Single phase DIN rail energy Meter user

A Danger and Warning

■ The device may only be installed by professionals. Cause any malfunction due to not follow the instructions in thi manual, Manufacturers will not bear any responsibility

Electric shock, burning and explosion

- Devices can only be qualified by the staff to install and
- Before any operation on the Devices, should be isolated
- from the voltage input and power supply, and the ■ secondary windings of all current transformers are Short
- Verify that the device is live before operation
- All mechanical parts and covers should be restored in

Not pay attention to these precautions may cause serious injury.

1.Overview

1.1.Function introduction
KPM31A is designed with advanced microprocessor and digital signal processing technology. It integrates comprehensive sing le-phase power measurement, display, energy accumulation, and network communication. It has strong anti-interference abil ity and can still work stably in situations with severe electromagn

1.2 Applications

- > Measure and monitor electric energy parameters in the distribution system
- Energy efficiency management system
 Statistical analysis of internal power consumption and basis for charging statistics
- Automatic meter reading system for electric energy me
- > Intelligent power distribution management system

- Measure single-phase voltage, current, active power, reactive power, apparent power, power factor, frequency, active power, and reactive power
- Multi-rate electricity metering, up to 8 time periods can be set a day, 4 rates can be selected.

 12-month historical electricity statistics function
 Standard configuration 1 RS485 communication interface, Mod

Date : 2000-00-00

- bus protocol, expandable DLT645-2007 protocol
- Rated current 5(60)A

 1 pulse passive optocoupler collector output
 Front-end integrated DSP measurement chip, high measurement
- accuracy

 > Built-in clock and maintenance-free battery, data is permanently saved after power failure
- > The internal expandable large-capacity magnetic latching relay realizes load on-off control

 35mm standard guide rail installation, beautiful appearance, easy

1.4. Electrical insulation performance Power frequency withstand voltage: In line with GB /T13729-2002 provisi ons, Power frequency voltage 2KV, Insulation resistance 1 minute. Insulat ion resistance: In line with GB /T13729-2002 provisions, Insulation resis tance ≥50MΩ Impulse voltage: In line withGB /T13729-2002 provisions, can bear the impact of 1.2 / 50US, 5KV peak standard lightning. 1.5. Mechanical properties.

can bear the impact of 1.2 / 50US, 5KV peak sta 1.5. Mechanical properties Vibration response: IEC255-21-1:1998, level 1 Vibration durability: IEC255-21-1:1998, level 1

Impact response: IEC 255-21-2, level 1 pact durability: IEC 255-21-2, level 1 Collision: IEC 255-21-2, level 1

1.6. EMC performance munity: IEC61000-4-4.level 4

Electrostatic discharge immunity: IEC61000-4-4,I Fast pulse group immunity: IEC61000-4-5, level 4 Surge immunity: IEC61000-4-2, level 4

Power frequency magnetic field immunity: IEC61000-4-8, level 4 2 Technical Parameters

2.1 Environmental Conditions

Working temperature: -10℃+55℃

Relative humidity: 5%~95% non-condensing Storage temperature: -20°C+75°C

Altitude: Below 3000 meters

2.2 Rated Parameters

Input voltage: Rated 220V Input current: 5-60A

Power consumption: Whole set power consumption < 0.5VA Overload capacity:
AC voltage loop: 1.2 times rated voltage, continuous work

2 times rated voltage, allow 10s AC current loop: 1.2 times rated current, continuous work For example, KPM31-A-5(60): Rated 220V, 5(60)A, 20 times rated current, allow 1s

2.3 Measurement Accuracy Index

Parameters	Accuracy	Parameters	Accuracy
U	0.2%	PF	±0.5%
I	0.2%	kWh	0.5s
Р	0.5%	kVar	Class 2
Q	0.5%	F	±0.02

2.4 Electrical insulation Performance

Medium strength

Comply with GB/T13729-2002 regulations, Power frequency voltage 2KV, time 1 minute

Insulation resistance

Comply with GB/T13729-2002 regulations, 500V megger test, insulation resistance not less than $50M\Omega$

Impulse voltage:

