



OWH9800 Series Modbus Communication Protocol Manual

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Oct. 2025 edition V1.0.0

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Version Revision History

Date	Version	Revised Chapters
2025.10	1.0.0	Complete this manual

1. Overview

To meet users' needs for developing upper computers using configuration software or other software packages, our company has developed standard Modbus communication protocol based on the original design. Therefore, the instrument supports both SCPI and Modbus communication protocols. Users should select the appropriate protocol on the display panel before use.

This manual describes the Modbus communication protocol for OWH9830.

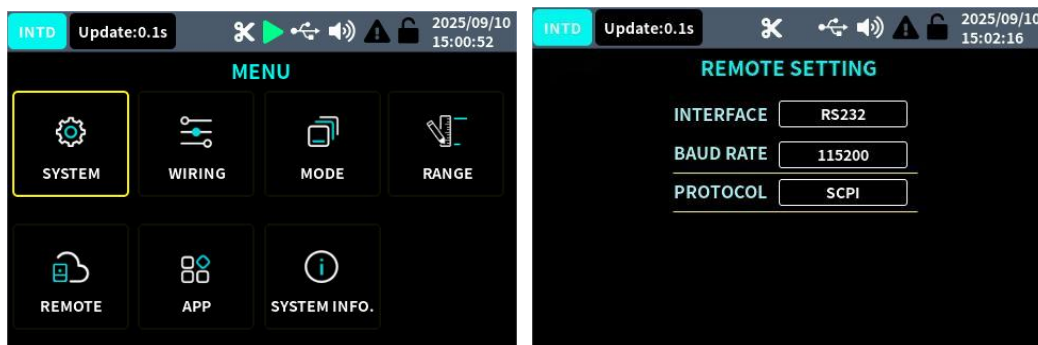
1.1 Configure communication baud rate

OWH9800 series digital power meter supports communication interfaces such as RS232 and RS485.

Interface	Description
RS232	Standard Serial Port
RS485	Standard Serial Port

The configuration method for communication parameters is as follows:

1. On the front panel, press **Menu** key, use the direction keys to move the cursor to "Remote Settings" and press the **Enter** key to access the remote settings menu.

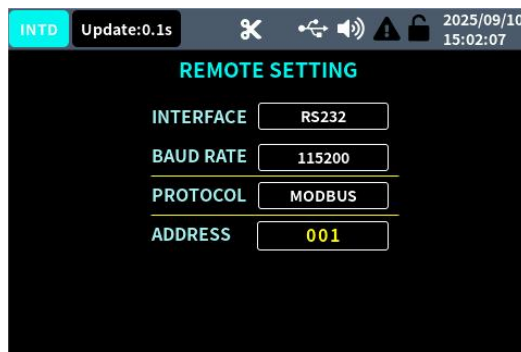


2. Use the direction keys to move the cursor to the "Baud Rate" option, and press the **Enter** key to enter edit mode.
3. Use the direction keys to select relevant parameters.
4. Press the **Enter** key to activate the communication parameters.

1.2 Select communication protocol

The digital power meter supports both SCPI and Modbus communication protocols. The system defaults to SCPI protocol. If you need to switch to Modbus protocol, please follow the steps below:

1. On the front panel, press **Menu** key, use the direction keys to move the cursor to "REMOTE SETTING" and press the **Enter** key to access the system parameter settings interface.

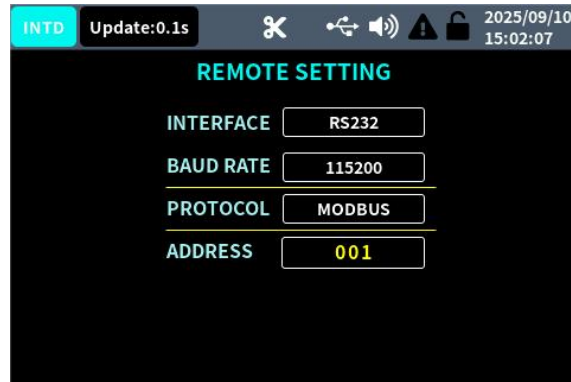


2. Use the direction keys to move the cursor to the "PROTOCOL" option, and press the **Enter** key to enter edit mode.
3. Use the direction keys to select "MODBUS".
4. Press the **Enter** key to activate the communication protocol.

