740 ADW300A Wireless Metering Instrument

Installation and Usage Manual V1.3

Acrel Electric Co., Ltd.

Statement

The company reserves the right to modify product specifications as described in the manual without prior notice. Before placing an order, please consult your local agent for the current specifications of this product.

Revision History of the Manual

date	legacy version	new release	remarks
2026.4.27		1.0	1，editio princeps
2026.5.9		1.1	1，Add Button Description
2026.5.11	1.1	1.2	1，Add Terminal Torque Parameters 2，Optimize Button Labels
2026.5.22	1.2	1.3	1，Increase voltage input specifications

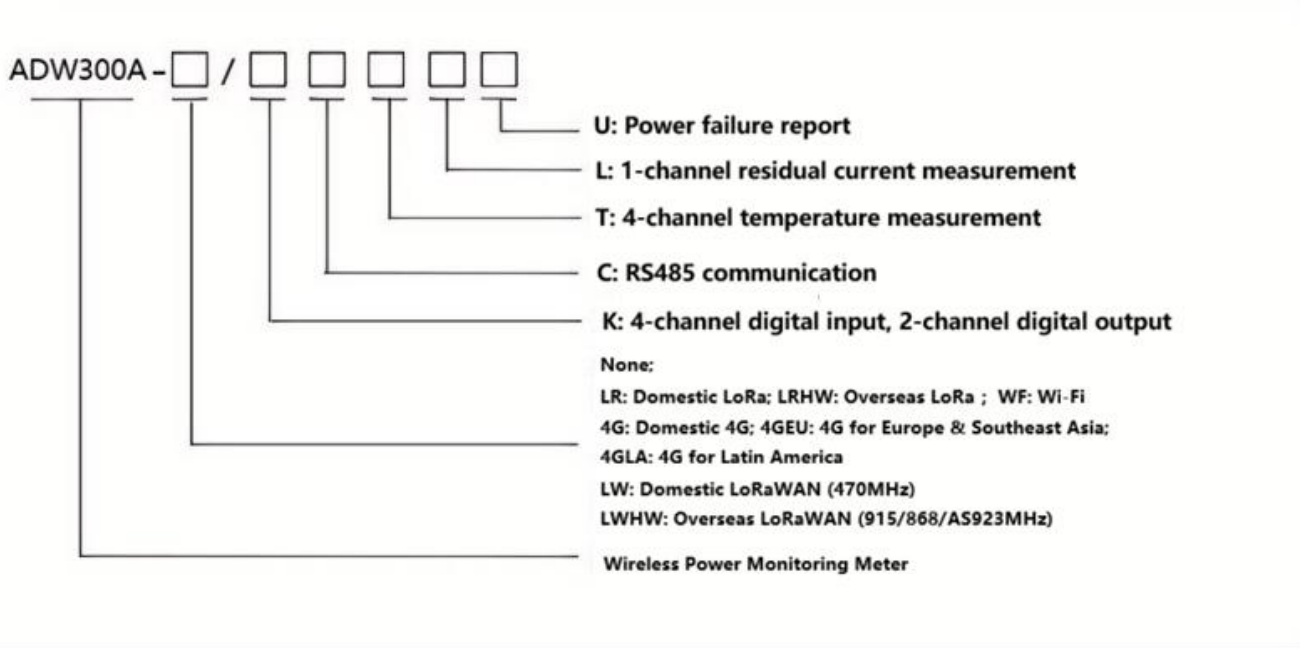
catalogue

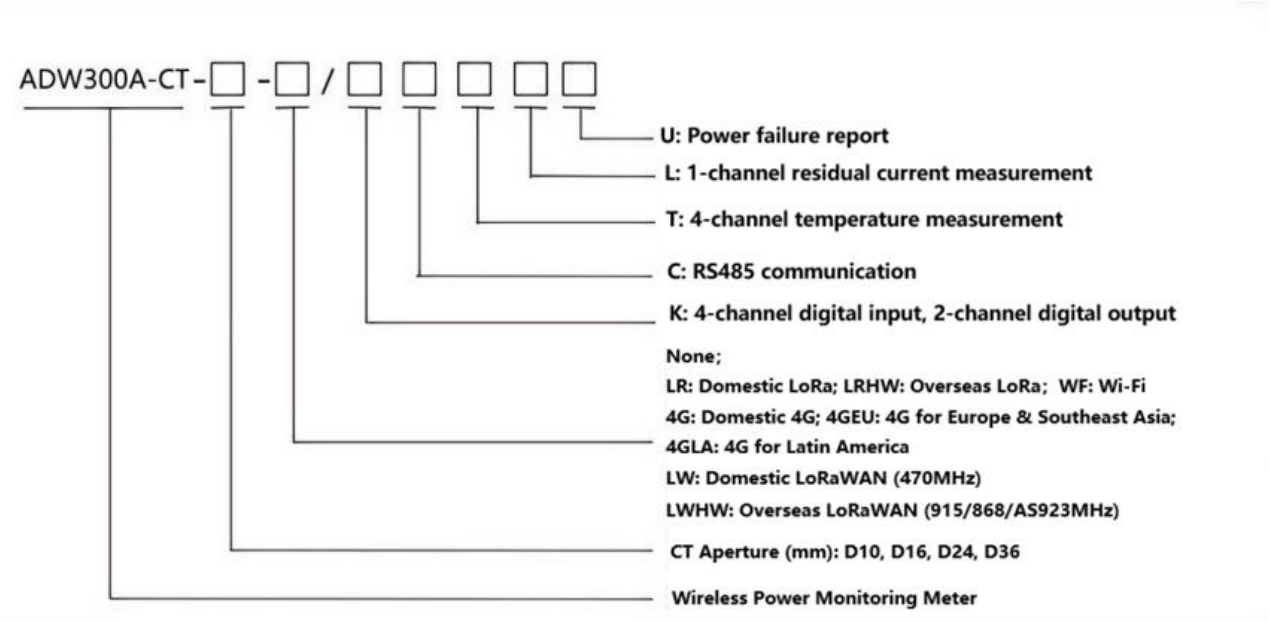
1、Overview

The ADW300A wireless meter is primarily designed for measuring three-phase active power in low-voltage networks, featuring compact size, high accuracy, and comprehensive functionality. It supports multiple communication protocols including RS485, LoRa/LoRaWAN, 4G, and Wi-Fi, and includes an external current sampling mode for transformers, facilitating installation across various applications. The device can be flexibly installed within distribution boxes to meet requirements such as sub-metering of power consumption across different zones and loads, operation and maintenance monitoring, or overall power management.

2、Product Model Specifications and Functional Features

2.1 Naming Rules for the ADW300A Wireless Metering Instrument





2.2 Functional Features of the ADW300A Wireless Metering Instrument

Table 1 Main Functions of ADW300A

function	function declaration
display mode	LCD (Dot Matrix)
Electricity Metering	Active power measurement (forward and reverse), reactive power measurement (inductive, capacitive, four-quadrant reactive power). 8 time schedules, 14 time zones, 14 daily periods, and 8 types of time-of-use electricity rates. Supports historical electricity consumption data from December (including electricity at all tariff rates).
History Freeze	Supports minute-level freezing, daily freezing, and monthly freezing
electrical measurement	Voltage, Current, Power Factor, Frequency, Active Power, Reactive Power, Apparent Power
Extreme Value Record	Supports maximum values and occurrence times for the past three months (including peak and minimum values of three-phase voltage, current, power, and combined phase power)
Harmonic Function	Total harmonic content, component harmonic content (orders 2–63)
Phase Sequence Diagnosis	Supports wiring diagnosis, phase sequence correction, and current polarity adjustment
pulse output	Active energy Pulse Output
Three-phase imbalance degree	Voltage and current imbalance
Temperature Measurement Function	Four-channel temperature measurement system (including options A, B, C, and N; optional T available)

DI/DO	4DI, 2DO (with optional K);
residual current	1-channel residual current measurement (Optional L)
LED indicate	Pulse light indicator
Power Failure Reporting	4G Wi-Fi with U (optional)
External Transformer	External open-type current transformer (CT)
Electrical Parameter Alarm	Undervoltage, overvoltage, undercurrent, overcurrent, underload, overload, etc.
communication	Bluetooth (Wireless Solution)
	RS485 Interface
	Wireless transmission (optional LR): 470,868
	4G Wireless Transmission (4G optional)
	Wi-Fi Wireless Transmission (Optional: WF)
	LoraWAN wireless transmission (with optional LW915 (AU915), LW868 (EU868), or LW923)

