JSY1005 PDU Meter Header

1. Product shape

Front view Side view

2. Product description :

Please make correct wiring according to the product specification and model, as shown above. Make sure to disconnect all signal sources before wiring to avoid danger and damage of equipment.switch on the power for testing after confirm the wiring is correct.

Yellow Light:Communication Light，Flashes synchronously during communication data transmission.

Green Light:Running Light,Flashes periodically with a period of 1S while the operating system are working.

Red Light:Warning Light，Light up when there is alarm, turn off when there is no alarm.

After connect power supply,yellow light turn up 1S,then yellow light, green light and red light all turn on for 2S,then switch to yellow light and red light go off, and green light flashes with 1S.

The product is set to the default configuration ：Address Number 1、Baud Rte 9600bps、data format is "n, 8, 1", the data update rate is 1000ms, and the ratio is 1 Change the Settings of the product parameters and the general testing of the product by our JSY-MK-1005 series product testing software.

Electric energy metering function:

It provides Single phase voltage 、Current、Power、Power factor、Frequency、Active energy、Carbon emissions serial parameters. The data of the electric energy is an unsigned number 4 bytes,and it will not overflow for 10 consecutive years, and the data is saved after power down.

3. Main technical indexes

3.1 Working Power Supply：85V ~ 300VAC;

3.2 3.2 Accuracy Level：1 Level;

3.3 Measuring Range： 0.01A~63A, 85～300V AC;

3.4 Current Resolution：0.01A;

3.5 Alarm Function：over-current alarm, over current alarm value can be set through menu or communication;

3.6 The voltage alarm are included over-voltage and under-voltage alarms. The over-voltage alarm value is 264V and the under-voltage alarm value is 176V.

4. Operating Instructions

4.1 Screen Display：

Page	Display Content	Mark

1	Voltage：220.00V Current：5.00A	
2	Power：1.100KW Frequency：50.00Hz	
3	Power Factor：1.000 Load Rate：31.25%	
4	Electric Energy： 10.530KWh	
5	Temperature1: 26.7℃ Humidity1： 60.5%	
6	Temperature2： 26.8℃ Humidity2： 60.5%	
7	Communication Address：1 baud rate：9600	
8	Over voltage threshold：265V Under voltage threshold：175V	
9	Over current threshold：16A Rated Current：16A	
10	Buzzer：On	
11	Hardware version：1.00 Software Version：1.05	

Operating Button：

Button	Keys operation	Result
K1	Short Press	Page Turning
	Long Press	Quickly Page Turning
K2	Short Press	None
	Long Press	Enter Settings

2、Setting Display：

Button	Keys operation	Result
K1	Short Press	Switch parameters
	Long Press	Quickly switch parameters
K2	Short Press	the cursor switches from the parameter name to the parameter value.after changed the parameters
	Long Press	None

K1 keys：

K2 keys：

1	>Communication Address ： 2
2	Baud Rate ： 9600
3	Over voltage threshold ： 265V

1	>Communication Address：2
2	Baud Rate：9600
3	Over voltage threshold ： 265V
4	Under voltage threshold ： 175V
5	Over current threshold ： 16A
6	Rated Current ： 16A
7	Buzzer ： On
8	Exit Settings

4	Under voltage threshold ： 175V
5	Over current threshold ： 16A
6	Rated Current ： 16A
7	Buzzer ： On
8	Exit Settings

Keys	Keys operation	Result
K1	Short Press	Number +1
	Long Press	Quickly+1
K2	Short Press	parameter modification is completed and the modification is saved. The cursor returns to the parameter name return to the display interface after exit the settings.
	Long Press	None

5. Modbus Register List

Communication adopts MODBUS RTU Protocol.

5.1 RTU Command format and example

03H ——read single or consecutive multiple registers

Command：

	BYTE	EXAMPLE
Equipment Address	1	01H
Function No.	2	**03H**
Address（High Byte）	3	01H
Address（Low Byte）	4	02H
Words of Number（N）（High Byte）	5	00H
Words of Number（N）（Low Byte）	6	02H
CRC （High Byte）	7	CRC（H）
CRC （Low Byte）	8	CRC（L）

Mark：Read the contents of consecutive 2 words starting at address 0102H from the table at address 01H.