1.3 Set communication address

When the user selects Modbus as the communication protocol, further settings for the Modbus communication address are required. Please follow the steps below:

1. On the front panel, press **Menu** key, use the direction keys to move the cursor to "REMOTE SETTING" and press the **Enter** key to access the system parameter settings interface.



2. Use the direction keys to move the cursor to "ADDRESS", and press **Enter** to enter edit mode.
3. Use the direction keys to enter a new address (address range: 1~247).
4. Press the **Enter** key to activate the device address.

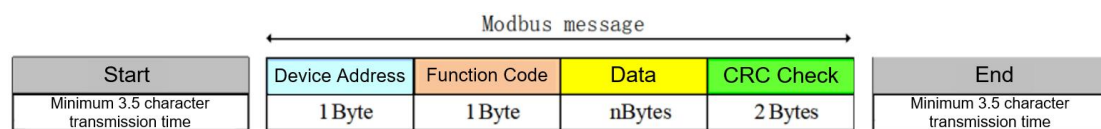
2. Modbus Introduction

The digital power meter supports standard Modbus RTU protocol.

2.1 Frame format

2.1.1 Modbus RTU

For serial communication (e.g., RS232), when using RTU mode to transmit Modbus messages, the format is shown in the following figure.



- **Device Address:** Modbus Communication Address, Range 1~9.
- **Function Code:** Requests a specific operation to be performed, such as reading registers, writing registers, reading block data, etc.
- **Data:** Describes specific operation information, such as the starting address of reading registers and the number of registers to read.
- **CRC Checksum:** Calculate the CRC checksum result for "Device Address", "Function Code", and "Data".

2.2 Function Code

The Modbus protocol only uses partial function codes from the 《Standard Modbus Protocol》, as detailed in the following table.

Function Code	Description	Note
0x03	Read Retention Register	Read in 16-bit bytes
0x04	Read Input Register	Read in 16-bit bytes
0x06	Write a holding register	Write in 16-bit bytes
0x10	Write multiple holding registers	Write in 16-bit bytes

2.2.1 03 (0x03) Read Register

This function code is used to read the contents of multiple consecutive registers.

Request

Function Code	1 Byte	0x03
Initial Address	2 Bytes	0x0000~0xFFFF
Register Count	2 Bytes	

Response

Function Code	1 Byte	0x03
Number of bytes returned	1 Byte	2xN
Register Value	N x 2 Bytes	value

Error

Error Code	1 Byte	0x83
Exception Code	1 Byte	01/02/03/04

Exception Code Description

Error Code	0x01	0x02	0x03	0x04
Description	Unsupported Function Code	Register address out of range.	The number of registers exceeds the range.	Read failure

For example

Request: 01 03 03 E8 00 02 44 7B

Response: 01 03 04 00 01 00 00 AB F3

Request		Response	
Filed	Hex	Field	Hex
Device Address	01	Device Address	01
Function Code	03	Function Code	03
Register Address(High Byte)	03	Byte count	04
Register Address (Low Byte)	E8	Register Value (High Byte)	00

Number of Registers(High Byte)	00	Register Value	01
Number of Registers (Low Byte)	02	Register Value	00
CRC Checksum (Low Byte)	44	Register Value (Low Byte)	00
CRC Checksum (High Byte)	7B	CRC Checksum (Low Byte)	AB
		CRC Checksum (High Byte)	F3

2.2.2 06(0x06) Write to a single register

This function code is used to write a single register.