Comply with GB/T13729-2002 regulations, Withstand the impact of 1.2/50US peak 5KV standard lightning wave

2.5. Mechanical properties

Vibration: Vibration response: GB/T11287-2000, level 1 Vibration durability: GB/T11287-2000, level 1 Impact: Impact response: GB/T14537-1993, level 1 Impact durability: GB/T14537-1993, level 1 Collision: GB/T14537-1993, level 1

2.6 Flectromagnetic compatibility

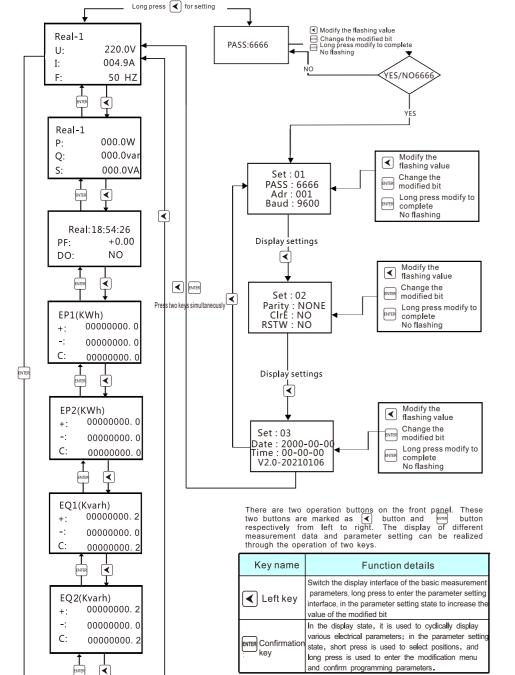
Electrostatic discharge immunity

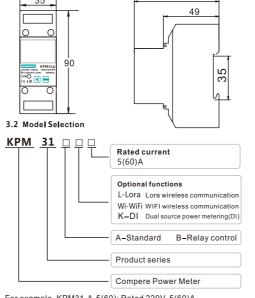
IÉC61000-4-2, level 4 Fast pulse group immunity: IEC61000-4-4, level 4

IEC61000-4-5, level 4 Power frequency magnetic field immunity IEC61000-4-8, level 4

3 Selection And Installation

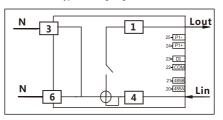
3.1 Product Size



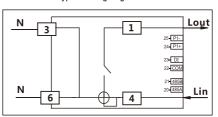


Standard model, multi-rate energy statistics, historical electric energy statistics, single-phase rail smart energy meter.

KPM31A Low-voltage single-phase direct access typical wiring diagram



KPM31B Low-voltage single-phase direct access typical wiring diagram



4 Function pescription

4.1 Electric energy measurement

KPM31A records the historical total active power, total reactive power, forward and reverse power of active and reactive power, and freezes of active and reactive power in the historical 12 sett lement days (restore power at 0 o'clock on the 1st of each month). KPM31A also provides Multi-rate electric energy, providing four rates of peak, flat and valley, up to 8 periods can be set 24 hour saday, can record total active/reactive energy at four rates of pe ak flat and valley, and record four rates of active/reactive power for 12 months And four-rate historical power. For example, the daily electricity measurement is divided into 5

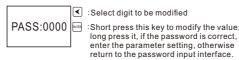
5.3 Parameter Setting Menu

Please make settings before starting measurement. When entering the setting screen, you need to press and hold for 3 seconds to enter the password input interface. The default password is 6666. the password correctly. Long press key to enter the parameter setting interface, and then press \(\bigcirc \) key to select the item to be set, after long press key, the first number from left of the set value will start to flash, short press key to select the digit to be modified, short press the key to increase modified bit value. After finish the modification, long press key to confirm. In the setting interface, if there is no operation for 30s, it will return to the measurement display screen, or short press the 🕙 and keys at the same time to return directly to the

1. Password input interface

Before entering the setting screen, enter the password, the initial password is 6666, after entering the setting screen, you can set your own password.

Note: When setting the password, please save the password in advance and set it carefully.



: Initial password; 6666, which can be set by users Note: When setting a password, please save the password in advance and set it carefully.