3、Technical Parameters

3.1 Electrical Characteristics

Table 2 Electrical Characteristics of ADW300A

Voltage Input	rated voltage		3×57.7/100V，3×220/380V，3×230/400V，3×277/480V，3×380/660V，3×400/690，3×462/800V ， 3×100V, 3×380V，3×480V，3×660V，3×690，3×800V ，
	reference frequency		50Hz or 60Hz
	power dissipation		Each phase <0.5 VA
Current input	input currenton		ADW300A：0.01-0.05(6)A ADW300A-CT：0.01-0.05(6)A（D10）、0.2-1(100)A（D16）、0.8-4(400)A（D24）、1.2-6(600)A（D36）
	starting current		1‰ Ib (Grade C), 4‰ Ib (Grade B)
	power consumption per Phase		Each phase <1 VA
Auxiliary power supply	supply voltage		AC 85-265V，AC 110-415V，DC9-30V，
	total power consumption		<2W
Measurement Performance	compliance standard		GB/T 17215.321-2021，GB/T 17215.211-2021
	active energy accuracy	ADW300A	Class C (GB/T 17215.321-2021)
		ADW300A-CT	Grade B (GB/T 17215.321-2021)
	temperature precision		±2℃
impulse	pulse Width		80±20ms
	Pulse Constant		10000imp/kWh , 400imp/kWh

		-CT：（10000imp/kWh（D10）、400imp/kWh（D16）、100imp/kWh（D24）、60imp/kWh（D36））
communication	wireless	Wireless transmission at 470 MHz with a range of 1 km in open areas; supports 4G and Wi-Fi.
	Interface	RS485(A、B)
	Cable Type	STP
	protocol	MODBUS-RTU、DL/T 645-07

3.2 Environmental Conditions

Table 3 Environmental Conditions for ADW300A

temperature range	working temperature	-40 ℃ ~+70 ℃
	Storage Temperature	-40 ℃ ~+85 ℃
humidity		≤95% (no condensation)
altitude		<2000m

3.3 LoraWAN Parameters

Table 4: Frequency Bands Corresponding to LoraWAN

model	standard	Band Range
LW915	AU915	AU915~928
LW868	EU868	EU863~870
AS923	AS923	916.6MHz~923.4MHz
CN470	CN470	470MHz~510MHz

4、External Dimensions and Installation Instructions (Unit: mm)

4.1 External Dimensions (Unit: mm)

Table 5 Specifications and dimensions of the residual current transformer accompanying the ADW300A

model	Applicable rated current In	Inner diameter: φ mm	External diameter: φ mm	weight
AKH-0.66L45	16～100A	45	76	0.18
AKH-0.66L80	100～250A	80	120	0.42
AKH-0.66L100	250～400A	100	140	0.50
AKH-0.66L150	400～800A	150	190	1.32
AKH-0.66L200	800～1500A	200	240	1.94

