0.01%

Temperature、Leakage、Switching input:

Word address	Variable	word size	Read / write	Unit	Data type	Notes
17A0	1 temperature 1	1	R	0.1℃	int16_t	Module
17A1	1 temperature 2	1	R	0.1℃	int16_t	Module
17A2	1 temperature 3	1	R	0.1℃	int16_t	Module
17A3	1 temperature 4	1	R	0.1℃	int16_t	Module
17A4	1 temperature 5	1	R	0.1℃	int16_t	Module
17A5	1 temperature 6	1	R	0.1℃	int16_t	Module
17A6	1 temperature 7	1	R	0.1℃	int16_t	Module
17A7	1 temperature 8	1	R	0.1℃	int16_t	Module
17A8	1 temperature 9	1	R	0.1℃	int16_t	Module
17A9	1 temperature 10	1	R	0.1℃	int16_t	Module
17AA	1 temperature 11	1	R	0.1℃	int16_t	Module
17AB	1 temperature 12	1	R	0.1℃	int16_t	Module
17AC	1 Leakage 1	1	R	1mA	uint16_t	Module
17AD	1 Leakage 2	1	R	1mA	uint16_t	Module
17AE	1 Leakage 3	1	R	1mA	uint16_t	Module
17AF	1 Leakage 4	1	R	1mA	uint16_t	Module
17B0	1 Internal temperature	1	R	0.1℃	int16_t	Module
17B1	1 Internal humidity	1	R	0.10%	uint16_t	Module
17B2	2 temperature 1	1	R	0.1℃	int16_t	Module
17B3	2 temperature 2	1	R	0.1℃	int16_t	Module
17B4	2 temperature 3	1	R	0.1℃	int16_t	Module
17B5	2 temperature 4	1	R	0.1℃	int16_t	Module

17B6	2 temperature 5	1	R	0.1℃	int16_t	Module
17B7	2 temperature 6	1	R	0.1℃	int16_t	Module
17B8	2 temperature 7	1	R	0.1℃	int16_t	Module
17B9	2 temperature 8	1	R	0.1℃	int16_t	Module
17BA	2 temperature 9	1	R	0.1℃	int16_t	Module
17BB	2 temperature 10	1	R	0.1℃	int16_t	Module
17BC	2 temperature 11	1	R	0.1℃	int16_t	Module
17BD	2 temperature 12	1	R	0.1℃	int16_t	Module
17BE	2 Leakage1	1	R	1mA	uint16_t	Module
17BF	2 Leakage2	1	R	1mA	uint16_t	Module
17C0	2 Leakage3	1	R	1mA	uint16_t	Module
17C1	2 Leakage4	1	R	1mA	uint16_t	Module
17C2	2 Internal temperature	1	R	0.1℃	int16_t	Module
17C3	2 Internal humidity	1	R	0.10%	uint16_t	Module
17C4	1 DI1	1	R		uint16_t	Module
17C5	1 DI2	1	R		uint16_t	Module
17C6	1 DI3	1	R		uint16_t	Module
17C7	1 DI4	1	R		uint16_t	Module
17C8	1 DI5	1	R		uint16_t	Module
17C9	1 DI6	1	R		uint16_t	Module
17CA	1 DI7	1	R		uint16_t	Module
17CB	1 DI8	1	R		uint16_t	Module
17CC	1 DI9	1	R		uint16_t	Module
17CD	1 DI10	1	R		uint16_t	Module
17CE	1 DI11	1	R		uint16_t	Module
17CF	1 DI12	1	R		uint16_t	Module
17D0	1 DO1	1	R		uint16_t	Module
17D1	1 DO2	1	R		uint16_t	Module
17D2	1 DO3	1	R		uint16_t	Module
17D3	1 DO4	1	R		uint16_t	Module
17D4	2 DI1	1	R		uint16_t	Module
17D5	2 DI2	1	R		uint16_t	Module
17D6	2 DI3	1	R		uint16_t	Module
17D7	2 DI4	1	R		uint16_t	Module
17D8	2 DI5	1	R		uint16_t	Module
17D9	2 DI6	1	R		uint16_t	Module
17DA	2 DI7	1	R		uint16_t	Module
17DB	2 DI8	1	R		uint16_t	Module
17DC	2 DI9	1	R		uint16_t	Module
17DD	2 DI10	1	R		uint16_t	Module
17DE	2 DI11	1	R		uint16_t	Module
17DF	2 DI12	1	R		uint16_t	Module
17E0	2 DO1	1	R		uint16_t	Module
17E1	2 DO2	1	R		uint16_t	Module
17E2	2 DO3	1	R		uint16_t	Module

17E3	2 DO4		1	R			uint16_t	Module	

Demand (save):

Word address	Variable(This Months)	word size	Read / write	Unit	Data type	Notes		
1600-1601	CH01 A Phase Current Months Maximum demand	2	R	A	float			
1602		1	R		uint16_t	Year	Month	
1603	Time of occurrence	1	R		uint16_t	Day	Time	
1604		1	R		uint16_t	Minute		
1605-1606	CH01 B Phase Current Months Maximum demand	2	R	A	float			
1607		1	R		uint16_t	Year	Month	
1608	Time of occurrence	1	R		uint16_t	Day	Time	
1609		1	R		uint16_t	Minute		
160A-160B	CH01 C Phase Current Months Maximum demand	2	R	A	float			
160C		1	R		uint16_t	Year	Month	
160D	Time of occurrence	1	R		uint16_t	Day	Time	
160E		1	R		uint16_t	Minute		
160F-1610	CH01 A Phase power Months Maximum demand	2	R	W	float			
1611		1	R		uint16_t	Year	Month	
1612	Time of occurrence	1	R		uint16_t	Day	Time	
1613		1	R		uint16_t	Minute		
1614-1615	CH01 B Phase power Months Maximum demand	2	R	W	float			
1616		1	R		uint16_t	Year	Month	
1617	Time of occurrence	1	R		uint16_t	Day	Time	
1618		1	R		uint16_t	Minute		
1619-161A	CH01 C Phase power Months Maximum demand	2	R	W	float			
161B		1	R		uint16_t	Year	Month	
161C	Time of occurrence	1	R		uint16_t	Day	Time	
161D		1	R		uint16_t	Minute		
161E-161F	CH01 total power Months Maximum demand	2	R	W	float			
1620		1	R		uint16_t	Year	Month	
1621	Time of occurrence	1	R		uint16_t	Day	Time	
1622		1	R		uint16_t	Minute		
1623-1624	CH02 A Phase Current Months Maximum demand	2	R	A	float			
1625		1	R		uint16_t	Year	Month	
1626	Time of occurrence	1	R		uint16_t	Day	Time	
1627		1	R		uint16_t	Minute		
1628-1629	CH02 B Phase Current Months	2	R	A	float			

	Maximum demand						
162A		1	R		uint16_t	Year	Month
162B	Time of occurrence	1	R		uint16_t	Day	Time
162C		1	R		uint16_t	Minute	
162D-162E	CH02 C Phase Current Months Maximum demand	2	R	A	float		
162F		1	R		uint16_t	Year	Month
1630	Time of occurrence	1	R		uint16_t	Day	Time
1631		1	R		uint16_t	Minute	
1632-1633	CH02 A Phase power Months Maximum demand	2	R	W	float		
1634		1	R		uint16_t	Year	Month
1635	Time of occurrence	1	R		uint16_t	Day	Time
1636		1	R		uint16_t	Minute	
1637-1638	CH02 B Phase power Months Maximum demand	2	R	W	float		
1639		1	R		uint16_t	Year	Month
163A	Time of occurrence	1	R		uint16_t	Day	Time
163B		1	R		uint16_t	Minute	
163C-163D	CH02 C Phase power Months Maximum demand	2	R	W	float		
163E		1	R		uint16_t	Year	Month
163F	Time of occurrence	1	R		uint16_t	Day	Time
1640		1	R		uint16_t	Minute	
1641-1642	CH02 total power Months Maximum demand	2	R	W	float		
1643		1	R		uint16_t	Year	Month
1644	Time of occurrence	1	R		uint16_t	Day	Time
1645		1	R		uint16_t	Minute	
1646-1647	CH03 A Phase Current Months Maximum demand	2	R	A	float		
1648		1	R		uint16_t	Year	Month
1649	Time of occurrence	1	R		uint16_t	Day	Time
164A		1	R		uint16_t	Minute	
164B-164C	CH03 B Phase Current Months Maximum demand	2	R	A	float		
164D		1	R		uint16_t	Year	Month
164E	Time of occurrence	1	R		uint16_t	Day	Time
164F		1	R		uint16_t	Minute	
1650-1651	CH03 C Phase Current Months Maximum demand	2	R	A	float		
1652		1	R		uint16_t	Year	Month
1653	Time of occurrence	1	R		uint16_t	Day	Time
1654		1	R		uint16_t	Minute	
1655-1656	CH03 A Phase power Months	2	R	W	float		