Select digit to be modified PASS:6666 : long press this key to save and no longer flash means operation success 3. Address setting

The address of the meter is the standard Modbus-RTU address. On the same RS485 communication cable, the addresses of all KPM31 meters can't be the same. The address of the meter must be set uniformly before putting it into operation. Note: Setting range: 001~247; default value: 001

Adr:001 : Short press this key to modify, long press it to save and no longer flash means oper ation success

your own system, but it must be consistent with the parity of each byte of the communication data in the RS485 link.
Settable range:1200、2400、4800、9600, Default 9600

Baud : 9600 Short press this key to modify, long press it to save and no longer flash means oper

ation success

The baud rate of the RS485 interface can be set according to

5. Parity bit setting

4. Baud rate setting

ation success Switch between NONE, EVEN and ODD : Short press this key to modify, long press

it to save and no longer flash means open

Parity : None

6. Energy clear

1# segment start time is 6 o' clock, end time 10 o' clock, billing se gment is 1; 2# segment start time is 10 o'clock, end time 12 o'clock, billing segment is 2; and so on, 5# period start time is 24 o'clock and ends at 6 o'clock the next day, and the billing segment is 4. The electricity kWh of the same rate is calculated in combination. city measurement is divided into 5

Time slot	Time Slot Tart time	Rate
1#	6	1
2#	10	2
3#	12	1
4#	15	3
5#	23	4

4.2 Input Signal

◆The input voltage should not be higher than 120% of the rated input voltage. It is recommended to install a fuse (typically 1A 250Vac) in the voltage input signal circuit.

Current input: In actual engineering applications, it can be directly connected within 0-60A.

4.3 Output Signal

• Pulse output: KPM31A&B provides active/reactive energy measurement, active energy pulse output function, adopts the output of the optocoupler open collector, the method of energy accuracy inspection refers to the national measurement regulation: the pulse error comparis

- on method of the standard meter. ◆ Electrical characteristics: open collector voltage VCC ≤ 48V
- Current Iz≤50mA
- ◆ Pulse constant: 1600 imp/kWh

4.4 RS485 communication

The meter provides RS485 communication, adopts the standard $\ensuremath{\mathsf{MODBUS}\text{-}\mathsf{RUT}}$ protocol , and can query various power parameters.

4.5 Magnetic latching Relay Control

KPM31B provides relay action mode, users can communicate remotely to control the close or trip of the relay.

4.6 Dual source power metering

KPM31BK is equipped with one DI input, which is connected to the dry contact of the switch device. When the dry contact is open, measure th e electric energy data of the basic circuit; when the dry contact is close d, measure the electric energy data of the extended circuit.

5. Operating Instructions

5.1 Interface display

20.3V
0.0A
) Hz

5.2 Key Operation And Display

7.Reset WIFI module

RSTW:NO

: Switch between YES and NO

Short press this key to modify, long press it to save and no longer flash means oper

5.4 Parameter setting

The parameter setting menu structure menu is as follows:

Delault value list					
Item	Symbo	Defult value	Description		
Password	PASS	6666	Used to protect non-workers to modify instrument parameters		
Communi cation address	Adr	1	Meter address 1~247 during network communication		
Baud rate	baud	9600	Baud rate 1200~9600		
Parity bit	Parity	Parity checking	Used to set the communication parity bit		
Clear energy	CLR E	NO	Used to clear energy data		
Reset WIFI	RSTW	NO	Used to reset WIFI and configure WIFI module		

6 Communication

KPM31 single-phase DIN rail meter provides MODBUS-RTU communication protocol, 1 start bit, 8 data bits, 1 parity bit,

- 1 stop bit, each byte length is 11 bits. ◆ Supported baud rate: 1200, 2400, 4800, 9600 (bps).
- ◆ Factory default communication parameters: 9600bps, even parity
- ◆ The format of each byte in RTU mode: ◆1 start bit + 8 data bits + 1 parity bit + 1 stop bit
- ◆ The format of the data frame is as follows: ◆Address field + command field + data field + CRC check field

	Function code							
DEC	HEX	Definition	Decription					
01	0×01	Read relay output	Read one or more relay output status					
03	0×03	Real register data	Read the value of one or more registers					
05	0×05	Write single loop relay output	Control one loop relay to close or open					
1	0×10	Write multiple registers	Write multiple register data in one time					

6.1 Relay Output Control And Status Reading

This area stores the status of the relay. The user can use the Modbus protocol 01H function code to read the current status, and use the 05H function code to control the output.