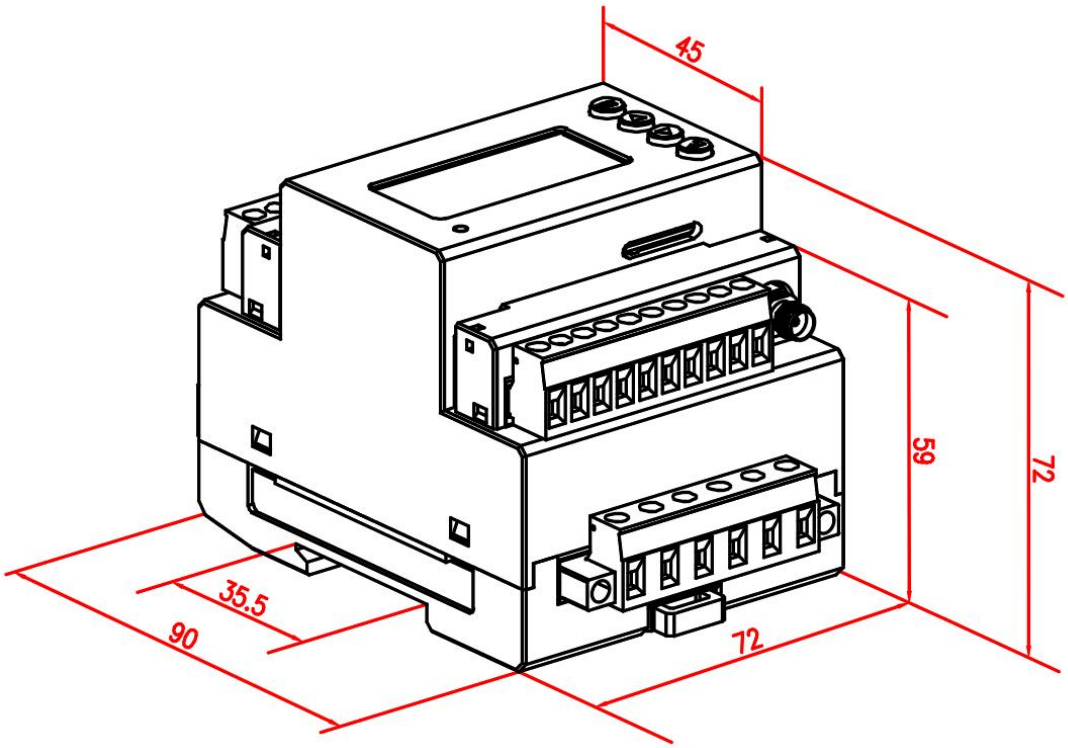


Figure 1: Rendered image of the ADW300A

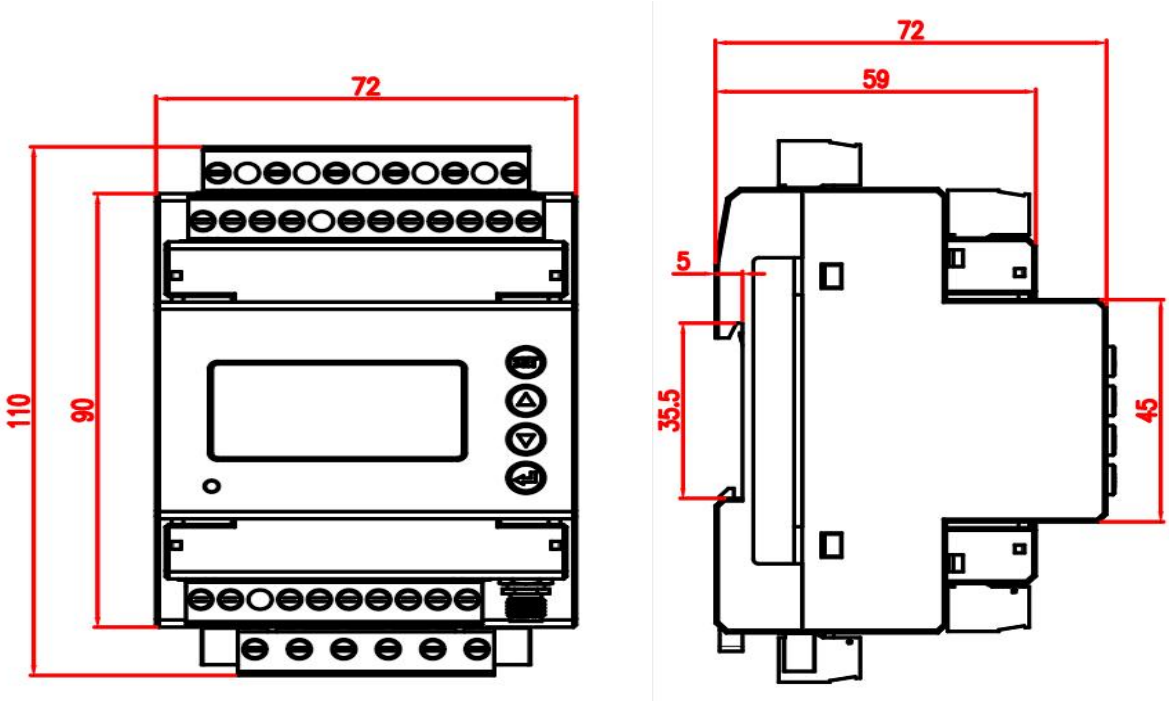


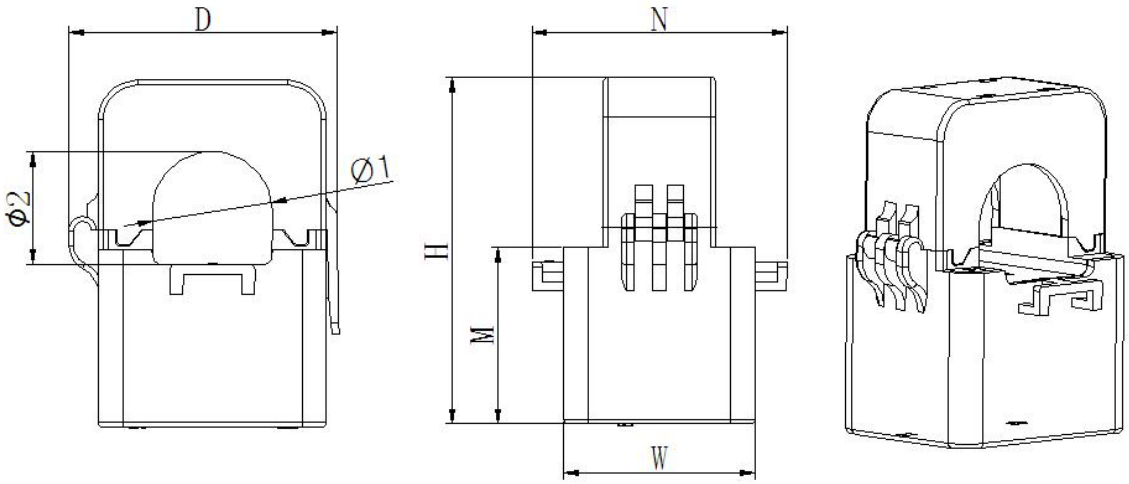
Figure 2: Dimension diagram of the ADW300A

remarks ：

(1) After installing the voltage and current terminals on the instrument, its width increased from 90 mm to 110 mm.
(2) External dimensions of the accompanying current transformer

Table 6 Specifications and dimensions of the accompanying current transformers for ADW300A-CT

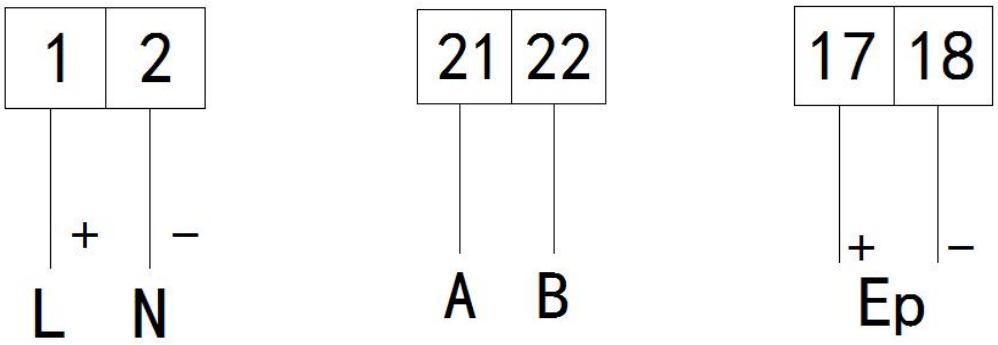
Specifications (D10：5 A/1.25 mA；D16：100 A/20 mA；D24：400A/100mA；D24：600A/100mA)	External Dimensions (mm)					Perforation size (mm)		common difference (mm)
	W	H	D	M	N	Φ1	Φ2	
AKH-0.66/K-⌀ 10	27	44	32	25	36	10	9	±1
AKH-0.66/K-⌀ 16	31	50	36	27	42	16	17	
AKH-0.66/K-⌀ 24	39	71	46	36	52	24	23.5	
AKH-0.66/K-⌀ 36	42.5	82	58	40	56	33.5	35	



Dimensional drawing of the supporting current transformer

Note: The standard current transformer has a length of approximately 2 m.

4.2 Power terminals, RS485 communication terminals, pulse output terminals



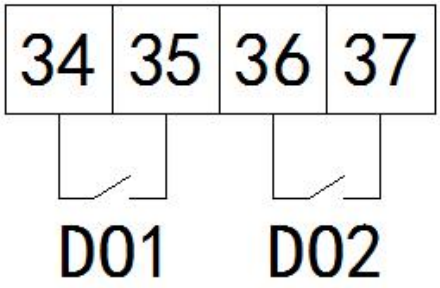
Auxiliary Power Supply　　Communication Interface　　Pulse Port

Note: Terminal torque is 0.5 N·m

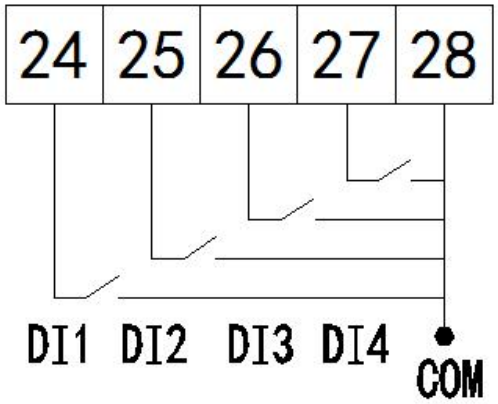
4.3 Digital Input/Output Ports

Active input with built-in 12V power supply, no external power required. It supports local status display and remote transmission (Remote Signalling).

The switch signal output serves as a relay output, enabling remote control and alarm functionality.



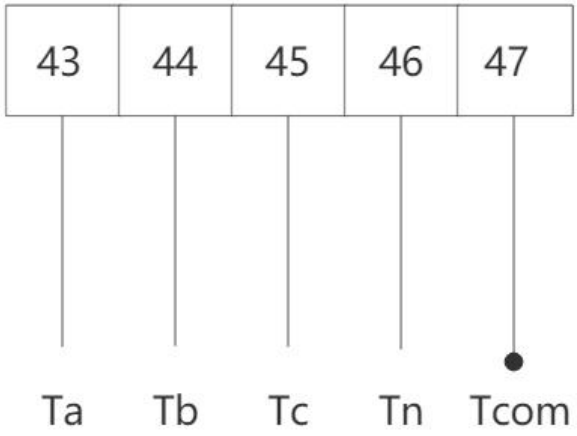
Digital Output (Passive)



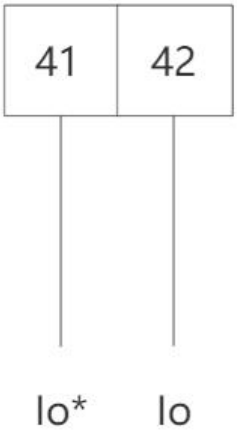
Digital Input (Active)

Note: Terminal torque is 0.5 N·m

4.4 Temperature Measurement and Residual Current Terminals



4-channel temperature input



Residual current input

Note: Terminal torque is 0.5 N·m

4.5 Wiring Instructions

ADW300A and ADW300A-CT support four wiring modes: three-phase four-wire with CT, three-phase three-wire with CT, three-phase four-wire with PT & CT, three-phase three-wire with PT & CT. For three-phase three-wire connection, modify the wiring mode via keys or configuration software.

remarks ：

1. ADW300A-CT external transformer features two wires (red and black): the red wire connects to instrument terminals IA*, IB*, IC*, while the black wire connects to terminals IA, IB, IC.

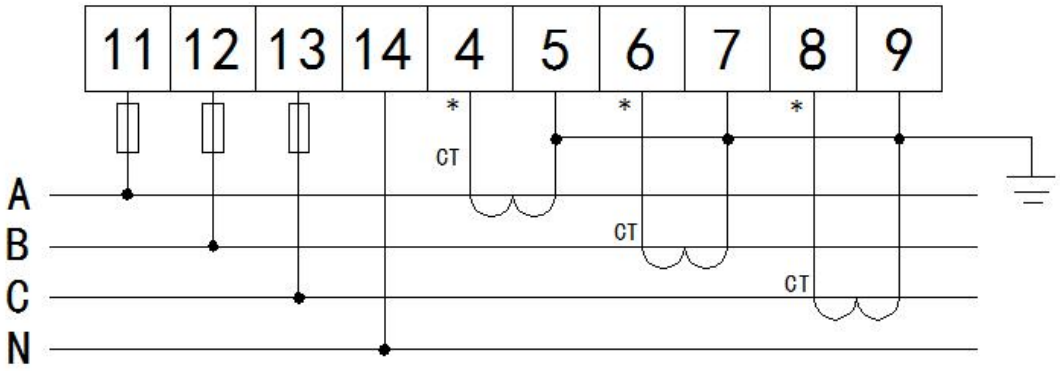
2. ADW300A-CT is designed for mA-level CT only. Do not connect conventional 5A/1A secondary CT, otherwise the meter will be damaged.