Request

Function Code	1 Byte	0x06
Initial Address	2 Bytes	0x0000~0xFFFF
Register Value	2 Bytes	value

Response

Function Code	1 Byte	0x10
Register Address	2 Bytes	0x0000~0xFFFF
Register Value	2 Bytes	value

Error

Error Code	1 Byte	0x86
Exception Code	1 Byte	01/02/03/04

Exception Code Description

Error Code	0x01	0x02	0x03	0x04
Description	Unsupported Function Code	Register Address	The number of registers exceeds the range, or the number of bytes is incorrect, or the register value is incorrect.	Write failure

For example

Request: 01 06 03 E8 00 01 C8 7A

Response: 01 06 03 E8 00 01 C8 7A

Request		Response	
Filed	Hex	Field	Hex
Device Address	01	Device Address	01
Function Code	06	Function Code	06
Register Address(High Byte)	03	Register Address (High Byte)	03
Register Address(Low Byte)	E8	Register Address (Low Byte)	E8
Number of Registers (High Byte)	00	Number of Registers (High Byte)	00
Number of Registers (Low Byte)	01	Number of Registers (Low Byte)	01
CRC Checksum (Low Byte)	C8	CRC Checksum (Low Byte)	CB
CRC Checksum (High Byte)	7A	CRC Checksum (High Byte)	7A

2.2.3 16(0x10) Write Register

This function code is used to write multiple consecutive registers.

Request

Function Code	1 Byte	0x10
Initial Address	2 Bytes	0x0000~0xFFFF
Register Count	2 Bytes	2
Byte count	1 Byte	4
Register Value	4 Bytes	value

Response

Function Code	1 Byte	0x10
Initial Address	2 Bytes	0x0000~0xFFFF
Register Value	2 Bytes	2

Error

Error Code	1 Byte	0x90
Exception Code	1 Byte	01/02/03/04

Exception Code Description

Error Code	0x01	0x02	0x03	0x04
Description	Unsupported Function Code	Register Address	The number of registers exceeds the range, or the number of bytes is incorrect, or the register value is incorrect.	Write failure

For example

Request: 01 10 03 F4 00 02 04 00 00 44 7A 5B 0B

Response: 01 10 03 F4 00 02 00 7E

Request		Response	
Filed	Hex	Field	Hex
Device Address	01	Device Address	01
Function Code	10	Function Code	10
Register Address(High Byte)	03	Register Address (High Byte)	03
Register Address (Low Byte)	F4	Register Address (Low Byte)	F4
Number of Registers (High Byte)	00	Number of Registers (High Byte)	00
Number of Registers (Low Byte)	02	Number of Registers (Low Byte)	02
Byte count	04	CRC Checksum (Low Byte)	00
Register Value (High Byte)	00	CRC Checksum (High Byte)	7E
Register Value	00		
Register Value	44		
Register Value (Low Byte)	7A		
CRC Checksum (Low Byte)	5B		
CRC Checksum (High Byte)	0B		

2.2.4 04(0x04) Read Input Register

This function code is used to read the contents of multiple consecutive holding registers.

Request

Function Code	1 Byte	0x04
Initial Address	2 Bytes	0x0000~0xFFFF
Register Count	2 Bytes	2

Response

Function Code	1 Byte	0x04
Initial Address	1 Byte	2xN
Register Value	N x 2 Bytes	value

Error

Error Code	1 Byte	0x83
Exception Code	1 Byte	01/02/03/04

Exception Code Description

Error Code	0x01	0x02	0x03	0x04
Description	Unsupported Function Code	Register Address	The number of registers exceeds the range.	Read failure

For example

Request: 01 04 00 96 00 02 91 E7

Response: 01 04 04 AA C6 3D 1B 6A FA

Request		Response	
Field	Hex	Field	Hex
Device Address	01	Device Address	01
Function Code	04	Function Code	04
Register Address (High Byte)	00	Byte count	04
Register Address (Low Byte)	96	Register Value (High Byte)	AA
Number of Registers(High Byte)	00	Register Value	C6
Number of Registers (Low Byte)	02	Register Value	3D
CRC Checksum (Low Byte)	91	Register Value (Low Byte)	1B
CRC Checksum (High Byte)	E7	CRC Checksum (Low Byte)	6A
		CRC Checksum (High Byte)	FA

3. Address List

3.1 Register Address

The power meter related registers are shown in Table 3-1 (Holding Registers) and Table 3-2 (Input Registers).