	Maximum demand						
1657		1	R		uint16_t	Year	Month
1658	Time of occurrence	1	R		uint16_t	Day	Time
1659		1	R		uint16_t	Minute	
165A-165B	CH03 B Phase　power Months Maximum demand	2	R	W	float		
165C		1	R		uint16_t	Year	Month
165D	Time of occurrence	1	R		uint16_t	Day	Time
165E		1	R		uint16_t	Minute	
165F-1660	CH03 C Phase　power Months Maximum demand	2	R	W	float		
1661		1	R		uint16_t	Year	Month
1662	Time of occurrence	1	R		uint16_t	Day	Time
1663		1	R		uint16_t	Minute	
1664-1665	CH03 total power Months Maximum demand	2	R	W	float		
1666		1	R		uint16_t	Year	Month
1667	Time of occurrence	1	R		uint16_t	Day	Time
1668		1	R		uint16_t	Minute	
1669-166A	CH04 A Phase Current Months Maximum demand	2	R	A	float		
166B		1	R		uint16_t	Year	Month
166C	Time of occurrence	1	R		uint16_t	Day	Time
166D		1	R		uint16_t	Minute	
166E-166F	CH04 B Phase Current Months	2	R	A	float		
1670		1	R		uint16_t	Year	Month
1671	Time of Maximum demand	1	R		uint16_t	Day	Time
1672		1	R		uint16_t	Minute	
1673-1674	CH04 C Phase Current Months Maximum demand	2	R	A	float		
1675		1	R		uint16_t	Year	Month
1676	Time of occurrence	1	R		uint16_t	Day	Time
1677		1	R		uint16_t	Minute	
1678-1679	CH04 A Phase　power Months Maximum demand	2	R	W	float		
167A		1	R		uint16_t	Year	Month
167B	Time of occurrence	1	R		uint16_t	Day	Time
167C		1	R		uint16_t	Minute	
167D-167E	CH04 B Phase　power Months Maximum demand	2	R	W	float		
167F		1	R		uint16_t	Year	Month
1680	Time of occurrence	1	R		uint16_t	Day	Time
1681		1	R		uint16_t	Minute	
1682-1683	CH04 C Phase　power Months Maximum demand	2	R	W	float		

1684		1	R		uint16_t	Year	Month
1685	Time of occurrence	1	R		uint16_t	Day	Time
1686		1	R		uint16_t	Minute	
1687-1688	CH04 total power Months Maximum demand	2	R	W	float		
1689		1	R		uint16_t	Year	Month
168A	Time of occurrence	1	R		uint16_t	Day	Time
168B		1	R		uint16_t	Minute	
168C-168D	CH01 A Phase Current Months Maximum demand	2	R	A	float		
168E		1	R		uint16_t	Year	Month
168F	Time of occurrence	1	R		uint16_t	Day	Time
1690		1	R		uint16_t	Minute	
1691-1692	CH01 B Phase Current Months Maximum demand	2	R	A	float		
1693		1	R		uint16_t	Year	Month
1694	Time of occurrence	1	R		uint16_t	Day	Time
1695		1	R		uint16_t	Minute	
1696-1697	CH01 C Phase Current Months Maximum demand	2	R	A	float		
1698		1	R		uint16_t	Year	Month
1699	Time of occurrence	1	R		uint16_t	Day	Time
169A		1	R		uint16_t	Minute	
169B-169C	CH01 A Phase power Months Maximum demand	2	R	W	float		
169D		1	R		uint16_t	Year	Month
169E	Time of occurrence	1	R		uint16_t	Day	Time
169F		1	R		uint16_t	Minute	
16A0-16A1	CH01 B Phase power Months Maximum demand	2	R	W	float		
16A2		1	R		uint16_t	Year	Month
16A3	Time of occurrence	1	R		uint16_t	Day	Time
16A4		1	R		uint16_t	Minute	
16A5-16A6	CH01 C Phase power Months Maximum demand	2	R	W	float		
16A7		1	R		uint16_t	Year	Month
16A8	Time of occurrence	1	R		uint16_t	Day	Time
16A9		1	R		uint16_t	Minute	
16AA-16AB	CH01 total power Months Maximum demand	2	R	W	float		
16AC		1	R		uint16_t	Year	Month
16AD	Time of occurrence	1	R		uint16_t	Day	Time
16AE		1	R		uint16_t	Minute	
16AF-16B0	CH02 A Phase Curren tMonths Maximum demand	2	R	A	float		

16B1		1	R		uint16_t	Year	Month
16B2	Time of occurrence	1	R		uint16_t	Day	Time
16B3		1	R		uint16_t	Minute	
16B4-16B5	CH02 B Phase Current Months Maximum demand	2	R	A	float		
16B6		1	R		uint16_t	Year	Month
16B7	Time of occurrence	1	R		uint16_t	Day	Time
16B8		1	R		uint16_t	Minute	
16B9-16BA	CH02 C Phase Current Months Maximum demand	2	R	A	float		
16BB		1	R		uint16_t	Year	Month
16BC	Time of occurrence	1	R		uint16_t	Day	Time
16BD		1	R		uint16_t	Minute	
16BE-16BF	CH02 A Phase power Months Maximum demand	2	R	W	float		
16C0		1	R		uint16_t	Year	Month
16C1	Time of occurrence	1	R		uint16_t	Day	Time
16C2		1	R		uint16_t	Minute	
16C3-16C4	CH02 B Phase power Months Maximum demand	2	R	W	float		
16C5		1	R		uint16_t	Year	Month
16C6	Time of occurrence	1	R		uint16_t	Day	Time
16C7		1	R		uint16_t	Minute	
16C8-16C9	CH02 C Phase power Months Maximum demand	2	R	W	float		
16CA		1	R		uint16_t	Year	Month
16CB	Time of occurrence	1	R		uint16_t	Day	Time
16CC		1	R		uint16_t	Minute	
16CD-16CE	CH02 total power Months Maximum demand	2	R	W	float		
16CF		1	R		uint16_t	Year	Month
16D0	Time of occurrence	1	R		uint16_t	Day	Time
16D1		1	R		uint16_t	Minute	
16D2-16D3	CH03 A Phase Current Months Maximum demand	2	R	A	float		
16D4		1	R		uint16_t	Year	Months
16D5	Time of occurrence	1	R		uint16_t	Day	Time
16D6		1	R		uint16_t	Minutes	
16D7-16D8	CH03 B Phase Current Months Maximum demand	2	R	A	float		
16D9		1	R		uint16_t	Year	Month
16DA	Time of occurrence	1	R		uint16_t	Day	Time
16DB		1	R		uint16_t	Minute	
16DC-16DD	CH03 C Phase Current Months Maximum demand	2	R	A	float		

16DE		1	R		uint16_t	Year	Month
16DF	Time of occurrence	1	R		uint16_t	Day	Time
16E0		1	R		uint16_t	Minute	
16E1-16E2	CH03 A Phase power Months Maximum demand	2	R	W	float		
16E3		1	R		uint16_t	Year	Month
16E4	Time of occurrence	1	R		uint16_t	Day	Time
16E5		1	R		uint16_t	Minute	
16E6-16E7	CH03 B Phase power Months Maximum demand	2	R	W	float		
16E8		1	R		uint16_t	Year	Month
16E9	Time of occurrence	1	R		uint16_t	Day	Time
16EA		1	R		uint16_t	Minute	
16EB-16EC	CH03 C Phase power Months Maximum demand	2	R	W	float		
16ED		1	R		uint16_t	Year	Month
16EE	Time of occurrence	1	R		uint16_t	Day	Time
16EF		1	R		uint16_t	Minute	
16F0-16F1	CH03 total power Months Maximum demand	2	R	W	float		
16F2		1	R		uint16_t	Year	Month
16F3	Time of occurrence	1	R		uint16_t	Day	Time
16F4		1	R		uint16_t	Minute	
16F5-16F6	CH04 A Phase Current Months Maximum demand	2	R	A	float		
16F7		1	R		uint16_t	Year	Month
16F8	Time of occurrence	1	R		uint16_t	Day	Time
16F9		1	R		uint16_t	Minute	
16FA-16FB	CH04 B Phase Current Months Maximum demand	2	R	A	float		
16FC		1	R		uint16_t	Year	Month
16FD	Time of occurrence	1	R		uint16_t	Day	Time
16FE		1	R		uint16_t	Minute	
16FF-1700	CH04 C Phase Current Months Maximum demand	2	R	A	float		
1701		1	R		uint16_t	Year	Month
1702	Time of occurrence	1	R		uint16_t	Day	Time
1703		1	R		uint16_t	Minute	
1704-1705	CH04 A Phase power Months Maximum demand	2	R	W	float		
1706		1	R		uint16_t	Year	Month
1707	Time of occurrence	1	R		uint16_t	Day	Time
1708		1	R		uint16_t	Minute	
1709-170A	CH04 B Phase power Months Maximum demand	2	R	W	float		

170B		1	R		uint16_t	Year	Months
170C	Time of occurrence	1	R		uint16_t	Day	Time
170D		1	R		uint16_t	Minutes	
170E-170F	CH04 C Phase power Months Maximum demand	2	R	W	float		
1710		1	R		uint16_t	Year	Month
1711	Time of occurrence	1	R		uint16_t	Day	Time
1712		1	R		uint16_t	Minute	
1713-1714	CH04 total power Months Maximum demand	2	R	W	float		
1715		1	R		uint16_t	Year	Month
1716	Time of occurrence	1	R		uint16_t	Day	Time
1717		1	R		uint16_t	Minute	

Total Multiple rates energy for loops 1-4 (save):

Word address	Variable	word size	Read / write	Unit	Data type	Notes
600-601	CH01 total Multiple rates electricity	2	R	0.01kWh	Float	
602-603	CH01 total Multiple rates electricity[tip]	2	R	0.01kWh	Float	
604-605	CH01 total Multiple rates electricity[peak]	2	R	0.01kWh	Float	
606-607	CH01 total Multiple rates electricity[level]	2	R	0.01kWh	Float	
608-609	CH01 total Multiple rates electricity[Valley]	2	R	0.01kWh	Float	
60A-60B	CH02 total Multiple rates electricity	2	R	0.01kWh	Float	
60C-60D	CH02 total Multiple rates electricity[tip]	2	R	0.01kWh	Float	
60E-60F	CH02 total Multiple rates electricity[peak]	2	R	0.01kWh	Float	
610-611	CH02 total Multiple rates electricity[level]	2	R	0.01kWh	Float	
612-613	CH02 total Multiple rates electricity[Valley]	2	R	0.01kWh	Float	
614-615	CH03 total Multiple rates electricity	2	R	0.01kWh	Float	
616-617	CH03 total Multiple rates electricity[tip]	2	R	0.01kWh	Float	
618-619	CH03 total Multiple rates electricity[peak]	2	R	0.01kWh	Float	
61A-61B	CH03 total Multiple rates electricity[level]	2	R	0.01kWh	Float	
61C-61D	CH03 total Multiple rates electricity[Valley]	2	R	0.01kWh	Float	
61E-61F	CH04 total Multiple rates electricity	2	R	0.01kWh	Float	
620-621	CH04 total Multiple rates electricity[tip]	2	R	0.01kWh	Float	
622-623	CH04 total Multiple rates electricity[peak]	2	R	0.01kWh	Float	
624-625	CH04 total Multiple rates electricity[level]	2	R	0.01kWh	Float	
626-627	CH04 total Multiple rates electricity[Valley]	2	R	0.01kWh	Float	