3. During wiring of the ADW300A-CT, short-circuiting or grounding the transformer terminals is strictly prohibited; otherwise, it may cause inaccurate measurement error or instrument damage.

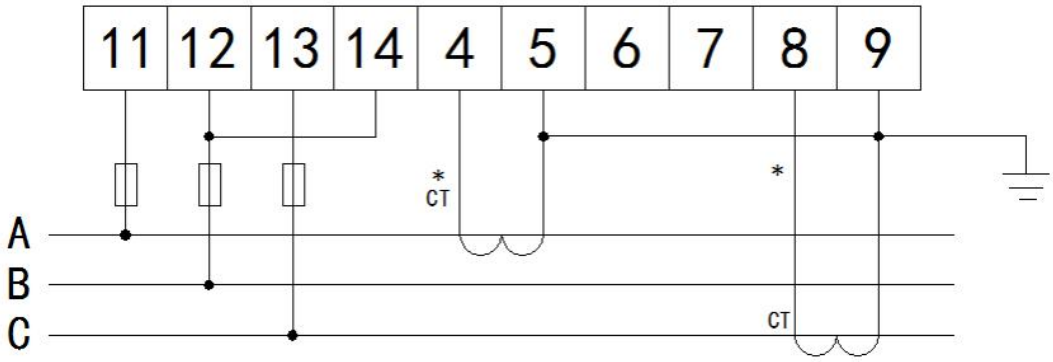
4. When used with on-site primary CT, keep a distance of more than 30cm between the two CTs to avoid electromagnetic interference.

4.5.1 wiring instructions for the ADW300A

Note: Terminal torque is 0.5 N·m

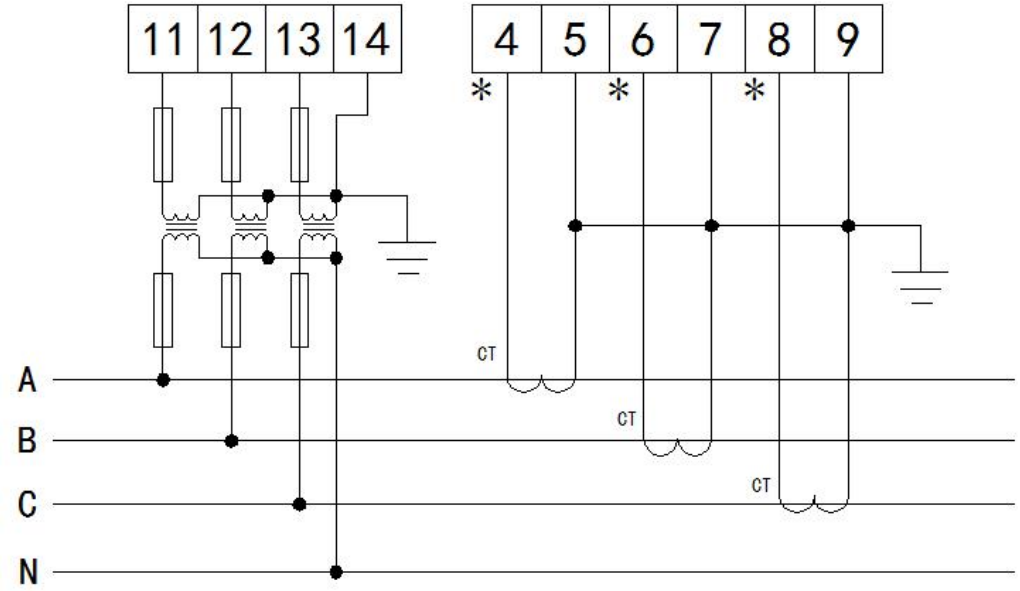


3-phase 4-wire (current connected via CT)

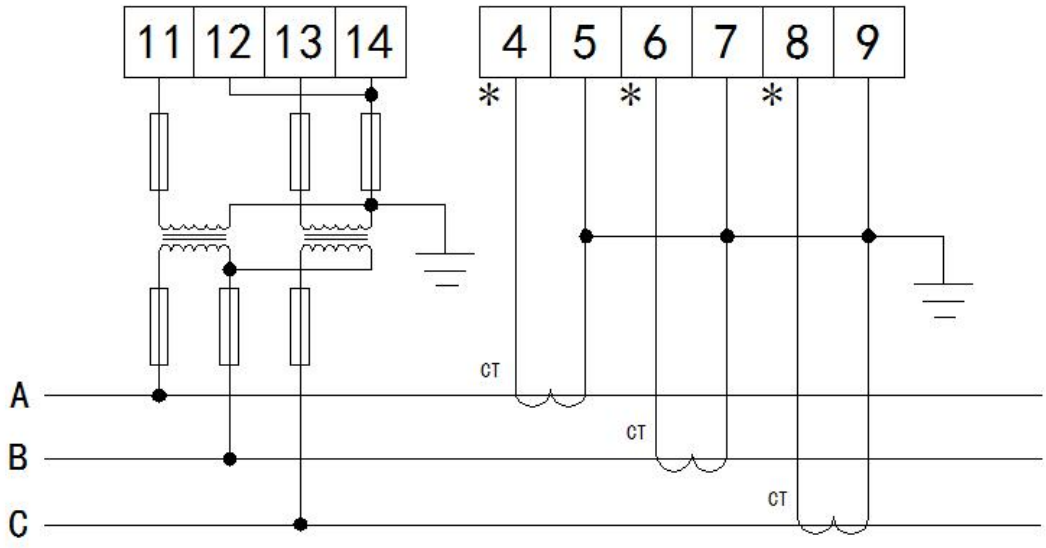


3-phase 3-wire (current connected via CT)

Voltage connected via PT:

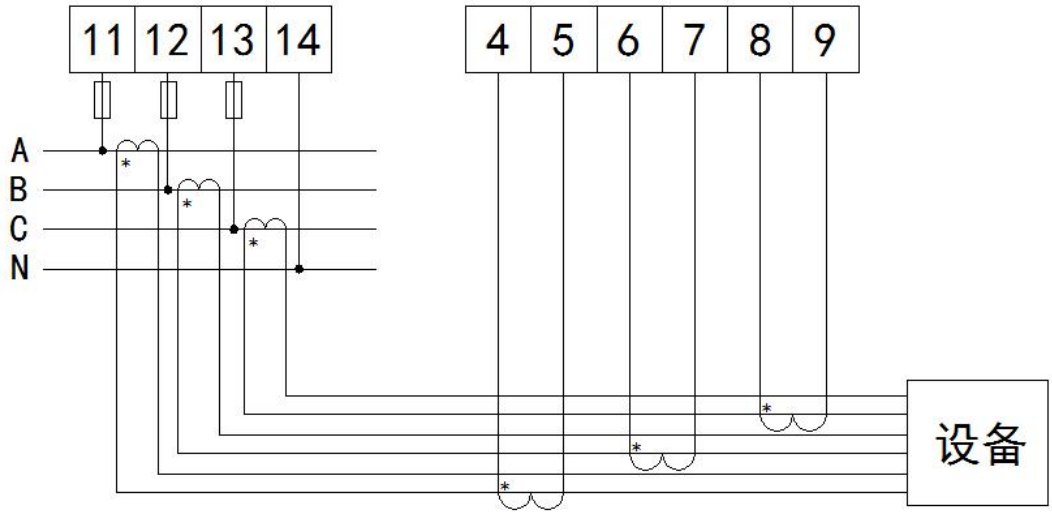


3-phase 4-wire (current connected via PT and CT)