Return：

	BYTE	EXAMPLE
Equipment Address	1	01H
Function No.	2	**03H/04H**
Byte Count（2N）	3	04H
Data 1（High）	4	00H
Data 1（Low）	5	01H
Data 2（High）	6	00H
Data2（Low）	7	01H
CRC （High Byte）	8	CRC（H）
CRC （Low Byte）	9	CRC（L）

Mark：Retuns 01h of the address which starting address is 0102H the content of the consecutive 2 WORDS (Shaded part)

10H ——Write multiple consecutive registers

Command：

	BYTE	EXAMPLE
Equipment Address	1	01H
Function No.	2	10H
address（High Byte）	3	01H
address（Low Byte）	4	02H
Number of Words (N)（High Byte）	5	00H
Number of Words（N)（Low Byte）	6	02H
Byte Count（2N）	7	04H
Data 1（High Byte）	8	00H
Data 1（Low Byte）	9	01H
Data 2（High Byte）	10	00H
Data 2（Low Byte）	11	01H
CRC （High Byte）	12	CRC（H）
CRC （Low Byte）	13	CRC（L）

Mark：Retuns 01h of the address which starting address is 0102H the content of the consecutive 2 WORDS (Shaded part)

Return：

	BYTE	EXAMPLE
Equipment Address	1	01H
Function No.	2	10H
Site（High Byte）	3	01H
Site（Low Byte）	4	01H
Words of number（High Byte）	5	00H
Words of number（Low Byte）	6	02H
CRC （High Byte）	7	CRC（H）
CRC （Low Byte）	8	CRC（L）

5.2 Data definition

According to Modbus Protocol All register data is 1WORD, 16-bit data, and the power is represented by 2 registers.

5.3 Data Format

No.	Parameters	Data Format（Decimal）	Unit	Description
1	Voltage	220	V	
2	Current	0.99	A	
3	Power	0.217	kW	
4	Electric Energy	1000	kWh	

Data conversion formula：

1. Current=【Register】÷100＝99÷100＝0.99A
2. Electric Energy＝【High Energy Value】x65536 +【Low Energy Value】＝0×10000+1000 =1000kwh

Mark： "【】" represents the register reading as above

Chart 1: System configuration read parameter register address and data communication table ,function code 03H (read), 10H (write):

No.	Definition	Address of register	Read/Write	Specific Description

1	Address&Baud Rate	0004H	Read/Write	The default value is 0106H; the default address is 01H, and the default communication format is 8, N, 1, 9600bps. Description The upper byte 8 bits are the address, 1~255; 0 is the broadcast address; The upper 2 bits of the low byte are the data format bits. "00" represented 10 digits，no parity, means "8, N, 1";" ； "01" represented 11 digits，Even parity，means "8，E，1" ； "10" represented 11digits，single Parity，means "8，O，1" ； "11" represented 11digits，no parity，2 stop bits, i.e. "8, N, 2"; The lower four bits of the lower byte are the baud rate ，3—1200bps，4—2400bps，5—4800bps，6—9600bps，7-19200bps，8-38400bps，9-57600bps，10-115200bps.

Chart 2: System read-only parameter register address and communication data table（Function code 03H）

No.	Definition	Register address	Read/Write	Specific Description
1	Hardware version	0001H	Read	Data 100,represent 1.00 Version
2	Soft Version	0002H	Read	Data 105，represent 1.05 Version
3	Hardware No.	0003H	Read	Data 1003
4	Electric Flow Range	0004H	Read	Data 500，represent 50A

Chart 3: Electrical energy register address and communication data sheet,Function code 03H(read)，10H(write)）

NO.	Definition	Register Address	Read/Write	Specific Description
1	Active total electrical energy	000CH	Read/Write	Active total electrical energy（high position）
2	Active total electrical energy	000DH	Read/Write	Active total electrical energy（low position）
3	Active total electrical energy（Clear electricity	000CH	Read/Write	Function 10H，Date 0000000