Multiple rates electricity from January to December

Refer to the above table for the total Multiple rates electricity of circuits 1-4:

Word address	Variable	Word address	Variable
628-629	Past 1st month CH01 total Multiple rates electricity	650-651	Past 2nd Months CH01 total Multiple rates electricity
62A-62B	Past 1st month CH01 total Multiple rates electricity[tip]	652-653	Past 2nd Months CH01 total Multiple rates electricity[tip]
62C-62D	Past 1st month CH01 total Multiple rates	654-655	Past 2nd Months CH01 total Multiple rates

	electricity[peak]		electricity[peak]
62E-62F	Past 1st month CH01 total Multiple rates electricity[level]	656-657	Past 2nd Months CH01 total Multiple rates electricity[level]
630-631	Past 1st month CH01 total Multiple rates electricity[Valley]	658-659	Past 2nd Months CH01 total Multiple rates electricity[Valley]
632-633	Past 1st month CH02 total Multiple rates electricity	65A-65B	Past 2nd Months CH02 total Multiple rates electricity
634-635	Past 1st month CH02 total Multiple rates electricity[tip]	65C-65D	Past 2nd Months CH02 total Multiple rates electricity[tip]
636-637	Past 1st month CH02 total Multiple rates electricity[peak]	65E-65F	Past 2nd Months CH02 total Multiple rates electricity[peak]
638-639	Past 1st month CH02 total Multiple rates electricity[level]	660-661	Past 2nd Months CH02 total Multiple rates electricity[level]
63A-63B	Past 1st month CH02 total Multiple rates electricity[Valley]	662-663	Past 2nd Months CH02 total Multiple rates electricity[Valley]
63C-63D	Past 1st month CH03 total Multiple rates electricity	664-665	Past 2nd Months CH03 total Multiple rates electricity
63E-63F	Past 1st month CH03 total Multiple rates electricity[tip]	666-667	Past 2nd Months CH03 total Multiple rates electricity[tip]
640-641	Past 1st month CH03 total Multiple rates electricity[peak]	668-669	Past 2nd Months CH03 total Multiple rates electricity[peak]
642-643	Past 1st month CH03 total Multiple rates electricity[level]	66A-66B	Past 2nd Months CH03 total Multiple rates electricity[level]
644-645	Past 1st month CH03 total Multiple rates electricity[Valley]	66C-66D	Past 2nd Months CH03 total Multiple rates electricity[Valley]
646-647	Past 1st month CH04 total Multiple rates electricity	66E-66F	Past 2nd Months CH04 total Multiple rates electricity
648-649	Past 1st month CH04 total Multiple rates electricity[tip]	670-671	Past 2nd Months CH04 total Multiple rates electricity[tip]
64A-64B	Past 1st month CH04 total Multiple rates electricity[peak]	672-673	Past 2nd Months CH04 total Multiple rates electricity[peak]
64C-64D	Past 1st month CH04 total Multiple rates electricity[level]	674-675	Past 2nd Months CH04 total Multiple rates electricity[level]
64E-64F	Past 1st month CH04 total Multiple rates electricity[Valley]	676-677	Past 2nd Months CH04 total Multiple rates electricity[Valley]
678-679	Past 3rd Months CH01 total Multiple rates electricity	6A0-6A1	Past 4th Months CH01 total Multiple rates electricity
67A-67B	Past 3rd Months CH01 total Multiple rates electricity[tip]	6A2-6A3	Past 4th Months CH01 total Multiple rates electricity[tip]
67C-67D	Past 3rd Months CH01 total Multiple rates electricity[peak]	6A4-6A5	Past 4th Months CH01 total Multiple rates electricity[peak]
67E-67F	Past 3rd Months CH01 total Multiple rates electricity[level]	6A6-6A7	Past 4th Months CH01 total Multiple rates electricity[level]
680-681	Past 3rd Months CH01 total Multiple rates electricity[Valley]	6A8-6A9	Past 4th Months CH01 total Multiple rates electricity[Valley]

682-683	Past 3rd Months CH02 total Multiple rates electricity	6AA-6AB	Past 4th Months CH02 total Multiple rates electricity
684-685	Past 3rd Months CH02 total Multiple rates electricity[tip]	6AC-6AD	Past 4th Months CH02 total Multiple rates electricity[tip]
686-687	Past 3rd Months CH02 total Multiple rates electricity[peak]	6AE-6AF	Past 4th Months CH02 total Multiple rates electricity[peak]
688-689	Past 3rd Months CH02 total Multiple rates electricity[level]	6B0-6B1	Past 4th Months CH02 total Multiple rates electricity[level]
68A-68B	Past 3rd Months CH02 total Multiple rates electricity[Valley]	6B2-6B3	Past 4th Months CH02 total Multiple rates electricity[Valley]
68C-68D	Past 3rd Months CH03 total Multiple rates electricity	6B4-6B5	Past 4th Months CH03 total Multiple rates electricity
68E-68F	Past 3rd Months CH03 total Multiple rates electricity[tip]	6B6-6B7	Past 4th Months CH03 total Multiple rates electricity[tip]
690-691	Past 3rd Months CH03 total Multiple rates electricity[peak]	6B8-6B9	Past 4th Months CH03 total Multiple rates electricity[peak]
692-693	Past 3rd Months CH03 total Multiple rates electricity[level]	6BA-6BB	Past 4th Months CH03 total Multiple rates electricity[level]
694-695	Past 3rd Months CH03 total Multiple rates electricity[Valley]	6BC-6BD	Past 4th Months CH03 total Multiple rates electricity[Valley]
696-697	Past 3rd Months CH04 total Multiple rates electricity	6BE-6BF	Past 4th Months CH04 total Multiple rates electricity
698-699	Past 3rd Months CH04 total Multiple rates electricity[tip]	6C0-6C1	Past 4th Months CH04 total Multiple rates electricity[tip]
69A-69B	Past 3rd Months CH04 total Multiple rates electricity[peak]	6C2-6C3	Past 4th Months CH04 total Multiple rates electricity[peak]
69C-69D	Past 3rd Months CH04 total Multiple rates electricity[level]	6C4-6C5	Past 4th Months CH04 total Multiple rates electricity[level]
69E-69F	Past 3rd Months CH04 total Multiple rates electricity[Valley]	6C6-6C7	Past 4th Months CH04 total Multiple rates electricity[Valley]
6C8-6C9	Past 5th Months CH01 total Multiple rates electricity	6F0-6F1	Past 6th Months CH01 total Multiple rates electricity
6CA-6CB	Past 5th Months CH01 total Multiple rates electricity[tip]	6F2-6F3	Past 6th Months CH01 total Multiple rates electricity[tip]
6CC-6CD	Past 5th Months CH01 total Multiple rates electricity[peak]	6F4-6F5	Past 6th Months CH01 total Multiple rates electricity[peak]
6CE-6CF	Past 5th Months CH01 total Multiple rates electricity[level]	6F6-6F7	Past 6th Months CH01 total Multiple rates electricity[level]
6D0-6D1	Past 5th Months CH01 total Multiple rates electricity[Valley]	6F8-6F9	Past 6th Months CH01 total Multiple rates electricity[Valley]
6D2-6D3	Past 5th Months CH02 total Multiple rates electricity	6FA-6FB	Past 6th Months CH02 total Multiple rates electricity
6D4-6D5	Past 5th Months CH02 total Multiple rates electricity[tip]	6FC-6FD	Past 6th Months CH02 total Multiple rates electricity[tip]
6D6-6D7	Past 5th Months CH02 total Multiple rates	6FE-6FF	Past 6th Months CH02 total Multiple rates