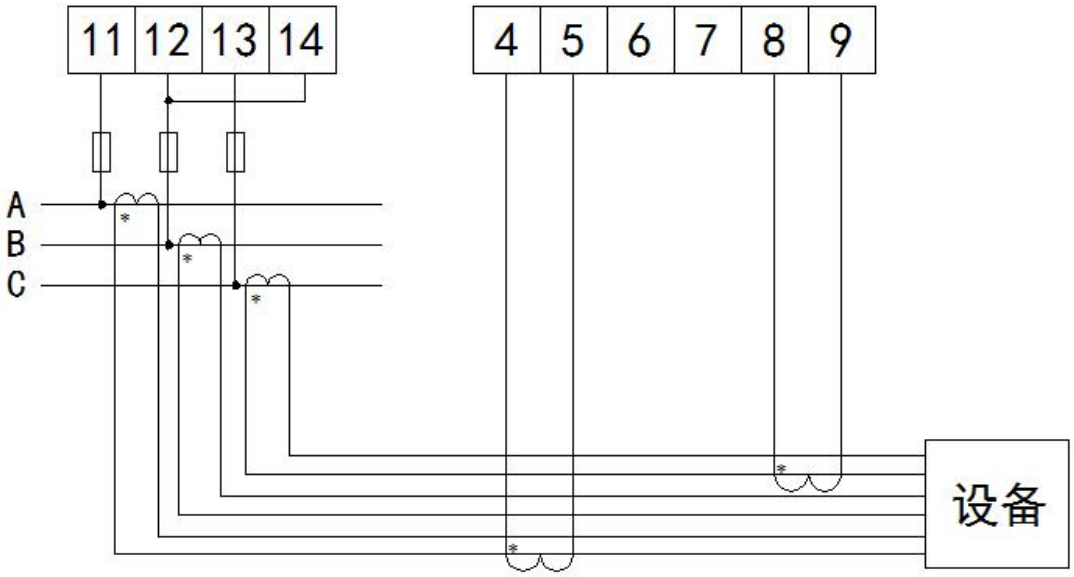


3-phase 3-wire (current connected via PT and CT)

4.5.2 wiring instructions for the ADW300A-CT



3-phase 4-wire



3-phase 3-wire

5、 Main Functional Features

5.1 Measurement Functions

This instrument measures all electrical parameters, including voltage U, current I, active power P, reactive power Q, apparent power S, power factor PF, phase angles of voltage and current, voltage unbalance, current unbalance, frequency F, 62nd-order harmonic components, odd-even harmonic content, and total harmonic content. The measurement values are rounded to one decimal place for voltage U, two decimal places for frequency F and current I, four decimal places for power P, two decimal places for phase angle Φ, and two decimal places for

unbalance Δ.

For example: U = 220.1 V, f = 49.98 Hz, I = 1.99 A, P = 0.2190 kW, Φ = 60.00°, Δ = 0.00%.

Supports 4-channel temperature measurement with a range of -40°C to 150°C and an accuracy of ±2°C.

Residual current detection, initial range: 0–1000 mA; range multiplier (1–60) adjustable

5.2 Metering Functions

Capable of measuring the following components of power: total active power, forward active power, reverse active power, combined reactive power, inductive reactive power, capacitive reactive power, and four-quadrant reactive power.

5.3 Time-of-Use Tariff Functions

There are eight time-of-use schedules, dividing the year into 14 time zones; each schedule can define 14 daily periods and 8 pricing tiers (T1－T8 representing peak, off-peak, valley, deep-valley, etc.). The fundamental principle of time-of-use billing is to treat electricity as a commodity, leveraging economic incentives by charging higher prices during peak hours and lower rates during off-peak hours, thereby reducing peak loads, improving power quality, and enhancing overall economic efficiency.

5.4 Demand Function

The relevant concepts concerning demand are as follows:

demand	The average power measured during the demand period is called demand power.
maximum demand	The maximum demand within the specified time period is called the peak demand.
Sliding Interval	The method of measuring demand by recursively calculating it over time intervals shorter than the required period from any given moment is called sliding-demand measurement. The duration of this recursive calculation is referred to as the sliding interval.
Demand Cycle	Measure continuous time intervals with equal average power, also known as window time.

The default demand cycle is 15 minutes (adjustable to 15,30,45, or 60 minutes), and the Sliding interval is 1 minute (adjustable to 1, 2, 3, or 5 minutes).

It can measure eight types of maximum and real-time demands: forward active power, reverse active power, apparent power, A/B/C three-phase currents, inductive reactive power, capacitive reactive power, maximum demand values, as well as the timing of when each maximum demand occurs.

5.5 Historical Electric Energy Statistics Function

It can statistically analyze historical electricity consumption data for 12 months (including data from all four consumption quadrants and under various tariff rates energy).

5.6 Freezing Records

Supports minute, daily, and monthly freeze functions;

The minute freeze feature retains up to 35,040 freeze records. The freezing interval can be set to any whole minute within the range of 5 to 60 minutes.

The daily freeze feature supports retaining up to 730 freeze records, with new records generated at 00:00 daily.

The monthly freeze feature supports up to 36 freeze records, and you can set the monthly freezing time (day and hour).

5.7 Digital Input/Output Functions

It features 2 digtal output channels and 4 digital input channels, with the digital outputs serving as relay outputs to enable remote control and alarm functionality. The digital inputs not only collect and display local switch status information but also support remote data transmission via the instrument's RS485 interface, providing remote signal monitoring capability.

5.8 Wireless Communication Features

The ADW300A supports RS485 communication, Lora & LoraWAN communication, 4G, and Wi-Fi communication.

4G and Wi-Fi wireless communication support power outage reporting functionality (optional with U).

The 4G and Wi-Fi communication features support remote debugging, allowing configuration of parameters such as tariff periods, voltage and current ratios, server IP address and port, upload time, and more.

4G and Wi-Fi support resume transmission from breakpoints, capable of handling up to 7,000 breakpoint records (default upload frequency: every 5 minutes).

Supports Bluetooth debugging and allows configuration of meter-related parameters;

Both 4G and WiFi support access via various network protocols, including the MQTT protocol, HTTP protocol, and TCP transparent transmission. For specific protocols, please contact our relevant personnel for details.

6、Key and Display Instructions

The electric meter buttons are described as follows:

Button Icon	Button Name	Button Functions
SET	Set Key	1、Enter the password interface; 2、Go to the next menu level 3、Return to the parent menu
▲	Up Key	1. During normal display mode: Continuously switches between various display interfaces (voltage, current, power, frequency, energy consumption, harmonics, communication parameters, version information, etc.) 2. When programming the interface: Used to cyclically switch between various setting menus or the digital 0–9 options corresponding to cursor positions;
▼	Down arrow	1、When displaying normal interfaces: cyclically switch between various display interfaces(voltage,current,power, frequency,energy,harmonics, communication,parameters,version information, etc.) 2、In the programming interface: used to cyclically switch between setting menus or move the setting cursor position; 3、Page Turn Display
↵	Programming Confirmation Key	1、When the display interface is normal: click to view the parameter list or navigate to the next menu level. 2、In the programming interface: confirm parameters or proceed to the next menu level;

explain ：

① On the operation interface, press ▲ or ▼ the button to cyclically display common electrical parameters: power, voltage, current, power, power factor, frequency, maximum demand, transformation ratio, communication parameters (address, baud rate, verification method), software number, and version number.

② On the operation interface, press 

the button and enter your password to configure parameters.

Set Menu:

Communication Settings → Address, baud Rate, Verification Method, 645 Address

System Settings → Password, Backlight, Language

Basic Settings → Connection Method, Voltage Ratio, Current Ratio, Voltage Shielding Value, Current Shielding Value, Pulse Constant, PF Calculation Method, Meter Reset (Energy Consumption, Demand, Maximum Value, Records)

Demand Settings → Demand Period, Slippage Time

Phase Sequence Settings → Phase Sequence Enable, Phase Sequence Adjustment, Transformer Polarity, Automatic Detection, Detection Scheme

Network Settings → IP Address, Port Number, Others

③ Press  the button in the operation interface to enter the parameter query interface.

Query Menu Content:

Power Parameters → Voltage, Current, Power, Power Factor, Frequency, Phase Angle, Demand

Electric Energy → Four-quadrant Electric Energy; Rate-based Electric Energy

Power Quality → Harmonics, Imbalance Degree

Network Information → WAN, Platform, Bluetooth, IP Address, Port

State of Switch → DI/DO State

Temperature Display → A, B, C, N Temperature

Version Information→ Instrument software number and version number, Module software number and version number

7、Communication Details

7.1 Communication Protocols

This instrument uses the MODBUS-RTU protocol or DL/T645 standard for RS485 and LORA communication. For specific protocol details, refer to the relevant standards; further elaboration is omitted here.

7.2 MODBUS Communication

When communicating using the Modbus protocol, the data reading command function code is 03H and the data writing command function code is 10H.