Table 3-1 Holding Registers

Add.	Function	Data Type	Add. Incr.	Note
System Setup Information				
1000	Work mode	uint16_t	1	0: Normal Measurement 1: Harmonic Measurement 2: Integral measurement
1001	Data update rate	uint16_t	1	0: 0.1s 1: 0.2s 2: 0.5s 3: 1s 4: 2s 5: 5s
1002	Channel 1 voltage gain	uint16_t	1	0: Auto 1: 75V 2: 150V 3: 300V 4: 600V (When CF=6, the measuring range is halved.)
1003	Channel 1 current gain	uint16_t	1	0: Auto 1: 0.2A 2: 1A 3: 4A 4: 20A (When CF=6, the measuring range is halved.)
1004	Channel 2 voltage gain	uint16_t	1	0: Auto 1: 50V

				2: 100V 3: 500V 4: 1000V
1005	Channel 2 current gain	uint16_t	1	0: Auto 1: 0.2A 2: 1A 3: 4A 4: 20A
1006	Peak Factor (CF) Setting	uint16_t	1	0: CF=3 1: CF=6
1007	Harmonic Measurement Phase Sequence Selection	uint16_t	1	0-A,1-B,2-C(default 0)
1008	Minimum Subharmonic	uint16_t	1	Value: 1-63
1009	Maximum Subharmonic	uint16_t	1	Value: 1-63
1010	Hold and Run	uint16_t	1	0: Hold 1: Run
1011	Channel 1 Limit Alarm Switch	uint16_t	1	0: Disable 1: Enable
1012	Channel 1 Voltage Alarm Upper Limit	float	2	0.0~660.0, when both the upper limit and lower limit are set to 0, it indicates that the alarm is disabled.
1014	Channel 1 Voltage Alarm Lower Limit	float	2	
1016	Channel 1 Current Alarm Upper Limit	float	2	0.000~22.000, when both the upper limit and lower limit are set to 0, it indicates that the alarm is disabled.
1018	Channel 1 Current Alarm Lower Limit	float	2	
1020	Channel 1 Power Alarm Upper Limit	float	2	-13200.0~13200.0 (OWH9811), P P:-39600.0~39600.0(OWH9830) the limit judgment is made by taking the absolute value for comparison. All set values are absolute values.
1022	Channel 1 Power Alarm Lower Limit	float	2	

				When both the upper and lower limits are set to 0, it indicates that the alarm is disabled.
1024	Channel 2 Voltage Alarm Upper Limit	float	2	0.0~1100.0, when both the upper limit and lower limit are set to 0, it indicates that the alarm is disabled.
1026	Channel 2 Voltage Alarm Lower Limit	float	2	
1028	Channel 2 Current Alarm Upper Limit	float	2	0.000~22.000, when both the upper limit and lower limit are set to 0, it indicates that the alarm is disabled.
1030	Channel 2 Current Alarm Lower Limit	float	2	
1032	Channel 2 Power Alarm Upper Limit	float	2	P P:-22000.0~22000.0, the limit judgment is made by taking the absolute value for comparison. All set values are absolute values. When both the upper and lower limits are set to 0, it indicates that the alarm is disabled.
1034	Channel 2 Power Alarm Lower Limit	float	2	
1036	Alarm Delay Count for Channel 1	uint16_t	1	1-9999 counts, issue an alert if the number of delays exceeds the set threshold.
1037	Wiring setting	uint16_t	1	0: 1P2W/1P2W 1: 1P3W/1P2W 2: 3P3W/1P2W 3: 3P4W/1P2W
1038	Efficiency Formula 1	uint16_t	1	0: P1/P2 1: P2/P1