Addr	Parameter	Data range	Data type	Read/Write
0001H	Relay (DO1)	1=ON0=OFF	Bit	R/W

Addr Fun StartReg hi StartReg lo RegNum hi Reg Num lo CRC16 hi

6.1.1 Read Relay Output Status (Function code 01H) Request data frame: read the status of Relay1.

01H	01H	00H	01H	00H	01H	ххH	ххH
This	area	stores th	e status o	of the rela	y. The use	er can us	e the

CRC16 lo

Modbus protocol 01H function code to read the current status and use the 05H function code to control the output

The example of read digital output status response,

Ī	Addr	Fun	Bytecount	Data	CRC16hi	CRC16lo	
	01H	01H	01H	01H	ххH	ххH	
Ī	Data byte content (Relay 1 closed)						

	Data byte content (Relay 1 closed)							
Addr Fun StartReg hi StartReg lo RegNum hi Reg Num lo C					CRC16 hi	CRC16 lo		
	01H	01H	00H	01H	00H	01H	ххH	ххH

6.1.2 Relay control (Function code 05H)
Note that the control relay 0xFF00 is the relay closed, and the 0x000 relay is open
Request data frame:

	Addr	Fun	DOaddr hi	DO addr lo	Value hi	Value lo	CRC16 hi	CRC16 lo
	01H	05H	XX	xx	FFH	00H	xxH	xxH
	Respo	nse d	ata frame:					
1	Addr	Fun	DOaddr hi	DO addr lo	Value hi	Value lo	CRC16 hi	CRC16 lo
	01H	05H	XX	XX	FFH	00H	xxH	xxH

6.2 System Parameter Reading And Writing

This area stores system parameters related to equipment work, including communication, password and other parameters, , wh ich can be read using Modbus protocol 03H function code, or set using 10H function code.

Addr	Parameter	Data range	Format
0000H	Protection password	0~9999	Word
0001H	Communication address	Modbus communication address: 1~247	Word
0002H	Baud rate	1:1200,2:2400, 3:4800,4:9600,	Word
000СН	Clear energy	Command word 0x55AA, i mmediately clear the electric energy data	Word

6.3 Basic Measuring Parameters

Basic measurement area, mainly measuring basic voltage, curr

ent, power, power factor, etc.;
The parameters in this area are all real-time measurement para meters, which are read using Modbus-RTU protocol 03H function code and are read-only data. The data format is floating point data. The data in this area is real-time data for primary side

Addr	Parameter	Data format	Unit
0030H	U	Floating point	V
0032H	I	Floating point	Α
0034H	Р	Floating point	W
0036H	Q	Floating point	var
0038H	S	Floating point	VA
003AH	PF	Floating point	
003CH	F	Floating point	Hz
0070H	Apparent demand	Floating point	VA

6.4 Multi-rate Parameter area

The parameters in this area are all real-time measurement parameters, which are read using Modbus protocol 03H function code and are read-only data.