	electricity[peak]			electricity[peak]
6D8-6D9	Past 5th Months CH02 total Multiple rates electricity[level]	700-701	Past 6th Months CH02 total Multiple rates electricity[level]
6DA-6DB	Past 5th Months CH02 total Multiple rates electricity[Valley]	702-703	Past 6th Months CH02 total Multiple rates electricity[Valley]
6DC-6DD	Past 5th Months CH03 total Multiple rates electricity	704-705	Past 6th Months CH03 total Multiple rates electricity
6DE-6DF	Past 5th Months CH03 total Multiple rates electricity[tip]	706-707	Past 6th Months CH03 total Multiple rates electricity[tip]
6E0-6E1	Past 5th Months CH03 total Multiple rates electricity[peak]	708-709	Past 6th Months CH03 total Multiple rates electricity[peak]
6E2-6E3	Past 5th Months CH03 total Multiple rates electricity[level]	70A-70B	Past 6th Months CH03 total Multiple rates electricity[level]
6E4-6E5	Past 5th Months CH03 total Multiple rates electricity[Valley]	70C-70D	Past 6th Months CH03 total Multiple rates electricity[Valley]
6E6-6E7	Past 5th Months CH04 total Multiple rates electricity	70E-70F	Past 6th Months CH04 total Multiple rates electricity
6E8-6E9	Past 5th Months CH04 total Multiple rates electricity[tip]	710-711	Past 6th Months CH04 total Multiple rates electricity[tip]
6EA-6EB	Past 5th Months CH04 total Multiple rates electricity[peak]	712-713	Past 6th Months CH04 total Multiple rates electricity[peak]
6EC-6ED	Past 5th Months CH04 total Multiple rates electricity[level]	714-715	Past 6th Months CH04 total Multiple rates electricity[level]
6EE-6EF	Past 5th Months CH04 total Multiple rates electricity[Valley]	716-717	Past 6th Months CH04 total Multiple rates electricity[Valley]
718-719	Past 7th Months CH01 total Multiple rates electricity	740-741	Past 8th MonthsCH01total Multiple rates electricity
71A-71B	Past 7th Months CH01 total Multiple rates electricity[tip]	742-743	Past 8th MonthsCH01total Multiple rates electricity[tip]
71C-71D	Past 7th Months CH01 total Multiple rates electricity[peak]	744-745	Past 8th MonthsCH01total Multiple rates electricity[peak]
71E-71F	Past 7th Months CH01 total Multiple rates electricity[level]	746-747	Past 8th Months CH01 total Multiple rates electricity[level]
720-721	Past 7th Months CH01 total Multiple rates electricity[Valley]	748-749	Past 8th Months CH01 total Multiple rates electricity[Valley]
722-723	Past 7th Months CH02 total Multiple rates electricity	74A-74B	Past 8th Months CH02 total Multiple rates electricity
724-725	Past 7th Months CH02 total Multiple rates electricity[tip]	74C-74D	Past 8th Months CH02 total Multiple rates electricity[tip]
726-727	Past 7th Months CH02 total Multiple rates electricity[peak]	74E-74F	Past 8th Months CH02 total Multiple rates electricity[peak]
728-729	Past 7th Months CH02 total Multiple rates electricity[level]	750-751	Past 8th Months CH02 total Multiple rates electricity[level]
72A-72B	Past 7th Months CH02 total Multiple rates electricity[Valley]	752-753	Past 8th Months CH02 total Multiple rates electricity[Valley]

72C-72D	Past 7th MonthsCH03total Multiple rates electricity	754-755	Past 8th Months CH03 total Multiple rates electricity
72E-72F	Past 7th Months CH03 total Multiple rates electricity[tip]	756-757	Past 8th Months CH03 total Multiple rates electricity[tip]
730-731	Past 7th Months CH03 total Multiple rates electricity[peak]	758-759	Past 8th Months CH03 total Multiple rates electricity[peak]
732-733	Past 7th Months CH03 total Multiple rates electricity[level]	75A-75B	Past 8th Months CH03 total Multiple rates electricity[level]
734-735	Past 7th Months CH03 total Multiple rates electricity[Valley]	75C-75D	Past 8th Months CH03 total Multiple rates electricity[Valley]
736-737	Past 7th Months CH04 total Multiple rates electricity	75E-75F	Past 8th Months CH04 total Multiple rates electricity
738-739	Past 7th Months CH04 total Multiple rates electricity[tip]	760-761	Past 8th Months CH04 total Multiple rates electricity[tip]
73A-73B	Past 7th Months CH04 total Multiple rates electricity[peak]	762-763	Past 8th Months CH04 total Multiple rates electricity[peak]
73C-73D	Past 7th Months CH04 total Multiple rates electricity[level]	764-765	Past 8th Months CH04 total Multiple rates electricity[level]
73E-73F	Past 7th Months CH04 total Multiple rates electricity[Valley]	766-767	Past 8th Months CH04 total Multiple rates electricity[Valley]
768-769	Past 9th Months CH01 total Multiple rates electricity	790-791	Past 10th Months CH01 total Multiple rates electricity
76A-76B	Past 9th Months CH01 total Multiple rates electricity[tip]	792-793	Past 10th Months CH01 total Multiple rates electricity[tip]
76C-76D	Past 9th Months CH01 total Multiple rates electricity[peak]	794-795	Past 10th Months CH01 total Multiple rates electricity[peak]
76E-76F	Past 9th Months CH01 total Multiple rates electricity[level]	796-797	Past 10th Months CH01 total Multiple rates electricity[level]
770-771	Past 9th Months CH01 total Multiple rates electricity[Valley]	798-799	Past 10th Months CH01 total Multiple rates electricity[Valley]
772-773	Past 9th Months CH02 total Multiple rates electricity	79A-79B	Past 10th Months CH02 total Multiple rates electricity
774-775	Past 9th Months CH02 total Multiple rates electricity[tip]	79C-79D	Past 10th Months CH02 total Multiple rates electricity[tip]
776-777	Past 9th Months CH02 total Multiple rates electricity[peak]	79E-79F	Past 10th Months CH02 total Multiple rates electricity[peak]
778-779	Past 9th Months CH02 total Multiple rates electricity[level]	7A0-7A1	Past 10th Months CH02 total Multiple rates electricity[level]
77A-77B	Past 9th Months CH02 total Multiple rates electricity[Valley]	7A2-7A3	Past 10th Months CH02 total Multiple rates electricity[Valley]
77C-77D	Past 9th Months CH03 total Multiple rates electricity	7A4-7A5	Past 10th Months CH03 total Multiple rates electricity
77E-77F	Past 9th Months CH03 total Multiple rates electricity[tip]	7A6-7A7	Past 10th Months CH03 total Multiple rates electricity[tip]
780-781	Past 9th Months CH03 total Multiple rates	7A8-7A9	Past 10th Months CH03 total Multiple

	electricity[peak]		rates electricity[peak]
782-783	Past 9th Months CH03 total Multiple rates electricity[level]	7AA-7AB	Past 10th Months CH03 total Multiple rates electricity[level]
784-785	Past 9th Months CH03 total Multiple rates electricity[Valley]	7AC-7AD	Past 10th Months CH03 total Multiple rates electricity[Valley]
786-787	Past 9th Months CH04 total Multiple rates electricity	7AE-7AF	Past 10th Months CH04 total Multiple rates electricity
788-789	Past 9th Months CH04 total Multiple rates electricity[tip]	7B0-7B1	Past 10th Months CH04 total Multiple rates electricity[tip]
78A-78B	Past 9th Months CH04 total Multiple rates electricity[peak]	7B2-7B3	Past 10th Months CH04 total Multiple rates electricity[peak]
78C-78D	Past 9th Months CH04 total Multiple rates electricity[level]	7B4-7B5	Past 10th Months CH04 total Multiple rates electricity[level]
78E-78F	Past 9th Months CH04 total Multiple rates electricity[Valley]	7B6-7B7	Past 10th Months CH04 total Multiple rates electricity[Valley]
7B8-7B9	Past 11th Months CH01 total Multiple rates electricity	7E0-7E1	Past 12th Months CH01 total Multiple rates electricity
7BA-7BB	Past 11th Months CH01 total Multiple rates electricity[tip]	7E2-7E3	Past 12th Months CH01 total Multiple rates electricity[tip]
7BC-7BD	Past 11th Months CH01 total Multiple rates electricity[peak]	7E4-7E5	Past 12th Months CH01 total Multiple rates electricity[peak]
7BE-7BF	Past 11th Months CH01 total Multiple rates electricity[level]	7E6-7E7	Past 12th Months CH01 total Multiple rates electricity[level]
7C0-7C1	Past 11th Months CH01 total Multiple rates electricity[Valley]	7E8-7E9	Past 12th Months CH01 total Multiple rates electricity[Valley]
7C2-7C3	Past 11th Months CH02 total Multiple rates electricity	7EA-7EB	Past 12th Months CH02 total Multiple rates electricity
7C4-7C5	Past 11th Months CH02 total Multiple rates electricity[tip]	7EC-7ED	Past 12th Months CH02 total Multiple rates electricity[tip]
7C6-7C7	Past 11th Months CH02 total Multiple rates electricity[peak]	7EE-7EF	Past 12th Months CH02 total Multiple rates electricity[peak]
7C8-7C9	Past 11th Months CH02 total Multiple rates electricity[level]	7F0-7F1	Past 12th Months CH02 total Multiple rates electricity[level]
7CA-7CB	Past 11th Months CH02 total Multiple rates electricity[Valley]	7F2-7F3	Past 12th Months CH02 total Multiple rates electricity[Valley]
7CC-7CD	Past 11th Months CH03 total Multiple rates electricity	7F4-7F5	Past 12th Months CH03 total Multiple rates electricity
7CE-7CF	Past 11th Months CH03 total Multiple rates electricity[tip]	7F6-7F7	Past 12th Months CH03 total Multiple rates electricity[tip]
7D0-7D1	Past 11th Months CH03 total Multiple rates electricity[peak]	7F8-7F9	Past 12th Months CH03 total Multiple rates electricity[peak]
7D2-7D3	Past 11th Months CH03 total Multiple rates electricity[level]	7FA-7FB	Past 12th Months CH03 total Multiple rates electricity[level]
7D4-7D5	Past 11th Months CH03 total Multiple rates electricity[Valley]	7FC-7FD	Past 12th Months CH03 total Multiple rates electricity[Valley]

7D6-7D7	Past 11th Months CH04 total Multiple rates electricity	7FE-7FF	Past 12th Months CH04 total Multiple rates electricity
7D8-7D9	Past 11th Months CH04 total Multiple rates electricity[tip]	800-801	Past 12th Months CH04 total Multiple rates electricity[tip]
7DA-7DB	Past 11th Months CH04 total Multiple rates electricity[peak]	802-803	Past 12th Months CH04 total Multiple rates electricity[peak]
7DC-7DD	Past 11th Months CH04 total Multiple rates electricity[level]	804-805	Past 12th Months CH04 total Multiple rates electricity[level]
7DE-7DF	Past 11th Months CH04 total Multiple rates electricity[Valley]	806-807	Past 12th Months CH04 total Multiple rates electricity[Valley]