				2: $P2/(Udef1)$ 3: $P1/(Udef1)$ P1 represents the total power of CH1 channel. If joint channels are set $P1 = P1 \Sigma$
1039	Efficiency Formula 2	uint16_t	1	0: $P1/P2$ 1: $P2/P1$ 2: $P2/(Udef2)$ 3: $P1/(Udef2)$
1040	Udef1 Formula	uint16_t	1	OWH9811 0: $P1+P2$ OWH9830 0: $P1 \Sigma + P1A+P1B+P1C$ 1: $P1A+P1B+P1C+P2$
1041	Udef2 Formula	uint16_t	1	OWH9830 0: $P1 \Sigma + P1A+P1B+P1C$ 1: $P1A+P1B+P1C+P2$
1042	Channel 2 Limit Alarm Switch	uint16_t	1	0: Disable 1: Enable
1043	Alarm Delay Count for Channel 2	float	1	1-9999 counts, issue an alert if the number of delays exceeds the set threshold.
1044	CH1 Integral Operation Command	uint16_t	1	1: Start 2: Stop
1045	CH1 Integration Reset Command	uint16_t	1	1: Reset
1046	CH2 Integral Operation Command	uint16_t	1	1: Start 2: Stop
1047	CH2 Integration Reset Command	uint16_t	1	1: Reset
1048	CH1 Integration Time Setting (hours)	uint16_t	1	0000 h
1059	CH1 Integration Time Setting (minutes)	uint16_t	1	00 m
1050	CH1 Integration Time Setting (seconds)	uint16_t	1	00 s

1051	CH2 Integration Time Setting (hours)	uint16_t	1	0000 h
1052	CH2 Integration Time Setting (minutes)	uint16_t	1	00 m
1053	CH2 Integration Time Setting (seconds)	uint16_t	1	00 s
1054	CH1 Integration Mode Settings	uint16_t	1	0: Manual mode 1: Standard mode
1055	CH2 Integration Mode Settings	uint16_t	1	0: Manual mode 1: Standard mode

Table 3-2 Input Registers

Add.	Function	Data Type	Add. Incr.	Note
0	Model Series	uint16_t	8	OWH9811
8	Reserved		92	
100	Channel 1-A Voltage effective value U1Arms	float	2	OW9811
102	Channel 1-A Current effective value I1Arms	float	2	
104	Channel 1-A Active power P1A	float	2	
106	Channel 1-A Reactive Power Q1A	float	2	
108	Channel 1-A Apparent Power S1A	float	2	
110	Channel 1-A Power Factor λ 1A	float	2	
112	Channel 1-A Phase difference ϕ 1A	float	2	
114	Channel 1-A Voltage Frequency fU1A	float	2	
116	Channel 1-A Maximum Voltage U1Apk+	float	2	
118	Channel 1-A Minimum Voltage U1Apk-	float	2	
120	Channel 1-A Maximum Current I1Apk+	float	2	
122	Channel 1-A Minimum Current I1Apk-	float	2	
124	Channel 1-A Voltage Crest Factor CfU1A	float	2	

126	Channel 1-A Current Crest Factor Cfl1A	float	2	OWH9830
128	Reserved	uint16_t	22	
150	Channel 1-B Voltage effective value U1Brms	float	2	
152	Channel 1-B Current effective value I1Brms	float	2	
154	Channel 1-B Active power P1B	float	2	
156	Channel 1-B Reactive Power Q1B	float	2	
158	Channel 1-B Apparent Power S1B	float	2	
160	Channel 1-B Power Factor λ 1B	float	2	
162	Channel 1-B Phase difference ϕ 1B	float	2	
164	Channel 1-B Voltage Frequency fU1B	float	2	
166	Channel 1-B Maximum Voltage U1Bpk+	float	2	
168	Channel 1-B Minimum Voltage U1Bpk-	float	2	
170	Channel 1-B Maximum Current I1Bpk+	float	2	
172	Channel 1-B Minimum Current I1Bpk-	float	2	
174	Channel 1-B Voltage Crest Factor CfU1B	float	2	
176	Channel 1-B Current Crest Factor Cfl1B	float	2	
178	Reserved	uint16_t	22	
200	Channel 1-C Voltage effective value U1Crms	float	2	
202	Channel 1-C Current effective value I1Crms	float	2	
204	Channel 1-C Active power P1C	float	2	
206	Channel 1-C Reactive Power Q1C	float	2	
208	Channel 1-C Apparent Power S1C	float	2	