0080H	Total active energy	Floating point	kWh
0082H	Import active energy	Floating point	kWh
0084H	Export active energy	Floating point	kWh
0086H	Total reactive energy	Floating point	kvarh
0088H	Import reactive energy	Floating point	kvarh
008AH	Export reactive energy	Floating point	kvarh
008CH	Total sharp active energy	Floating point	kWh
008EH	Total peak active energy	Floating point	kWh
0090H	Total flat active energy	Floating point	kWh
0092H	Total valley active energ	Floating point	kWh
0094H	Total sharp reactive energy	Floating point	kvarh
0096H	Total peak reactive energy	Floating point	kvarh
0098H	Total flat reactive energy	Floating point	kvarh
009AH	Total valley reactive energy	Floating point	kvarh
009CH	Total combined active energ y for this month	Floating point	kWh
009EH	Total combined active energy of the previous 1 settlement day	Floating point	kWh
00A0H	Total combined active energy of the previous 2 settlement day	Floating point	kWh
00A2H	Total combined active energy of the previous 3 settlement day	Floating point	kWh
00A4H	Total combined active energy of the previous 4 settlement day	Floating point	kWh
00A6H	Total combined active energy of the previous 5 settlement day	Floating point	kWh
00A8H	Total combined active energy of the previous 6 settlement day	Floating point	kWh
00AAH	Total combined active energy of the previous 7 settlement day	Floating point	kWh
00ACH	Total combined active energy of the previous 8 settlement day	Floating point	kWh
00AEH	Total combined active energy of the previous 9 settlement day	Floating point	kWh
00B0H	Total combined active energy	Floating point	kWh
00B2H	Total combined active energy of the previous 11 settlement day	Floating point	kWh
00B4H	Total combined active energy of the previous 12 settlement day	Floating point	kWh
00B6H	Total combined active energ y for this month	Floating point	kvarh
00B8H	Total combined active energy of the previous 1 settlement day	Floating point	kvarh
00BAH	Total combined active energy of the previous 2 settlement day	Floating point	kvarh
00BCH	Total combined active energy of the previous 3 settlement day	Floating point	kvarh
00BEH	Total combined active energy of the previous 4 settlement day	Floating point	kvarh
00C0H	Total combined active energy of the previous 5 settlement day	Floating point	kvarh
00C2H	Total combined active energy of the previous 6 settlement day	Floating point	kvarh
00C4H	Total combined active energy of the previous 7 settlement day	Floating point	kvarh
00C6H	Total combined active energy of the previous 8 settlement day	Floating point	kvarh
00C8H	Total combined active energy of the previous 9 settlement day	Floating point	kvarh
00CAH	Total combined active energy of the previous 10 settlement day	Floating point	kvarh
00CCH	Total combined active energy of the previous 11 settlement day	Floating point	kvarh
00CEH	Total combined active energy of the previous 12 settlement day	Floating point	kvarh
00D0H	Sharp active energy for this month	Floating point	kWh
00D2H	Sharp active energy of the previous 1 settlement day	Floating point	kWh
00D4H	Sharp active energy of the previous 2 settlement day	Floating point	kWh
00D6H	Sharp active energy of the previous 3 settlement day	Floating point	kWh
00D8H	Sharp active energy of the previo	Floating point	kWh
00DAH	Sharp active energy of the previous 5 settlement day	Floating point	kWh
00DCH	Sharp active energy of the previo	Floating point	kWh
00DEH	us 6 settlement day Sharp active energy of the previous 7 settlement day	Floating point	kWh
	Sharp active energy of the previous 8 settlement day		kWh
00E0H	Sharp active energy of the previo	Floating point	
00E2H	us 9 settlement day Sharp active energy of the previous 10 settlement day	Floating point	kWh
00E4H	us 10 settlement day Sharp active energy of the previous	Floating point	kWh
00E6H	Sharp active energy of the previo us 11 settlement day Sharp active energy of the previo us 12 settlement day	Floating point	kWh
00E8H	us 12 settlement ďáy	Floating point	kWh