The specific register address table is as follows:

start address (16-bit)	start address (Decimal)	Data Item Name	Length (bytes)	Read/ Write	remarks
0000H	0	Address 485	2	R/W	1 ~ 247
0001H	1	Baud rate	2	R/W	1：1200bps 2：3400bps 3：4800bps 4：9600bps 5：19200bps 6: 38400bps
0002H	2	Spread Spectrum Factor	2	R/W	7~12
0003H	3	Channel Settings	2	R/W	0–45 (Only communicable with the main site sharing the same channel)
0004H	4	High: Verification method; Low: Stop bit	2	R/W	High bit: 0 – no parity; 1 – even parity; 2 – odd parity Low bit: 0 –1 stop bit; 1 – 2 stop bit
0005H	5	Display Language and Rate Switching	2	R/W	High: 1 – New rate; 0 – Old rate Low: 0 – Chinese; 1 – English
0006H	6	Pulse Constant	2	R/W	
0007H	7	Backlight Time	2	R/W	0-9999s 0: Always On
0008H	8	password	2	R/W	
0009H	9	mode of wiring	2	R/W	0:3P4L 1:3P3L
000AH-000CH	10	Address 645	6	R/W	BCD code: high bits first
000DH	13	Current Specification	2	R/W	0: 5 A / Built-in capacity: 1: 100 A, 2: 400 A 3: 600 A 4: 5 A (external) 5: Roche coil
000EH	14	Voltage Transformation Ratio	2	R/W	integer
000FH	15	Current Transformation Ratio	2	R/W	integer
0010H	16	N-phase temperature	2	R	Signed integer Unit: 0.1℃ If the value read is 105, the temperature is 10.5℃
0011H~0013H	17-19	Date and Time (seconds, minutes, hours, day, month, year)			
0014H	20	A phase voltage	2	R	Integer Round to one decimal place, unit: V For example, the values are
0015H	21	B phase voltage	2	R	
0016H	22	C phase voltage	2	R	
0017H	23	AB line voltage	2	R	

0018H	24	BC line voltage	2	R	U=2200 and PT=1; U=U*PT=2200*0.1*1=220.0 V
0019H	25	CA line voltage	2	R	
001AH	26	A phase current	2	R	Integer, Unit A Keep 2 decimal places For example, if the values are I=200 and CT=10; I=I*CT=200*0.01*10=20A
001BH	27	B phase current	2	R	
001CH	28	C phase current	2	R	
001DH	29	Three-phase current vector sum	2	R	
001EH	30	Active power in Phase A	4	R	Signed integer unit kW Keep 3 decimal places For example, when the value is 11720, PT = 10 and CT = 10; Then the value = value * PT * CT = 11720*0.001*10*10=1172.0kW
0020H	32	Active power in Phase B	4	R	
0022H	34	Active power in Phase C	4	R	
0024H	36	Total Active Power	4	R	
0026H	38	Phase A reactive power	4	R	Signed integer unit kVar Keep 3 decimal places Analysis as active power
0028H	40	Phase B reactive power	4	R	
002AH	42	Phase C reactive power	4	R	
002CH	44	Total reactive power	4	R	
002EH	46	Phase A apparent power	4	R	Integer unit KVA Keep 3 decimal places Analysis as active power
0030H	48	Phase B apparent power	4	R	
0032H	50	Phase C apparent power	4	R	
0034H	52	Total apparent power	4	R	
0036H	54	Phase A Power Factor	2	R	Integer Keep 3 decimal places If the value is 999, Then the value = 999 * 0.001 = 0.999
0037H	55	Phase B Power Factor	2	R	
0038H	56	Phase C Power Factor	2	R	
0039H	57	Total Power Factor	2	R	
003AH	58	DI state	2	R	Integer Bit0：DI1 Bit1：DI2 Bit2：DI3 Bit3：DI4
003BH	59	supply frequency	2	R	Integer with 2 decimal places If the value is 5000, The value is therefore 5000 × 0.01 = 50.00 Hz.
003CH	60	Total active power of the combined system	4	R	Integer

003EH	62	Forward active electrical energy	4	R	unit kWh Keep 2 decimal places For example, if the value is 120201, PT = 10 and CT = 10; The actual electrical energy = value × PT × CT = 120201*0.01*10*10=120201 kWh
0040H	64	Reverse active electrical energy	4	R	
0042H	66	Forward reactive energy	4	R	Integer, unit kVarh Keep 2 decimal places Analysis of the active electrical energy involved
0044H	68	Reverse reactive energy	4	R	
0046H	70	Total electrical energy in Phase A	4	R	Integer unit kWh Keep 2 decimal places Analysis of the active electrical energy involved
0048H	72	Forward active energy in Phase A	4	R	
004AH	74	Reverse active energy in Phase A	4	R	
004CH	76	Forward reactive energy in Phase A	4	R	Integer, unit kVarh Keep 2 decimal places Analysis of the active electrical energy involved
004EH	78	Reverse reactive energy in Phase A	4	R	
0050H	80	Total electrical energy in Phase B	4	R	Integer unit kWh Keep 2 decimal places Analysis of the active electrical energy involved
0052H	82	Forward active energy in Phase B	4	R	
0054H	84	Reverse active energy in Phase B	4	R	
0056H	86	Forward reactive energy in Phase B	4	R	Integer, unit kVarh Keep 2 decimal places Analysis of the active electrical energy involved
0058H	88	Reverse reactive energy in Phase B	4	R	
005AH	90	Total electrical energy in Phase C	4	R	Integer unit kWh Keep 2 decimal places Analysis of the active electrical energy involved
005CH	92	Forward active energy in Phase C	4	R	
005EH	94	Reverse active energy in Phase C	4	R	
0060H	96	Forward reactive energy in Phase C	4	R	Integer, unit kVarh Keep 2 decimal places Analysis of the active electrical energy involved
0062H	98	Reverse reactive energy in Phase C	4	R	
0064H	100	The maximum forward active power demand during that month	4	R	Integer, unit: kW Keep 3 decimal places For example, when the value is 11202, PT = 10 and CT = 10; Then the value = value * PT * CT =

					11202*0.001*10*10=1120.2kW
0066H~0067H	102-103	occurrence time	4	R	Minute, Hour, Day, Month
0068H	104	The maximum reverse active power demand during that month	4	R	Integer, unit kVar Keep 3 decimal places Analysis of the maximum positive active power demand in the forward direction
006AH~006BH	106-107	occurrence time	4	R	Minute, Hour, Day, Month
006CH	108	Maximum forward reactive power demand during that month	4	R	Integer, unit kVar Keep 3 decimal places Analysis of the maximum positive active power demand in the forward direction
006EH~006FH	110-111	occurrence time	4	R	Minute, Hour, Day, Month
0070H	112	Maximum reverse reactive power demand during that month	4	R	Integer, unit kVar Keep 3 decimal places Analysis of the maximum positive active power demand in the forward direction
0072H~0073H	114-115	occurrence time	4	R	Minute, Hour, Day, Month
0074H	116	Total voltage distortion rate in Phase A	2	R	Total distortion rate of phase voltage and current Integer Keep 2 decimal places If the value is 2425, The value is therefore 2425 × 0.01 = 24.25%.
0075H	117	Total voltage distortion rate in Phase B	2	R	
0076H	118	Total voltage distortion rate in Phase C	2	R	
0077H	119	Total current distortion rate in Phase A	2	R	
0078H	120	Total current distortion rate in Phase B	2	R	
0079H	121	Total current distortion rate in Phase C	2	R	
007AH	122	Phase A voltage subharmonics (orders 2–31)	2×30	R	Voltage phase separation; content of 2nd to 31st harmonics Integer Keep two decimal places If the value is 2425, The value is therefore 2425 × 0.01 = 24.25%.
0098H	152	Phase B voltage subharmonics (orders 2–31)	2×30	R	
00B6H	182	Phase C voltage subharmonics (orders 2–31)	2×30	R	
00D4H	212	Phase A current subharmonics (orders 2–31)	2×30	R	Current phase separation: Content of 2nd to 31st harmonics Integer Keep two decimal places If the value is 2425, The value is therefore 2425 × 0.01 = 24.25%.
00F2H	242	Phase B current subharmonics (orders 2–31)	2×30	R	
0110H	272	Phase C current subharmonics (orders 2–31)	2×30	R	
012EH	302	Phase A fundamental voltage	2	R	Integer, unit V Keep 1 decimal place
012FH	303	Phase B fundamental voltage	2	R	