210	Channel 1-C Power Factor λ_{1C}	float	2	
212	Channel 1-C Phase difference ϕ_{1C}	float	2	
214	Channel 1-C Voltage Frequency f_{U1C}	float	2	
216	Channel 1-C Maximum Voltage U_{1Cpk+}	float	2	
218	Channel 1-C Minimum Voltage U_{1Cpk-}	float	2	
220	Channel 1-C Maximum Current I_{1Cpk+}	float	2	
222	Channel 1-C Minimum Current I_{1Cpk-}	float	2	
224	Channel 1-C Voltage Crest Factor Cf_{U1C}	float	2	
226	Channel 1-C Current Crest Factor Cf_{I1C}	float	2	
228	Reserved	uint16_t	22	
250	Channel 1 Σ Voltage effective value $U_{1\Sigma rms}$	float	2	
252	Channel 1 Σ Current effective value $I_{1\Sigma rms}$	float	2	
254	Channel 1 Σ Active power	float	2	
256	Channel 1 Σ Reactive Power $Q_{1\Sigma}$	float	2	
258	Channel 1 Σ Apparent Power $S_{1\Sigma}$	float	2	
260	Channel 1 Σ Power Factor $\lambda_{1\Sigma}$	float	2	
262	Channel 1 Σ Phase difference $\phi_{1\Sigma}$	float	2	
264	Reserved	uint16_t	36	
300	Channel 2 Voltage effective value U_{2rms}	float	2	
302	Channel 2 Current effective value I_{2rms}	float	2	
304	Channel 2 Active power P_2	float	2	
306	Channel 2 Reactive Power Q_2 —Reserved	float	2	
308	Channel 2 Apparent Power S_2	float	2	
310	Channel 2 Power Factor λ_2	float	2	

312	Channel 2 Phase difference ϕ_2 —Reserved	float	2	
314	Channel 2 Voltage Frequency fU2	float	2	
316	Channel 2 Maximum Voltage U2pk+	float	2	
318	Channel 2 Minimum Voltage U2pk-	float	2	
320	Channel 2 Maximum Current I2pk+	float	2	
322	Channel 2 Minimum Current I2pk-	float	2	
324	Channel 2 Voltage Crest Factor CfU2—Reserved	float	2	
326	Channel 2 Current Crest Factor CfI2—Reserved	float	2	
328	Reserved	uint16_t	22	
350	Efficiency η_1	float	2	
352	Efficiency η_2	float	2	
354	CH1 Integrated Watt-hour (iWh) WP1	float	2	
356	CH1 integral watt-hour WP1+	float	2	Reserve
358	CH1 Negative integral watt- hour WP1-	float	2	Reserve
360	CH1 Integral Ampere-Hour q1	float	2	
362	CH1 integral watt-hour q1+	float	2	Reserve
364	CH1 Negative integral watt- hour q1-	float	2	Reserve
366	CH2 Integrated Watt-hour (iWh) WP1	float	2	
368	CH2 integral watt-hour WP1+	float	2	Reserve
370	CH2 Negative integral watt- hour WP1-	float	2	Reserve
372	CH2 Integral Ampere-Hour q1	float	2	
374	CH2 integral watt-hour q1+	float	2	Reserve
376	CH2 Negative integral watt- hour q1-	float	2	Reserve
378	Reserved	uint16_t	22	
400	Channel 1-A THD of voltage	float	2	

402	Channel 1-A THD of current	float	2	
404	Channel 1-A Voltage Fundamental component Valid value	float	2	
406	Channel 1-A Current Fundamental component Valid value	float	2	
408	Channel 1-A Fundamental component Active power	float	2	
410	Channel 1-A Fundamental component Reactive Power	float	2	
412	Channel 1-A Fundamental component Apparent Power	float	2	
414	Channel 1-A Fundamental component Power Factor	float	2	
416	Channel 1-A RMS value of voltage harmonics 2 to 63	float	124	
540	Channel 1-A RMS value of current harmonics 2 to 63	float	124	
664	Channel 1-A 2~63 Harmonic wave Active power	float	124	
788	Channel 1-A 2~63 Harmonic wave Reactive Power	float	124	
912	Channel 1-A 2~63 Harmonic wave Apparent Power	float	124	
1036	Channel 1-A 2~63 Harmonic Power Factor	float	124	
1160	Channel 1-A Voltage 2~63 Harmonic Distortion Relative to Fundamental Wave	float	124	
1284	Channel 1-A Current 2~63 Harmonic Distortion Relative to Fundamental Wave	float	124	
1408	Reserved	uint16_t	42	
1450	Channel 1-B THD of voltage	float	2	
1452	Channel 1-B THD of current	float	2	