CH01 extremum and Time of occurrence

Word address	Variable	word size	Read / write	Unit	Data type	Notes	
900-901	Maximum A Phase Voltage of the month	2	R	V	float		
902	Maximum A Phase Voltage of the month and Time of occurrence	1	R		uint16_t	Year	Months
903		1	R		uint16_t	Day	Time
904		1	R		uint16_t	Minutes	second
905-909	Maximum B Phase Voltage of the month and Time of occurrence	5	R		uint16_t		
90A-90E	Maximum C Phase Voltage of the month and Time of occurrence	5	R		uint16_t		
90F-913	Maximum AB Line Voltag of the month and Time of occurrence	5	R		uint16_t		
914-918	Maximum BC Line Voltag of the month and Time of occurrence	5	R		uint16_t		
919-91D	Maximum CA Line Voltag of the month and Time of occurrence	5	R		uint16_t		
91E-922	Minimum A Phase Voltage of the month and Time of occurrence	5	R		uint16_t		
923-927	Minimum B Phase Voltage of the month and Time of occurrence	5	R		uint16_t		
928-92C	Minimum C Phase Voltage of the month and Time of occurrence	5	R		uint16_t		
92D-931	Minimum AB Line Voltage of the month and Time of occurrence	5	R		uint16_t		
932-936	Minimum BC Line Voltage of the month and Time of occurrence	5	R		uint16_t		
937-93B	Minimum CA Line Voltage of the month and Time of occurrence	5	R		uint16_t		
93C-940	Mean A Phase Voltage of the month	5	R				
941-945	Mean B Phase Voltage of the month	5	R				
946-94A	Mean C Phase Voltage of the month	5	R				
94B-94F	Mean AB Line Voltage of the month	5	R				
950-954	Mean BC Line Voltage of the month	5	R				
955-959	Mean CA Line Voltage of the month	5	R				

9B4-9B5	Maximum CH01 A Phase Current of the month	2	R	A	float		
9B6	Maximum CH01 A Current of the month and Time of occurrence	1	R		uint16_t	Year	Months
9B7		1	R		uint16_t	Day	Time
9B8		1	R		uint16_t	Minutes	second
9B9-9BD	Maximum CH01 B Phase Current of the month	5	R				
9BE-9C2	Maximum CH01 C Phase Current of the month	5	R				
9C3-9C7	Maximum CH01 Zero sequence Current of the month	5	R				
9C8-9CC	Maximum CH01 A Phase Active power of the month	5	R				
9CD-9D1	Maximum CH01 B Phase Active power of the month	5	R				
9D2-9D6	Maximum CH01 C Phase Active power of the month	5	R				
9D7-9DB	Maximum CH01 Active power of the month	5	R				
9DC-9E0	Maximum CH01 A Phase Reactive power of the month	5	R				
9E1-9E5	Maximum CH01 B Phase Reactive power of the month	5	R				
9E6-9EA	Maximum CH01 C Phase Reactive power of the month	5	R				
9EB-9EF	Maximum CH01 Reactive power of the month	5	R				
9F0-9F4	Maximum CH01 A Phase apparent power of the month	5	R				
9F5-9F9	Maximum CH01 B Phase apparent power of the month	5	R				
9FA-9FE	Maximum CH01 C Phase apparent power of the month	5	R				
9FF-A03	Maximum CH01 apparent power of the month	5	R				
A04-A08	Maximum CH01 A Phase power-factor of the month	5	R				
A09-A0D	Maximum CH01 B Phase power-factor of the month	5	R				
A0E-A12	Maximum CH01 C Phase power-factor of the month	5	R				
A13-A17	Maximum CH01 power-factor of the month	5	R				
A18-A1C	Maximum CH01 Load factor of the month	5	R				
A86-A87	Minimum CH01 A Phase Current of the month	2	R	A	float		
A88	Minimum CH01A Current of the month and Time of occurrence	1	R		uint16_t	Year	Months
A89		1	R		uint16_t	Day	Time

A8A		1	R		uint16_t	Minutes	second
A8B-A8F	Minimum CH01 B Phase Currentt of the month	5	R				
A90-A94	Minimum CH01 C Phase Currentt of the month	5	R				
A95-A99	Minimum CH01 Zero sequence Current of the month	5	R				
A9A-A9E	Minimum CH01 A Phase Active power of the month	5	R				
A9F-AA3	Minimum CH01 B Phase Active power of the month	5	R				
AA4-AA8	Minimum CH01 C Phase Active power of the month	5	R				
AA9-AAD	Minimum CH01 Active power of the month	5	R				
AAE-AB2	Minimum CH01 A Phase Reactive power of the month	5	R				
AB3-AB7	This Months CH01 B Phase Reactive power Minimum value	5	R				
AB8-ABC	Minimum CH01 C Phase Reactive power of the month	5	R				
ABD-AC1	Minimum CH01 Reactive power of the month	5	R				
AC2-AC6	Minimum CH01 A Phase apparent power of the month	5	R				
AC7-ACB	Minimum CH01 B Phase apparent power of the month	5	R				
ACC-AD0	Minimum CH01 C Phase apparent power of the month	5	R				
AD1-AD5	Minimum CH01 apparent power of the month	5	R				
AD6-ADA	Minimum CH01 A Phase power-factor of the month	5	R				
ADB-ADF	Minimum CH01 B Phase power-factor of the month	5	R				
AE0-AE4	Minimum CH01 C Phase power-factor of the month	5	R				
AE5-AE9	Minimum CH01 power-factor of the month	5	R				
AEA-AEE	Minimum CH01 Load factor of the month	5	R				
95A-95B	Maximum A Phase Voltage of Last month	2	R	V	float		
95C	Maximum A Phase Voltage of Last month and Time of occurrence	1	R		uint16_t	Year	Months
95D		1	R		uint16_t	Day	Time
95E		1	R		uint16_t	Minutes	second
95F-963	Maximum B Phase Voltage of Last month	5	R				
964-968	Maximum C Phase Voltage of Last month	5	R				
969-96D	Maximum AB Line Voltage of Last month	5	R				
96E-972	Maximum BC Line Voltage of Last month	5	R				
973-977	Maximum CA Line Voltage of Last month	5	R				

978-97C	Minimum A Phase Voltage of Last month	5	R					
97D-981	Minimum B Phase Voltage of Last month	5	R					
982-986	Minimum C Phase Voltage of Last month	5	R					
987-98B	Minimum AB Line Voltage of Last month	5	R					
98C-990	Minimum BC Line Voltage of Last month	5	R					
991-995	Minimum CA Line Voltage of Last month	5	R					
996-99A	Mean A Phase Voltage of Last month	5	R					
99B-99F	Mean B Phase Voltage of Last month	5	R					
9A0-9A4	Mean C Phase Voltage of Last month	5	R					
9A5-9A9	Mean AB Line Voltage of Last month	5	R					
9AA-9AE	Mean BC Line Voltage of Last month	5	R					
9AF-9B3	Mean CA Line Voltage of Last month	5	R					
A1D-A1E	Maximum CH01 A Phase Current of Last month	2	R	A	float			
A1F	Maximum CH01 A Current of Last month And Time of occurrence	1	R		uint16_t	Year	Months
A20		1	R		uint16_t	Day	Time
A21		1	R		uint16_t	Minutes	second
A22-A26	Maximum CH01 B Phase Current of Last month	5	R					
A27-A2B	Maximum CH01 C Phase Current of Last month	5	R					
A2C-A30	Maximum CH01 Zero sequence Current of Last month	5	R					
A31-A35	Maximum CH01 A Phase Active power of Last month	5	R					
A36-A3A	Maximum CH01 B Phase Active power of Last month	5	R					
A3B-A3F	Maximum CH01 C Phase Active power of Last month	5	R					
A40-A44	Maximum CH01 Active power of Last month	5	R					
A45-A49	Maximum CH01 A Phase Reactive power of Last month	5	R					
A4A-A4E	Maximum CH01 B Phase Reactive power of Last month	5	R					
A4F-A53	Maximum CH01 C Phase Reactive power of Last month	5	R					
A54-A58	Maximum CH01 Reactive power of Last month	5	R					
A59-A5D	Maximum CH01 A Phase apparent power of Last month	5	R					
A5E-A62	Maximum CH01 B Phase apparent power of Last month	5	R					
A63-A67	Maximum CH01 C Phase apparent power of Last month	5	R					
A68-A6C	Maximum CH01 apparent power of Last	5	R					

	month						
A6D-A71	Maximum CH01 A Phase power-factor of Last month	5	R				
A72-A76	Maximum CH01 B Phase power-factor of Last month	5	R				
A77-A7B	Maximum CH01 C Phase power-factor of Last month	5	R				
A7C-A80	Maximum CH01 power-factor of Last month	5	R				
A81-A85	Maximum CH01 Load factor of Last month	5	R				
AEF-AF0	Minimum CH01 A Phase Current of Last month	2	R	A	float		
AF1		1	R		uint16_t	Year	Months
AF2	Minimum CH01 A Current of Last month	1	R		uint16_t	Day	Time
AF3		1	R		uint16_t	Minutes	second
AF4-AF8	Minimum CH01 B Phase Current of Last month	5	R				
AF9-AFD	Minimum CH01 C Phase Current of the Last month	5	R				
AFE-B02	Minimum CH01 Zero sequence Current of Last month	5	R				
B03-B07	Minimum CH01 A Phase Active power of Last month	5	R				
B08-B0C	Minimum CH01 B Phase Active power of Last month	5	R				
B0D-B11	Minimum CH01 C Phase Active power of Last month	5	R				
B12-B16	Minimum CH01 Active power of Last month	5	R				
B17-B1B	Minimum CH01 A Phase Reactive power of Last month	5	R				
B1C-B20	Minimum CH01 B Phase Reactive power of Last month	5	R				
B21-B25	Minimum CH01 C Phase Reactive power of Last month	5	R				
B26-B2A	Minimum CH01 Reactive power of Last month	5	R				
B2B-B2F	Minimum CH01 A Phase apparent power of Last month	5	R				
B30-B34	Minimum CH01 B Phase apparent power of Last month	5	R				
B35-B39	Minimum CH01 C Phase apparent power of Last month	5	R				
B3A-B3E	Minimum CH01 apparent power of Last month	5	R				
B3F-B43	Minimum CH01 A Phase power-factor of Last month	5	R				