	I		
00EAH	Sharp reactive energy for this month	Floating point	kvarh
00ECH	Sharp reactive energy of the previous 1 settlement day	Floating point	kvarh
00EEH	Sharp reactive energy of the previous 2 settlement day	Floating point	kvarh
00F0H	Sharp reactive energy of the previous 3 settlement day	Floating point	kvarh
00F2H	Sharp reactive energy of the previous 4 settlement day	Floating point	kvarh
00F4H	Sharp reactive energy of the previous 5 settlement day	Floating point	kvarh
00F6H	Sharp reactive energy of the previous 6 settlement day	Floating point	kvarh
00F8H	Sharp reactive energy of the previous 7 settlement day	Floating point	kvarh
00FAH	Sharp reactive energy of the previous 8 settlement day	Floating point	kvarh
00FCH	Sharp reactive energy of the previous 9 settlement day	Floating point	kvarh
00FEH	Sharp reactive energy of the previous 10 settlement day	Floating point	kvarh
0100H	Sharp reactive energy of the previous 11 settlement day	Floating point	kvarh
0102H	Sharp reactive energy of the previous 12 settlement day	Floating point	kvarh
0104H	Peak active energy for this month	Floating point	kWh
0106H	Peak active energy of the previous 1 settlement day	Floating point	kWh
0108H	Peak active energy of the previous 2 settlement day	Floating point	kWh
010AH	Peak active energy of the previous 3	Floating point	kWh
010CH	Peak active energy of the previous 4	Floating point	kWh
	settlement day Peak active energy of the previous 5	Floating point	
010EH	Peak active energy of the previous 6		kWh
0110H	settlement day Peak active energy of the previous 7	Floating point	kWh
0112H	settlement day	Floating point	kWh
0114H	Peak active energy of the previous 8 settlement day	Floating point	kWh
0116H	Peak active energy of the previous 9 settlement day	Floating point	kWh
0118H	Peak active energy of the previous 10 settlement day	Floating point	kWh
011AH	Peak active energy of the previous 11 settlement day	Floating point	kWh
011CH	Peak active energy of the previous 12 settlement day	Floating point	kWh
011EH	Peak reactive energy of this month	Floating point	kvarh
0120H	Peak reactive energy of the previous 1 settlement day	Floating point	kvarh
0122H	Peak reactive energy of the previous 2 settlement day	Floating point	kvarh
0124H	Peak reactive energy of the previous 3 settlement day	Floating point	kvarh
0126H	Peak reactive energy of the previous 4 settlement day	Floating point	kvarh
0128H	Peak reactive energy of the previous	Floating point	kvarh
012AH	5 settlement day Peak reactive energy of the previous	Floating point	kvarh
012CH	6 settlement day Peak reactive energy of the previous	Floating point	kvarh
	Peak reactive energy of the previous	Floating point	
012EH	8 settlement day Peak reactive energy of the previous		kvarh
0130H	9 settlement day Peak reactive energy of the previous	Floating point	kvarh
0132H	10 settlement day	Floating point	kvarh
0134H	Peak reactive energy of the previous 11 settlement day	Floating point	kvarh
0136H	Peak reactive energy of the previous 12 settlement day	Floating point	kvarh
0138H	Flat active energy for this month	Floating point	kWh
013AH	Flat active energy of the previous 1 settlement day	Floating point	kWh
013CH	Flat active energy of the previous 2 settlement day	Floating point	kWh
013EH	Flat active energy of the previous 3 settlement day	Floating point	kWh
0140H	Flat active energy of the previous 4 settlement day	Floating point	kWh
0142H	Flat active energy of the previous 5	Floating point	kWh
0144H	Flat active energy of the previous 6	Floating point	kWh
	settlement day Flat active energy of the previous 7		
0146H	settlement day Flat active energy of the previous 8	Floating point	kWh
0148H	settlement day Flat active energy of the previous 9	Floating point	kWh
014AH	settlement day	Floating point	kWh
014CH	Flat active energy of the previous 10 settlement day	Floating point	kWh
014EH	Flat active energy of the previous 11 settlement day	Floating point	kWh
	Flat active energy of the previous 12		