1454	Channel 1-B Voltage Fundamental component Valid value	float	2	
1456	Channel 1-B Current Fundamental component Valid value	float	2	
1458	Channel 1-B Fundamental component Active power	float	2	
1460	Channel 1-B Fundamental component Reactive Power	float	2	
1462	Channel 1-B Fundamental component Apparent Power	float	2	
1464	Channel 1-B Fundamental component Power Factor	float	2	
1466	Channel 1-B RMS value of voltage harmonics 2 to 63	float	124	
1590	Channel 1-B RMS value of current harmonics 2 to 63	float	124	
1714	Channel 1-B 2~63 Harmonic wave Active power	float	124	
1838	Channel 1-B 2~63 Harmonic wave Reactive Power	float	124	
1962	Channel 1-B 2~63 Harmonic wave Apparent Power	float	124	
2086	Channel 1-B 2~63 Harmonic wave Power Factor	float	124	
2210	Channel 1-B Voltage 2~63 Harmonic Distortion Relative to Fundamental Wave	float	124	
2334	Channel 1-B Current 2~63 Harmonic Distortion Relative to Fundamental Wave	float	124	
2458	Reserved	uint16_t	42	
2500	Channel 1-C THD of voltage	float	2	
2502	Channel 1-C THD of current	float	2	
2504	Channel 1-C Voltage Fundamental component Valid value	float	2	
2506	Channel 1-C Current Fundamental component Valid value	float	2	

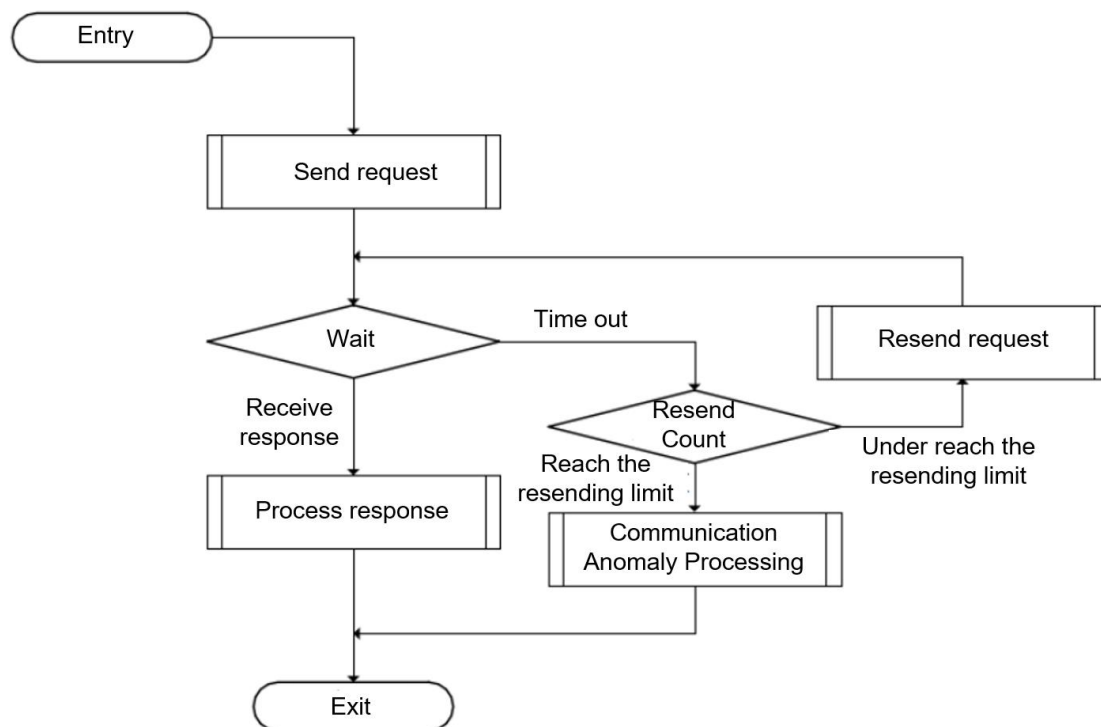
2508	Channel 1-C Fundamental component Active power	float	2	
2510	Channel 1-C Fundamental component Reactive Power	float	2	
2512	Channel 1-C Fundamental component Apparent Power	float	2	
2514	Channel 1-C Fundamental component Power Factor	float	2	
2516	Channel 1-C RMS value of voltage harmonics 2 to 63	float	124	
2640	Channel 1-C RMS value of current harmonics 2 to 63	float	124	
2764	Channel 1-C 2~63 Harmonic wave Active power	float	124	
2888	Channel 1-C 2~63 Harmonic wave Reactive Power	float	124	
3012	Channel 1-C 2~63 Harmonic wave Apparent Power	float	124	
3136	Channel 1-C 2~63 Harmonic wave Power Factor	float	124	
3260	Channel 1-C Voltage 2~63 Harmonic Distortion Relative to Fundamental Wave	float	124	
3384	Channel 1-C Current 2~63 Harmonic Distortion Relative to Fundamental Wave	float	124	
3508	Reserved	uint16_t	42	