0130H	304	Phase C fundamental voltage	2	R	For example, the values are U=1010 and PT=6; Then U = U × PT = 1010 × 0.1 × 6 = 606 V
0131H	305	Phase A harmonic voltage	2	R	
0132H	306	Phase B harmonic voltage	2	R	
0133H	307	Phase C harmonic voltage	2	R	
0134H	308	Phase A fundamental current	2	R	Integer, Unit A Keep 2 decimal places For example, if the values are I=200 and CT=10; I=I*CT=200*0.01*10=20A
0135H	309	Phase B fundamental current	2	R	
0136H	310	Phase C fundamental current	2	R	
0137H	311	Phase A harmonic current	2	R	
0138H	312	Phase B harmonic current	2	R	
0139H	313	Phase C harmonic current	2	R	
013AH	314	Phase A fundamental active power	4	R	The integer is signed with the unit kW Keep 3 decimal places For a value of 11720, PT = 10.0, CT = 10; Then the value = value * PT * CT = 11720*0.001*10*10=1172.0kW
013CH	316	Phase B fundamental active power	4	R	
013EH	318	Phase C fundamental active power	4	R	
0140H	320	Total fundamental active power	4	R	
0142H	322	Phase A fundamental reactive power	4	R	The integer is signed with the unit kVar Keep 3 decimal places Analysis of the total active power of the fundamental wave component
0144H	324	Phase B fundamental reactive power	4	R	
0146H	326	Phase C fundamental reactive power	4	R	
0148H	328	Total fundamental reactive power	4	R	
014AH	330	Active power of Phase A harmonics	4	R	The integer is signed with the unit kW Keep 3 decimal places Analysis of the total active power of the fundamental wave component
014CH	332	Active power of phase B harmonics	4	R	
014EH	334	Active power of phase C harmonic	4	R	
0150H	336	Total active power of harmonics	4	R	
0152H	338	Phase A harmonic reactive power	4	R	The integer is signed with the unit kVar Keep 3 decimal places Analysis of the total active power of the fundamental wave component
0154H	340	B-phase harmonic reactive power	4	R	
0156H	342	C-phase harmonic reactive power	4	R	
0158H	344	Total harmonic reactive power	4	R	
015AH	346	Current forward active power demand	4	R	Integer, unit: kW Keep 3 decimal places Analysis of the maximum positive active power demand in the forward direction
015CH	348	Current reverse active power demand	4	R	
015EH	350	Current forward reactive power demand	4	R	Integer, unit kVar Keep 3 decimal places Analysis of the maximum positive active power demand
0160H	352	Current reverse reactive power demand	4	R	

					in the forward direction
0162H	354	Voltage imbalance	2	R	Integer Unit: 0.01% If the value is 2201, The value is 2201 × 0.01 = 22.01%.
0163H	355	Current imbalance	2	R	
0164H	356	Phase A temperature	2	R	Signed integer Unit: 0.1°C
0165H	357	Phase B temperature	2	R	
0166H	358	Phase C temperature	2	R	
0167H	359	Time Zone Schedule Number/Time Zone Date: Day	2	R/W	Time Zone Table
0168H	360	Time Zone Date: Month/Time Zone Schedule Number	2	R/W	
0169H	361	Time Zone Date: Day/Time Zone Date: Month	2	R/W	
016AH	362	Time Zone Schedule Number/Time Zone Date: Day	2	R/W	
016BH	363	Time Zone Date: Month/Time Zone Schedule Number	2	R/W	
016CH	364	Time Zone Date: Day/Time Zone Date: Month	2	R/W	
016DH	365	Time Slot Rate Number / Time Slot Start: Minutes	2	R/W	Time Schedule for Period 1
016EH	366	Start of Period 1: Hour / Rate Number for Period 2	2	R/W	
016FH	367	Start of the second period: Minutes / Start of the second period: Hours	2	R/W	
0170H	368	Time Slot 3 Rate Number / Time Slot 3 Start: Minutes	2	R/W	
0171H	369	Start of Period 3: Hour / Rate Number for Period 4	2	R/W	
0172H	370	Start of Period 4: Minutes / Start of Period 4: Hours	2	R/W	
0173H	371	Time Slot 5 Rate Number / Time Slot 5 Start: Minutes	2	R/W	
0174H	372	Start of Period 5: Hour / Rate Number for Period 6	2	R/W	
0175H	373	Start of Period 6: Minutes / Start of Period 6: Hours	2	R/W	
0176H	374	Time Slot 7 Rate Number / Start Time of Time Slot 7: Minutes	2	R/W	
0177H	375	Start of Period 7: Hour / Rate Number for Period 8	2	R/W	
0178H	376	Start of Period 8: Minutes / Start of Period 8: Hours	2	R/W	
0179H	377	Time Slot 9 Rate Number / Start Time of	2	R/W	

		Time Slot 9: Minutes			
017AH	378	Start of Period 9: Time/Rate Number for Period 10	2	R/W	
017BH	379	Start of Period 10: Minutes / Start of Period 10: Hours	2	R/W	
017CH	380	Time Slot Rate Number / Start Time of Time Slot 11: Minutes	2	R/W	
017DH	381	Start of Period 11: Hour / Rate Number for Period 12	2	R/W	
017EH	382	Start of Period 12: Minutes / Start of Period 12: Hours	2	R/W	
017FH	383	Time Slot 13 Rate Number / Start Time of Time Slot 13: Minutes	2	R/W	
0180H	384	Start of Period 13: Hour / Rate Number for Period 14	2	R/W	
0181H	385	Start of Period 14: Minutes / Start of Period 14: Hours	2	R/W	
0182H	386	Time Slot Rate Number / Time Slot Start: Minutes	2	R/W	Time Schedule for Session 2
0183H	387	Start of Period 1: Hour / Rate Number for Period 2	2	R/W	
0184H	388	Start of the second period: Minutes / Start of the second period: Hours	2	R/W	
0185H	389	Time Slot 3 Rate Number / Time Slot 3 Start: Minutes	2	R/W	
0186H	390	Start of Period 3: Hour / Rate Number for Period 4	2	R/W	
0187H	391	Start of Period 4: Minutes / Start of Period 4: Hours	2	R/W	
0188H	392	Time Slot 5 Rate Number / Time Slot 5 Start: Minutes	2	R/W	
0189H	393	Start of Period 5: Hour / Rate Number for Period 6	2	R/W	
018AH	394	Start of Period 6: Minutes / Start of Period 6: Hours	2	R/W	
018BH	395	Time Slot 7 Rate Number / Start Time of Time Slot 7: Minutes	2	R/W	
018CH	396	Start of Period 7: Hour / Rate Number for Period 8	2	R/W	
018DH	397	Start of Period 8: Minutes / Start of Period 8: Hours	2	R/W	
018EH	398	Time Slot 9 Rate Number / Start Time of Time Slot 9: Minutes	2	R/W	
018FH	399	Start of Period 9: Time/Rate Number for Period 10	2	R/W	
0190H	400	Start of Period 10: Minutes / Start of Period	2	R/W	

		10: Hours			
0191H	401	Time Slot Rate Number / Start Time of Time Slot 11: Minutes	2	R/W	
0192H	402	Start of Period 11: Hour / Rate Number for Period 12	2	R/W	
0193H	403	Start of Period 12: Minutes / Start of Period 12: Hours	2	R/W	
0194H	404	Time Slot 13 Rate Number / Start Time of Time Slot 13: Minutes	2	R/W	
0195H	405	Start of Period 13: Hour / Rate Number for Period 14	2	R/W	
0196H	406	Start of Period 14: Minutes / Start of Period 14: Hours	2	R/W	
0197H	407	The total active spike energy at current time	4	R	Integer, unit: kWh Keep 2 decimal places For example, if the value is 120201, PT = 10 and CT = 10; Then the value = value * PT * CT = 120201*0.01*10*10=120201 kWh
0199H	409	The total active peak energy at current time	4	R	
019BH	411	The total active flat energy at current time	4	R	
019DH	413	The total active valley energy at current time	4	R	
019FH	415	The current forward active spike energy	4	R	
01A1H	417	The current forward active peak energy	4	R	
01A3H	419	The current forward active flat energy	4	R	
01A5H	421	The current forward active valley energy	4	R	
01A7H	423	The current reverse active spike energy	4	R	
01A9H	425	The current reverse active peak energy	4	R	
01ABH	427	The current reverse active flat energy	4	R	
01ADH	429	The current reverse active valley energy.	4	R	
01AFH	431	The current forward reactive spike energy	4	R	Integer, unit kVarh Keep 2 decimal places For example, if the value is 120201, PT = 10 and CT = 10; Then the value = value * PT * CT = 120201*0.01*10*10=120201 kVarh
01B1H	433	The current forward reactive peak energy	4	R	
01B3H	435	The current forward reactive flat energy	4	R	
01B5H	437	The current forward reactive valley energy	4	R	
01B7H	439	The current reverse reactive spike energy	4	R	
01B9H	441	The current reverse reactive peak energy	4	R	
01BBH	443	The current reverse reactive flat energy	4	R	
01BDH	445	The current reverse reactive valley energy	4	R	
01BFH	447	Wireless signal strength	2	R	Signed integer
01C0H	448	Freeze Time	2	R/W	The high byte is hour, the low byte is day.
01C1H	449	residual current	2	R	Integer unit A Keep 3 decimal places Analysis of the same current...
01C2H	450	DO1	2	R/W	Integer Bit0 valid
01C3H	451	DO2	2	R/W	Integer Bit0 valid