	Minimum CH01 B Phase power-factor of Last month	5	R				
B44-B48	Minimum CH01 B Phase power-factor of Last month	5	R				
B49-B4D	Minimum CH01 C Phase power-factor of Last month	5	R				
B4E-B52	Minimum CH01 power-factor of Last month	5	R				
B53-B57	Minimum CH01 Load factor of Last month	5	R				

CH02-CH03 extremum and Time of occurrence

Refer to the above table CH01 extreme value and occurrence time:

Word address	Variable	Word address	Variable
D00-D01	Maximum CH02 A Phase Current of the Months	1000-1001	Maximum CH03 A Phase Current of the Months
D02	Maximum CH02 A Current of the Months and Time of occurrence	1002	Maximum CH03 A Current of the Months and Time of occurrence
D03		1003	
D04		1004	
D05-D09	Maximum CH02 B Phase Current of the Months	1005-1009	Maximum CH03 B Phase Current of the Months
D0A-D0E	Maximum CH02 C Phase Current of the Months	100A-100E	Maximum CH03 C Phase Current of the Months
D0F-D13	Maximum CH02 Zero sequence Current of the Months	100F-1013	Maximum CH03 Zero sequence Current of the Months
D14-D18	Maximum CH02 A Phase Active power of the Months	1014-1018	Maximum CH03 A Phase Active power of the Months
D19-D1D	Maximum CH02 B Phase Active power of the Months	1019-101D	Maximum CH03 B Phase Active power of the Months
D1E-D22	Maximum CH02 C Phase Active power of the Months	101E-1022	Maximum CH03 C Phase Active power of the Months
D23-D27	Maximum CH02 Active power of the Months	1023-1027	Maximum CH03 Active power of the Months
D28-D2C	Maximum CH02 A Phase Reactive power of the Months	1028-102C	Maximum CH03 A Phase Reactive power of the Months
D2D-D31	Maximum CH02 B Phase Reactive power of the Months	102D-1031	Maximum CH03 B Phase Reactive power of the Months
D32-D36	Maximum CH02 C Phase Reactive power of the Months	1032-1036	Maximum CH03 C Phase Reactive power of the Months
D37-D3B	Maximum CH02 Reactive power of the Months	1037-103B	Maximum CH03 Reactive power of the Months
D3C-D40	Maximum CH02 A Phase apparent power of the Months	103C-1040	Maximum CH03 A Phase apparent power of the Months
D41-D45	Maximum CH02 B Phase apparent power of the Months	1041-1045	Maximum CH03 B Phase apparent power of the Months
D46-D4A	Maximum CH02 C Phase apparent power of the Months	1046-104A	Maximum CH03 C Phase apparent power of the Months
D4B-D4F	Maximum CH02 apparent power of the	104B-104F	Maximum CH03 apparent power of the

	Months		Months
D50-D54	Maximum CH02 A Phase power-factor of the Months	1050-1054	Maximum CH03 A Phase power-factor of the Months
D55-D59	Maximum CH02 B Phase power-factor of the Months	1055-1059	Maximum CH03 B Phase power-factor of the Months
D5A-D5E	Maximum CH02 C Phase power-factor of the Months	105A-105E	Maximum CH03 C Phase power-factor of the Months
D5F-D63	Maximum CH02 power-factor of the Months	105F-1063	Maximum CH03 power-factor of the Months
D64-D68	Maximum CH02 Load factor of the Months	1064-1068	Maximum CH03 Load factor of the Months
DD2-DD3	Minimum CH02 A Phase Current of the Months	10D2-10D3	Minimum CH03 A Phase Current of the Months
DD4	Minimum CH02 A Current of the	10D4	Minimum CH03 A Current of the Months
DD5	Months and	10D5	and
DD6	Time of occurrence	10D6	Time of occurrence
DD7-DDB	Minimum CH02 B Phase Current of the Months	10D7-10DB	Minimum CH03 B Phase Current of the Months
DDC-DE0	Minimum CH02 C Phase Current of the Months	10DC-10E0	Minimum CH03 C Phase Current of the Months
DE1-DE5	Minimum CH02 Zero sequence Current of the Months	10E1-10E5	Minimum CH03 Zero sequence Current of the Months
DE6-DEA	Minimum CH02 A Phase Active power of the Months	10E6-10EA	Minimum CH03 A Phase Active power of the Months
DEB-E21	Minimum CH02 B Phase Active power of the Months	10EB-113C	Minimum CH03 B Phase Active power of the Months
DF0-E26	Minimum CH02 C Phase Active power of the Months	10F0-113D	Minimum CH03 C Phase Active power of the Months
DF5-E2B	Minimum CH02 Active power of the Months	10F5-113E	Minimum CH03 Active power of the Months
DFA-E30	Minimum CH02 A Phase Reactive power of the Months	10FA-113F	Minimum CH03 A Phase Reactive power of the Months
DFF-E35	Minimum CH02 B Phase Reactive power of the Months	10FF-1144	Minimum CH03 B Phase Reactive power of the Months
E04-E3A	Minimum CH02 C Phase Reactive power of the Months	1104-1149	Minimum CH03 C Phase Reactive power of the Months
E09	Minimum CH02 Reactive power of the Months	1109-114E	Minimum CH03 Reactive power of the Months
E0E	Minimum CH02 A Phase apparent power of the Months	110E-1153	Minimum CH03 A Phase apparent power of the Months
E13	Minimum CH02 B Phase apparent power of the Months	1113-1158	Minimum CH03 B Phase apparent power of the Months
E18	Minimum CH02 C Phase apparent power of the Months	1118-115D	Minimum CH03 C Phase apparent power of the Months
E1D-E21	Minimum CH03 apparent power of the	111D-1121	Minimum CH03 apparent power of the

	Months		Months
E22-E26	Minimum CH02 A Phase power-factor of the Months	1122-1126	Minimum CH03 A Phase power-factor of the Months
E27-E2B	Minimum CH02 B Phase power-factor of the Months	1127-112B	Minimum CH03 B Phase power-factor of the Months
E2C-E30	Minimum CH02 C Phase power-factor of the Months	112C-1130	Minimum CH03 C Phase power-factor of the Months
E31-E35	Minimum CH02 power-factor of the Months	1131-1135	Minimum CH03 power-factor of the Months
E36-E3A	Minimum CH02 Load factor of the Months	1136-113A	Minimum CH03 Load factor of the Months
D69-D6A	Maximum CH02 A Phase Current of Last Months	1069-106A	Maximum CH03 A Phase Current of Last Months
D6B	Maximum CH02 A Current of Last Months and Time of occurrence	106B	Maximum CH03 A Current of Last Months and Time of occurrence
D6C		106C	
D6D		106D	
D6E-D72	Maximum CH02 B Phase Current of Last Months	106E-1072	Maximum CH03 B Phase Current of Last Months
D73-D77	Maximum CH02 C Phase Current of Last Months	1073-1077	Maximum CH03 C Phase Current of Last Months
D78-D7C	Maximum CH02 Zero sequence Current of Last Months	1078-107C	Maximum CH03 Zero sequence Current of Last Months
D7D-D81	Maximum CH02 A Phase Active power of Last Months	107D-1081	Maximum CH03 A Phase Active power of Last Months
D82-D86	Maximum CH02 B Phase Active power of Last Months	1082-1086	Maximum CH03 B Phase Active power of Last Months
D87-D8B	Maximum CH02 C Phase Active power of Last Months	1087-108B	Maximum CH03 C Phase Active power of Last Months
D8C-D90	Maximum CH02 Active power of Last Months	108C-1090	Maximum CH03 Active power of Last Months
D91-D95	Maximum CH02 A Phase Reactive power of Last Months	1091-1095	Maximum CH03 A Phase Reactive power of Last Months
D96-D9A	Maximum CH02 B Phase Reactive power of Last Months	1096-109A	Maximum CH03 B Phase Reactive power of Last Months
D9B-D9F	Maximum CH02 C Phase Reactive power of Last Months	109B-109F	Maximum CH03 C Phase Reactive power of Last Months
DA0-DA4	Maximum CH02 Reactive power of Last Months	10A0-10A4	Maximum CH03 Reactive power of Last Months
DA5-DA9	Maximum CH02 A Phase apparent power of Last Months	10A5-10A9	Maximum CH03 A Phase apparent power of Last Months
DAA-DAE	Maximum CH02 B Phase apparent power of Last Months	10AA-10AE	Maximum CH03 B Phase apparent power of Last Months
DAF-DB3	Maximum CH02 C Phase apparent power of Last Months	10AF-10B3	Maximum CH03 C Phase apparent power of Last Months
DB4-DB8	Maximum CH02 apparent power of Last	10B4-10B8	Maximum CH03 apparent power of Last