3550	System Alarm Status Word	uint16_t	1	Bit0: Channel 1 Overvoltage Bit1: Channel 1 Undervoltage Bit2: Channel 1 Overcurrent Bit3: Channel 1 Undercurrent Bit4: Channel 1 Overpower Bit5: Channel 1 Underpower Bit6: Channel 2 Overvoltage Bit7: Channel 2 Undervoltage Bit8: Channel 2 Overcurrent Bit9: Channel 2 Undercurrent Bit10: Channel 2 Overpower Bit11: Channel 2 Underpower
3551	Reserved			

4. Programming Reference

4.1 Communication Model

The timeout period is recommended to be set between 50 ~ 500ms, depending on the length of the Response frame. The longer the Response frame, the longer the timeout period should be. The number of retries is recommended to be set between 3~5 times.



4.2 Number Conversion

Modbus data transmission uses big-endian format. If the control device (PC, PLC, configuration software, user APP, etc.) uses little-endian format, then the data needs to be converted between big-endian and little-endian formats before use.

typedef union

{

int reg_int; //32-bit signed integer

```

float    reg_float;          //Single-precision floating-point
UCHAR    reg_bytes[4];      //byte sequence
}unReg32Type;
UCHAR buff_modbus[256];      //Modbus Data Buffer
unReg32Type data_reg;        //Composite Register Data

```

On little-endian devices

```

data_reg.reg_bytes[3] = buff_modbus[0];
data_reg.reg_bytes[2] = buff_modbus[1];
data_reg.reg_bytes[1] = buff_modbus[2];
data_reg.reg_bytes[0] = buff_modbus[3];

```

On big-endian devices

```

data_reg.reg_bytes[0] = buff_modbus[0];
data_reg.reg_bytes[1] = buff_modbus[1];
data_reg.reg_bytes[2] = buff_modbus[2];
data_reg.reg_bytes[3] = buff_modbus[3];

```

The above code is for reference only. Users should properly handle data according to the actual situation of the controlled device in communication applications.

4.3 Touchscreen Communication Configuration

Device Property Name	Device attribute value
Collection Optimization	1 ~ Optimization
Device name	Device 0
Device notes	ModbusRTU_serial port
Initial working status	1 ~ start
Minimum acquisition period(ms)	100
Device address	1
Response time	200
16-bit integer byte order	0 ~ 22
32-bit integer byte order	2 ~ 3412
32-bit floating point byte order	2 ~ 3412
Byte Order	0 ~ 21
Character Encoding Format	0 ~ ASCII

Verify Data Byte Order	0 ~ LH(Low byte,High byte)
Function Code Verification	0 ~ Check Function Code
Block Acquisition Method	0 ~ Chunk by maximum length
Write Function Code to Zone 0	2 ~ default value
Write Function Code to Zone 4	2 ~ default value
Maximum block length in Zone 1	120
Maximum block length in Zone 0	120