0152H	Flat reactive energy for this month	Floating point	kvarh
0154H	Flat reactive energy of the previou s 1 settlement day	Floating point	kvarh
0156H	Flat reactive energy of the previou s 2 settlement day	Floating point	kvarh
0158H	Flat reactive energy of the previou s 3 settlement day	Floating point	kvarh
015AH	Flat reactive energy of the previou s 4 settlement day	Floating point	kvarh
015CH	Flat reactive energy of the previou s 5 settlement day	Floating point	kvarh
015EH	Flat reactive energy of the previou s 6 settlement day	Floating point	kvarh
0160H	Flat reactive energy of the previous 7 settlement day	Floating point	kvarh
0162H	Flat reactive energy of the previou s 8 settlement day	Floating point	kvarh
0164H	Flat reactive energy of the previous 9 settlement day	Floating point	kvarh
0166H	Flat reactive energy of the previous 10 settlement day	Floating point	kvarh
0168H	Flat reactive energy of the previou s 11 settlement day	Floating point	kvarh
016AH	Flat reactive energy of the previous 12 settlement day	Floating point	kvarh
016CH	Volley active energy for this month	Floating point	kWh
016EH	Volley active energy of the previou s 1 settlement day	Floating point	kWh
0170H	Volley active energy of the previou s 2 settlement day	Floating point	kWh
0172H	Volley active energy of the previou s 3 settlement day	Floating point	kWh
0174H	Volley active energy of the previou s 4 settlement day	Floating point	kWh
0176H	Volley active energy of the previou s 5 settlement day	Floating point	kWh
0178H	Volley active energy of the previou s 6 settlement day	Floating point	kWh
017AH	Volley active energy of the previou s 7 settlement day	Floating point	kWh
017CH	Volley active energy of the previou s 8 settlement day	Floating point	kWh
017EH	Volley active energy of the previou s 9 settlement day	Floating point	kWh
0180H	Volley active energy of the previou s 10 settlement day	Floating point	kWh
0182H	Volley active energy of the previou s 11 settlement day	Floating point	kWh
0184H	Volley active energy of the previou s 12 settlement day	Floating point	kWh
0186H	Volley reactive energy for this month	Floating point	kvarh
0188H	Volley reactive energy of the previous 1 settlement day	Floating point	kvarh
018AH	Volley reactive energy of the previous 2 settlement day	Floating point	kvarh
018CH	Volley reactive energy of the previous 3 settlement day	Floating point	kvarh
018EH	Volley reactive energy of the previous 4 settlement day	Floating point	kvarh
0190H	Volley reactive energy of the previous 5 settlement day	Floating point	kvarh
0192H	Volley reactive energy of the previous 6 settlement day	Floating point	kvarh
0194H	Volley reactive energy of the previous 7 settlement day	Floating point	kvarh
0196H	Volley reactive energy of the previous 8 settlement day	Floating point	kvarh
0198H	Volley reactive energy of the previous 9 settlement day	Floating point	kvarh
019AH	Volley reactive energy of the previous 10 settlement day	Floating point	kvarh
019CH	Volley reactive energy of the previous 11 settlement day	Floating point	kvarh
019EH	Volley reactive energy of the previous 12 settlement day	Floating point	kvarh
7 Comn	non Failure Analysis		

7 Common Failure Analysis
No display after device is powered on
• Check whether the power supply voltage and other wiring are correct, and the power supply voltage should be within

the working range;
• Turn off the device and host computer, and then restart.
The device does not work properly after power-on
• Turn off the device and host computer, and then restart.

Incorrect voltage or current reading

• Check whether the wiring mode setting is consistent with the actual wiring method

The power or power factor is incorrect, but the voltage and current is correct

Compare the voltage and current input of the actual wiring and the wiring diagram, and check whether the phase relationship is correct

RS-485 communication is abnormal

 Check whether the communication baud rate, ID and communication protocol settings of the host computer are consistent w ith the device; Please check whether the data bit, stop bit, check bit settings are consistent with the host computer

8 Product Quality Assurance

8.1 Quality Assurance

All new devices sold to users, within a certain number of years from the date of sale to users, are subject to free quality assurance for failures caused by defects in design, materials and $% \left(1\right) =\left(1\right) \left(1\right) \left$ workmanship. If the product is determined to meet the above warranty conditions, the supplier will repair and replace it free of

The supplier may require the user to send the device back to the $manufacturer \ to \ confirm \ whether \ the \ device \ is \ covered \ by \ the \ free$ warranty and repair the device.

8.2 Warranty Restrictions

The following devices are not covered by the free warranty:

- •Damage caused by incorrect installation, use, and storage.
- •Abnormal operation and application conditions beyond the
- Devices repaired by organizations or persons not authorized by the company
- •Devices that have exceeded the free warranty period.

9 Contact Details

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The final interpretation of this manual is owned by Henan Compere Smart Technology Co., Ltd.