	Months		Months
DB9-DBD	Maximum CH02 A Phase power-factor of Last Months	10B9-10BD	Maximum CH03 A Phase power-factor of Last Months
DBE-DC2	Maximum CH02 B Phase power-factor of Last Months	10BE-10C2	Maximum CH03 B Phase power-factor of Last Months
DC3-DC7	Maximum CH02 C Phase power-factor of Last Months	10C3-10C7	Maximum CH03 C Phase power-factor of Last Months
DC8-DCC	Maximum CH02 power-factor of Last Months	10C8-10CC	Maximum CH03 power-factor of Last Months
DCD-DD1	Maximum CH02 Load factor of Last Months	10CD-10D1	Maximum CH03 Load factor of Last Months
E3B-E3C	Minimum CH02 A Phase Current of Last Months	113B-113C	Minimum CH03 A Phase Current of Last Months
E3D	Minimum CH02 A Current of Last Months and Time of occurrence	113D	Minimum CH03 A Current of Last Months and Time of occurrence
E3E		113E	
E3F		113F	
E40-E44	Minimum CH02 B Phase Current of Last Months	1140-1144	Minimum CH03 B Phase Current of Last Months
E45-E49	Minimum CH02 C Phase Current of Last Months	1145-1149	Minimum CH03 C Phase Current of Last Months
E4A-E4E	Minimum CH02 Zero sequence Current of Last Months	114A-114E	Minimum CH03 Zero sequence Current of Last Months
E4F-E53	Minimum CH02 A Phase Active power of Last Months	114F-1153	Minimum CH03 A Phase Active power of Last Months
E54-E58	Minimum CH02 B Phase Active power of Last Months	1154-1158	Minimum CH03 B Phase Active power of Last Months
E59-E5D	Minimum CH02 C Phase Active power of Last Months	1159-115D	Minimum CH03 C Phase Active power of Last Months
E5E-E62	Minimum CH02 Active power of Last Months	115E-1162	Minimum CH03 Active power of Last Months
E63-E67	Minimum CH02 A Phase Reactive power of Last Months	1163-1167	Minimum CH03 A Phase Reactive power of Last Months
E68-E6C	Minimum CH02 B Phase Reactive power of Last Months	1168-116C	Minimum CH03 B Phase Reactive power of Last Months
E6D-E71	Minimum CH02 C Phase Reactive power of Last Months	116D-1171	Minimum CH03 C Phase Reactive power of Last Months
E72-E76	Minimum CH02 Reactive power of Last Months	1172-1176	Minimum CH03 Reactive power of Last Months
E77-E7B	Minimum CH02 A Phase apparent power of Last Months	1177-117B	Minimum CH03 A Phase apparent power of Last Months
E7C-E80	Minimum CH02 B Phase apparent power of Last Months	117C-1180	Minimum CH03 B Phase apparent power of Last Months
E81-E85	Minimum CH02 C Phase apparent power of Last Months	1181-1185	Minimum CH03 C Phase apparent power of Last Months
E86-E8A	Minimum CH02 apparent power of Last	1186-118A	Minimum CH03 apparent power of Last

	Months		Months
E8B-E8F	Minimum CH02 A Phase power-factor of Last Months	118B-118F	Minimum CH02 A Phase power-factor of Last Months
E90-E94	Minimum CH02 B Phase power-factor of Last Months	1190-1194	Minimum CH03 B Phase power-factor of Last Months
E95-E99	Minimum CH02 C Phase power-factor of Last Months	1195-1199	Minimum CH03 C Phase power-factor of Last Months
E9A-E9E	Minimum CH02 power-factor of Last Months	119A-119E	Minimum CH03 power-factor of Last Months
E9F-EA3	Minimum CH02 Load factor of Last Months	119F-11A3	Minimum L3 Load factor of Last Months
1300-1301	Maximum CH04 A Phase Current of the Months	13D2-13D3	Minimum CH04 A Phase Current of the Months
1302	Maximum CH04 A Current of the Months and Time of occurrence	13D4	Minimum CH04 A Current of the Months and Time of occurrence
1303		13D5	
1304		13D6	
1305-1309	Maximum CH04 B Phase Current of the Months	13D7-13DB	Minimum CH04 B Phase Current of the Months
130A-130E	Maximum CH04 C Phase Current of the Months	13DC-13E0	Minimum CH04 C Phase Current of the Months
130F-1313	Maximum CH04 Zero sequence Current of the Months	13E1-13E5	Minimum CH04 Zero sequence Current of the Months
1314-1318	Maximum CH04 A Phase Active power of the Months	13E6-13EA	Minimum CH04 A Phase Active power of the Months
1319-131D	Maximum CH04 B Phase Active power of the Months	13EB-1462	Minimum CH04 B Phase Active power of the Months
131E-1322	Maximum CH04 C Phase Active power of the Months	13F0-1467	Minimum CH04 C Phase Active power of the Months
1323-1327	Maximum CH04 Active power of the Months	13F5-146C	Minimum CH04 Active power of the Months
1328-132C	Maximum CH04 A Phase Reactive power of the Months	13FA-1471	Minimum CH04 A Phase Reactive power of the Months
132D-1331	Maximum CH04 B Phase Reactive power of the Months	13FF-1476	Minimum CH04 B Phase Reactive power of the Months
1332-1336	Maximum CH04 C Phase Reactive power of the Months	1404-147B	Minimum CH04 C Phase Reactive power of the Months
1337-133B	Maximum CH04 Reactive power of the Months	1409-1480	Minimum CH04 Reactive power of the Months
133C-1340	Maximum CH04 A Phase apparent power of the Months	140E-1485	Minimum CH04 A Phase apparent power of the Months
1341-1345	Maximum CH04 B Phase apparent power of the Months	1413-148A	Minimum CH04 B Phase apparent power of the Months
1346-134A	Maximum CH04 C Phase apparent power of the Months	1418-148F	Minimum CH04 C Phase apparent power of the Months
134B-134F	Maximum CH04 apparent power of the	141D-1421	Minimum CH04 apparent power of the

	Months		Months
1350-1354	Maximum CH04 A Phase power-factor of the Months	1422-1426	Minimum CH04 A Phase power-factor of the Months
1355-1359	Maximum CH04 B Phase power-factor of the Months	1427-142B	Minimum CH04 B Phase power-factor of the Months
135A-135E	Maximum CH04 C Phase power-factor of the Months	142C-1430	Minimum CH04 C Phase power-factor of the Months
135F-1363	Maximum CH04 power-factor of the Months	1431-1435	Minimum CH04 power-factor of the Months
1364-1368	Maximum CH04 Load factor of the Months	1436-143A	Minimum CH04 Load factor of the Months
1369-136A	Maximum CH04 A Phase Current of last Months	143B-143C	Minimum CH04 A Phase Current of last Months
136B	Maximum CH04 A Current of last Months and Time of occurrence	143D	Minimum CH04 A Current of last Months and Time of occurrence
136C		143E	
136D		143F	
136E-1372	Maximum CH04 B Phase Current of last Months	1440-1444	Minimum CH04 B Phase Current of last Months
1373-1377	Maximum CH04 C Phase Current of last Months	1445-1449	Minimum CH04 C Phase Current of last Months
1378-137C	Maximum CH04 Zero sequence Current of last Months	144A-144E	Minimum CH04 Zero sequence Current of last Months
137D-1381	Maximum CH04 A Phase Active power of last Months	144F-1453	Minimum CH04 A Phase Active power of last Months
1382-1386	Maximum CH04 B Phase Active power of last Months	1454-1458	Minimum CH04 B Phase Active power of last Months
1387-138B	Maximum CH04 C Phase Active power of last Months	1459-145D	Minimum CH04 C Phase Active power of last Months
138C-1390	Maximum CH04 Active power of last Months	145E-1462	Minimum CH04 Active power of last Months
1391-1395	Maximum CH04 A Phase Reactive power of last Months	1463-1467	Minimum CH04 A Phase Reactive power of last Months
1396-139A	Maximum CH04 B Phase Reactive power of last Months	1468-146C	Minimum CH04 B Phase Reactive power of last Months
139B-139F	Maximum CH04 C Phase Reactive power of last Months	146D-1471	Minimum CH04 C Phase Reactive power of last Months
13A0-13A4	Maximum CH04 Reactive power of last Months	1472-1476	Minimum CH04 Reactive power of last Months
13A5-13A9	Maximum CH04 A Phase apparent power of last Months	1477-147B	Minimum CH04 A Phase apparent power of last Months
13AA-13AE	Maximum CH04 B Phase apparent power of last Months	147C-1480	Minimum CH04 B Phase apparent power of last Months
13AF-13B3	Maximum CH04 C Phase apparent power of last Months	1481-1485	Minimum CH04 C Phase apparent power of last Months
13B4-13B8	Maximum CH04 apparent power of last	1486-148A	Minimum CH04 apparent power of last

	Months			Months
13B9-13BD	Maximum CH04 A Phase power-factor of last Months	148B-148F		Minimum CH04 A Phase power-factor of last Months
13BE-13C2	Maximum CH04 B Phase power-factor of last Months	1490-1494		Minimum CH04 B Phase power-factor of last Months
13C3-13C7	Maximum CH04 C Phase power-factor of last Months	1495-1499		Minimum CH04 C Phase power-factor of last Months
13C8-13CC	Maximum CH04 power-factor of last Months	149A-149E		Minimum CH04 power-factor of last Months
13CD-13D1	Maximum CH04 Load factor of last Months	149F-14A3		Minimum CH04 Load factor of last Months

6.2 Energy Freeze Address Table

Device address	function code	Starting address		Read length		Check bit	
adr	03	20	00	**00**	**44**	crc1	crc2

Notes:Different start address, different read freeze date;**Read length cannot be changed**

Send:adr 03 20 00 00 44 crc1 crc2

Receive:adr 03 88 xx xx xx xx xx xx xx xx xx xx xx xx xx....crc1 crc2

The return data address is as follows:

Byte[0]	adr		Byte[67-70]	Freeze CH02 Active power leveling	float
Byte[1]	0x03		Byte[71-74]	Freeze L2 Active Valley Power	float
Byte[2]	0x88		Byte[75-78]	Freeze CH03 Positive active energy	float
Byte[3-4]	Year/Months	uint16_t	Byte[79-82]	Freeze CH03 Reverse active energy	float
Byte[5-6]	Day/Time	uint16_t	Byte[83-86]	Freeze CH03 Forward reactive energy	float
Byte[7-8]	Minutes/second	uint16_t	Byte[87-90]	Freeze CH03 Reverse reactive energy	float
Byte[9-10]	Reserve	uint16_t	Byte[91-94]	Freeze CH03 Active tip Power	float
Byte[11-14]	Freeze CH01 Positive active energy	float	Byte[95-98]	Freeze CH03 Active peak Power	float
Byte[15-18]	Freeze CH01 Reverse active energy	float	Byte[99-102]	Freeze CH03 Active power leveling	float
Byte[19-22]	Freeze CH01 Forward reactive energy	float	Byte[103-106]	Freeze CH03 Active Valley Power	float
Byte[23-26]	Freeze CH01 Reverse reactive energy	float	Byte[107-110]	Freeze CH04 Positive active energy	float
Byte[27-30]	Freeze CH01 Active tip Power	float	Byte[111-114]	Freeze CH04 Reverse active energy	float
Byte[31-34]	Freeze CH01 Active peak Power	float	Byte[115-118]	Freeze CH04 Forward reactive energy	float

Byte[35-38]	Freeze CH01 Active power leveling	float	Byte[119-122]	Freeze CH04 Reverse reactive energy	float
Byte[39-42]	Freeze L1 Active Valley Power	float	Byte[123-126]	Freeze CH04 Active tip Power	float
Byte[43-46]	Freeze CH02 Positive active energy	float	Byte[127-130]	Freeze CH04 Active peak Power	float
Byte[47-50]	Freeze CH02 Reverse active energy	float	Byte[131-134]	Freeze CH04 Active power leveling	float
Byte[51-54]	Freeze CH02 Forward reactive energy	float	Byte[135-138]	Freeze CH04 Active Valley Power	float
Byte[55-58]	Freeze CH02 Reverse reactive energy	float	Byte[139]	crc1	uint8_t
Byte[59-62]	Freeze CH02 Active tip Power	float	Byte[140]	crc2	uint8_t
Byte[63-66]	Freeze CH02 Active peak Power	float			

The specific address is as follows:

Starting address	Freezing position	Starting address	Freezing position	Starting address	Freezing position	Starting address	Freezing position
2000	Past 1st day	2007	Past 8th Day	200F	Past 16th Day	2017	Past 24th Day
2001	Past 2nd Day	2008	Past 9th Day	2010	Past 17th Day	2018	Past 25th Day
2002	Past 3rd Day	2009	Past 10th Day	2011	Past 18th Day	2019	Past 26th Day
2003	Past 4th Day	200A	Past 11th Day	2012	Past 19th Day	201A	Past 27th Day
2004	Past 5th Day	200B	Past 12th Day	2013	Past 20th Day	201B	Past 28th Day
2005	Past 6th Day	200C	Past 13th Day	2014	Past 21th Day	201C	Past 29th Day
2006	Past 7th Day	200D	Past 14th Day	2015	Past 22th Day	201D	Past 30th Day
2007	Past 8th Day	200E	Past 15th Day	2016	Past 23th Day	201E	Past 31th Day

6.3 Data record address table

Device address	function code	Starting address		Data length		Check bit	
adr	03	21	00	**00**	**08**	crc1	crc2

Notes:Different start address, different read freeze date;**Read length cannot be changed**

Send:01 03 21 00 00 08 crc1 crc2

Receive:01 03 10 FF 00 80 81 00 00 13 08 1D 10 12 22 00 00 00 00 25 92

The return data address is as follows:

Hi	Lo	Hi	Lo	Hi	Lo	Hi	Lo	Hi	Lo	Hi	Lo	Hi	Lo	Hi	Lo	Hi	Lo
0x00:DO0 0x01:DO1 0xFF:Event Record	Alarm type	bit7 0:DO 1:DI bit0 1:Close Up 0:Disconnects	Switching number 0x00+num:Branch road 0x80+num: subject			Year		Months		Day		Time		Minutes		second	Alarm value

The specific event record address is as follows:

0x2100	Article 1	0x2128	Article 41	0x2150	Article 81	0x2178	Article 121	0x21A0	Article 161
0x2101	Article 2	0x2129	Article 42	0x2151	Article 82	0x2179	Article 122	0x21A1	Article 162
0x2102	Article 3	0x212A	Article 43	0x2152	Article 83	0x217A	Article 123	0x21A2	Article 163

0x2103	Article 4	0x212B	Article 44	0x2153	Article 84	0x217B	Article 124	0x21A3	Article 164
0x2104	Article 5	0x212C	Article 45	0x2154	Article 85	0x217C	Article 125	0x21A4	Article 165
0x2105	Article 6	0x212D	Article 46	0x2155	Article 86	0x217D	Article 126	0x21A5	Article 166
0x2106	Article 7	0x212E	Article 47	0x2156	Article 87	0x217E	Article 127	0x21A6	Article 167
0x2107	Article 8	0x212F	Article 48	0x2157	Article 88	0x217F	Article 128	0x21A7	Article 168
0x2108	Article 9	0x2130	Article 49	0x2158	Article 89	0x2180	Article 129	0x21A8	Article 169
0x2109	Article 10	0x2131	Article 50	0x2159	Article 90	0x2181	Article 130	0x21A9	Article 170
0x210A	Article 11	0x2132	Article 51	0x215A	Article 91	0x2182	Article 131	0x21AA	Article 171
0x210B	Article 12	0x2133	Article 52	0x215B	Article 92	0x2183	Article 132	0x21AB	Article 172
0x210C	Article 13	0x2134	Article 53	0x215C	Article 93	0x2184	Article 133	0x21AC	Article 173
0x210D	Article 14	0x2135	Article 54	0x215D	Article 94	0x2185	Article 134	0x21AD	Article 174
0x210E	Article 15	0x2136	Article 55	0x215E	Article 95	0x2186	Article 135	0x21AE	Article 175
0x210F	Article 16	0x2137	Article 56	0x215F	Article 96	0x2187	Article 136	0x21AF	Article 176
0x2110	Article 17	0x2138	Article 57	0x2160	Article 97	0x2188	Article 137	0x21B0	Article 177
0x2111	Article 18	0x2139	Article 58	0x2161	Article 98	0x2189	Article 138	0x21B1	Article 178
0x2112	Article 19	0x213A	Article 59	0x2162	Article 99	0x218A	Article 139	0x21B2	Article 179
0x2113	Article 20	0x213B	Article 60	0x2163	Article 100	0x218B	Article 140	0x21B3	Article 180
0x2114	Article 21	0x213C	Article 61	0x2164	Article 101	0x218C	Article 141	0x21B4	Article 181
0x2115	Article 22	0x213D	Article 62	0x2165	Article 102	0x218D	Article 142	0x21B5	Article 182
0x2116	Article 23	0x213E	Article 63	0x2166	Article 103	0x218E	Article 143	0x21B6	Article 183
0x2117	Article 24	0x213F	Article 64	0x2167	Article 104	0x218F	Article 144	0x21B7	Article 184
0x2118	Article 25	0x2140	Article 65	0x2168	Article 105	0x2190	Article 145	0x21B8	Article 185
0x2119	Article 26	0x2141	Article 65	0x2169	Article 106	0x2191	Article 146	0x21B9	Article 186
0x211A	Article 27	0x2142	Article 67	0x216A	Article 107	0x2192	Article 147	0x21BA	Article 187
0x211B	Article 28	0x2143	Article 68	0x216B	Article 108	0x2193	Article 148	0x21BB	Article 188
0x211C	Article 29	0x2144	Article 69	0x216C	Article 109	0x2194	Article 149	0x21BC	Article 189
0x211D	Article 30	0x2145	Article 70	0x216D	Article 110	0x2195	Article 150	0x21BD	Article 190
0x211E	Article 31	0x2146	Article 71	0x216E	Article 111	0x2196	Article 151	0x21BE	Article 191
0x211F	Article 32	0x2147	Article 72	0x216F	Article 112	0x2197	Article 152	0x21BF	Article 192
0x2120	Article 33	0x2148	Article 73	0x2170	Article 113	0x2198	Article 153	0x21C0	Article 193
0x2121	Article 34	0x2149	Article 74	0x2171	Article 114	0x2199	Article 154	0x21C1	Article 194
0x2122	Article 35	0x214A	Article 75	0x2172	Article 115	0x219A	Article 155	0x21C2	Article 195
0x2123	Article 36	0x214B	Article 76	0x2173	Article 116	0x219B	Article 156	0x21C3	Article 196
0x2124	Article 37	0x214C	Article 77	0x2174	Article 117	0x219C	Article 157	0x21C4	Article 197
0x2125	Article 38	0x214D	Article 78	0x2175	Article 118	0x219D	Article 158	0x21C5	Article 198
0x2126	Article 39	0x214E	Article 79	0x2176	Article 119	0x219E	Article 159	0x21C6	Article 199
0x2127	Article 40	0x214F	Article 80	0x2177	Article 120	0x219F	Article 160	0x21C7	Article 200

7   Common fault analysis

Common fault analysis and elimination

Fault content	Analysis	Remarks
No display after power on	Check if the power supply voltage is within the operating voltage range	
Voltage, current, power, etc. readings are incorrect	Check if the voltage-to-current ratio setting is correct Check if the wiring mode setting is consistent with the actual	

	Check if voltage transformer, current transformer is intact	
Power or power factor is incorrect	Check if the wiring mode setting is consistent with the actual	
	Check if the voltage and current phase sequence is correct	
	Check if the wiring is correct	
Communication is not normal	Check whether the address, baud rate, check digit, etc. in the communication settings are consistent with the host computer.	
	Check if the RS485 converter is normal	
	Parallel connection of 120 ohms or more at the end of communication	
	Check if the wiring is correct	