Chart 4: Measuring electrical parameter registers and communication data sheets（Function No.03H， read only）

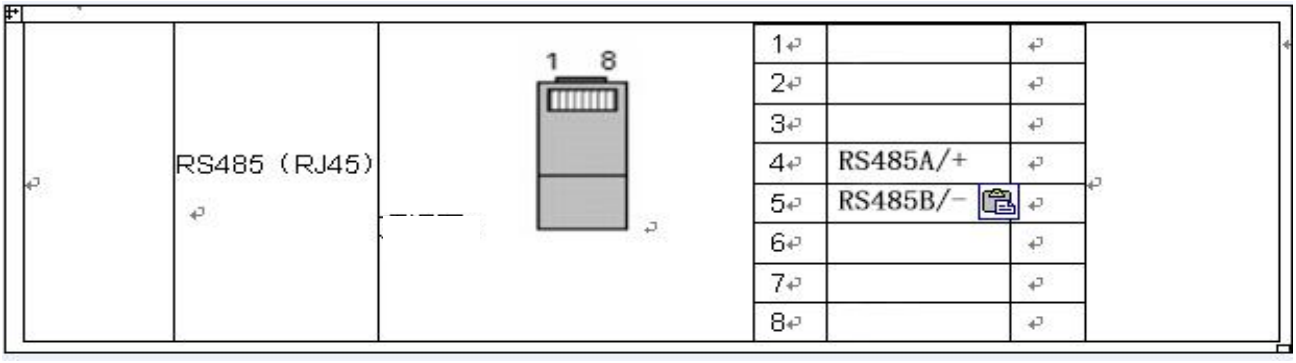
No.	Definition	Register Address	Read/Write	Description of Calculate type &Data
1	Voltage	0048H	Read	Unsigned number，Value=DATA/100,Unit V
2	Current	0049H	Read	Unsigned number，Value =DATA/100, Unit A
3	active power	004AH	Read	Unsigned number，Value =DATA，Unit W
4	Active electrical energy	004BH	Read	Unsigned number，Value =DATA/3200，Unit kWh，The value is the same as the 000CH, 000DH register
		004CH	Read	
5	Power factor	004DH	Read	Unsigned number，Value=DATA/1000
6	Carbon dioxide emissions	004EH	Read	High carbon dioxide emissions， Low Carbon dioxide emissions，Value=DATA/1000，Unit :Kg
		004FH	Read	
7	Temperature	0050H	Read	Save（The module none function）
8	Rate	0051H	Read	Value= DATA/100，Unit Hz
9	Alarm status	0052H	Read	Bit0：0：Normal 1：Over-voltage alarm Bit1：0：Normal 1：under-voltage alarm

				Bit2：0：Normal 1：over-current alarm Bit3-15：saved
10	Load rate	0053H	Read	Unsigned number，Value =DATA/100，Unit %
11	Temparature1	0054H	Read	signed number，Value =DATA/10，Unit ℃
12	Humidity1	0055H	Read	Unsigned number，Value =DATA/10，Unit %
13	Temparature2	0056H	Read	signed number，Value =DATA/10，Unit ℃
14	Hummdity2	0057H	Read	Unsigned number，Value =DATA/10，Unit %

Chart 5: Alarm parameter setting register（Function03H，10H，read only）

No.	Definition	Register Address	Read/Write	Description of Data type and Calculation
1	Over-voltage threshold	0302H	Read &write	Unsigned number,Value =DATA, Unit V,Range 220-300,Value:265.
2	Under-voltage threshold	0303H	Read&Write	Unsigned number,Value =DATA, Unit V,Range50-210,Value175.
3	Over-current threshold	0304H	Read&Write	Unsigned number,Value=DATA, Unit A,range1-75,Defaults :16.

6.Chart of Temperature and humidity Port and RS485 Port:



	Temperature and humidity Port（RJ11）	1 6 Top of Pic	1	GND
			2	
			3	
			4	AM2301_SDA
			5	
			6	3.3V

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