01C4H	452	Demand Cycle	2	R/W	1:15 minutes 2:30 minutes 3:45 minutes 4: 60 minutes
01C5H	453	Sliding Time	2	R/W	1:1 minute 2: 2 minutes 3:3 minutes 4:5 minutes
01C6H	454	Extreme Update Interval	2	R/W	1: Month 2: Day 3: Hour 4: 30 minutes 5: 15 minutes
01C7H	455	reactive power calculation method	2	R/W	0: Chip acquisition 0xaa55: PQS algorithm
01C8H	456	Cumulative Method of Electric Energy Measurement	2	R/W	0: Normal cumulative; 1: Separate front and back
01C9H	457	Method for calculating the total electrical energy	2	R/W	0: Direct chip read 1: Three-phase sum
01CAH	458	Power Factor Calculation Method	2	R/W	0：Srms 1：Spqs
01CBH	459	Voltage shielding Value	2	R/W	Percentage value 10 = 10%
01CCH	460	Current Shielding Value	2	R/W	Millionth ratio: 50 = 50‰
01CDH	461	Starting Current Shielding Value	2	R/W	
01CEH	462	Harmonic Enable Flag	2	R/W	0: Disabled Other values: Enable
01CFH	463	Minute Freezing Period	2	R/W	15 － 60, per minute
01D0H-01EBH	464-491	Relevant data for Alarm 1; see Section 6.3.1 for details			
01ECH	492	Phase A voltage angle	2	R	Integer, 2 decimal places If the value is 9011, Then the value = 9011 × 0.01 = 90.11°
01EDH	493	Phase B voltage angle	2	R	
01EEH	494	Phase C Voltage Angle	2	R	
01EFH	495	Reserve			
01F0H	496	Protocol Selection Position	2	R/W	0: Safe Electricity Use 1: Power Operation and Maintenance
01F2H	498	Real-time apparent demand	4	R	Integer, unit KVA Keep 3 decimal places Analysis of the maximum positive active power demand in the forward direction
01F4H	500	Combined reactive energy	4	R	Integer, unit kVarh Keep 2 decimal places For example, if the value is 120201, PT = 10.0 and CT = 10; Then the value = value * PT *
01F6H	502	The reactive energy in the first quadrant	4	R	
01F8H	504	The reactive energy in the second quadrant	4	R	
01FAH	506	The reactive energy in the third quadrant	4	R	
01FCH	508	The reactive energy in the fourth quadrant	4	R	

					CT = 120201*0.01*10*10=120201
01FEH	510	Phase A current angle	2	R	Integer, 2 decimal places If the value is 9011, Then the value = 9011 × 0.01 = 90.11°
01FFH	511	Phase B current angle	2	R	
0200H	512	Phase C current angle	2	R	
0201H	513	Time Slot Rate Number / Time Slot Start: Minutes	2	R/W	Time Schedule for Period 3
0202H	514	Start of Period 1: Hour / Rate Number for Period 2	2	R/W	
0203H	515	Start of the second period: Minutes / Start of the second period: Hours	2	R/W	
0204H	516	Time Slot 3 Rate Number / Time Slot 3 Start: Minutes	2	R/W	
0205H	517	Start of Period 3: Hour / Rate Number for Period 4	2	R/W	
0206H	518	Start of Period 4: Minutes / Start of Period 4: Hours	2	R/W	
0207H	519	Time Slot 5 Rate Number / Time Slot 5 Start: Minutes	2	R/W	
0208H	520	Start of Period 5: Hour / Rate Number for Period 6	2	R/W	
0209H	521	Start of Period 6: Minutes / Start of Period 6: Hours	2	R/W	
020AH	522	Time Slot 7 Rate Number / Start Time of Time Slot 7: Minutes	2	R/W	
020BH	523	Start of Period 7: Hour / Rate Number for Period 8	2	R/W	
020CH	524	Start of Period 8: Minutes / Start of Period 8: Hours	2	R/W	
020DH	525	Time Slot 9 Rate Number / Start Time of Time Slot 9: Minutes	2	R/W	
020EH	526	Start of Period 9: Time/Rate Number for Period 10	2	R/W	
020FH	527	Start of Period 10: Minutes / Start of Period 10: Hours	2	R/W	
0210H	528	Time Slot Rate Number / Start Time of Time Slot 11: Minutes	2	R/W	
0211H	529	Start of Period 11: Hour / Rate Number for Period 12	2	R/W	
0212H	530	Start of Period 12: Minutes / Start of Period 12: Hours	2	R/W	
0213H	531	Time Slot 13 Rate Number / Start Time of Time Slot 13: Minutes	2	R/W	
0214H	532	Start of Period 13: Hour / Rate Number for Period 14	2	R/W	

0215H	533	Start of Period 14: Minutes / Start of Period 14: Hours	2	R/W	
026AH-026CH	618	Time Zone Switch Time	2	R/W	High: minute | Low: Hours
	619		2	R/W	High: Day | Low: Month
	620		2	R/W	High: Year Low: 0x00
026DH-026FH	621	Schedule Switch Time	2	R/W	High: minute | Low: Hours
	622		2	R/W	High: Day | Low: Month
	623		2	R/W	High: Year Low: 0x00
0270H	624	Public Holiday List Activation Flag	2	R/W	0: Disabled 1: Enabled
0271H	625	Weekend Character Features	2	R/W	High: bits 0−6 correspond to Monday through Sunday; set to 0 enables, set to 1 disables. Low: Select the time slot for the weekend (1−8)
0273H	627	Maximum demand for Phase A current	8	R	Integer, unit A, rounded to 2 decimal places Other formats that also specify the maximum active power demand
0277H	631	Maximum demand for phase B current	8	R	
027BH	635	Maximum demand for Phase C current	8	R	
027FH	639	Maximum demand of apparent power	8	R	Same format for the maximum active power demand
0283H-03A2H	643	Phase A voltage Subharmonics (order 32–63)	2×32	R	Voltage phase separation; content of 32rd to 63rd harmonics Integer with two decimal places If the value is 2425, The value is therefore 2425 × 0.01 = 25.24%.
02A3H-02C2H	675	Phase B voltage Subharmonics (order 32–63)	2×32	R	
02C3H-02E2H	707	Phase C voltage Subharmonics (order 32–63)	2×32	R	
02E3H-0302H	739	Phase A current Subharmonics (order 32–63)	2×32	R	Current phase separation; content of 32rd to 63rd harmonics Integer with two decimal places If the value is 2425, The value is therefore 2425 × 0.01 = 25.24%.
0303H-0322H	771	Phase B current Subharmonics (order 32–63)	2×32	R	
0323H-0342H	803	Phase C current Subharmonics (order 32–63)	2×32	R	
0343H	835	Real-time A-phase current demand	2	R	Integer, Unit A Keep 2 decimal places Analyze the same current format
0345H	837	Real-time B-phase current demand	2	R	
0347H	839	Real-time C-phase current demand	2	R	
0349H	841	Wireless Model	2	R/W	0:4G 1:4GHW 2:WIFI 3:lora 4:lora868 5:CN470

					6:EU868 7:US915 8:AU915 9:AS923 10: None
034AH	842	External Transformer	2	R/W	0: Without external transformer 1: With external transformer
034BH	843	Peripheral Type	2	R/W	Bit0: Residuale current detection Bit 1: Digital Signal Bit2:Temperature Measurement Set 1 to enable; set 0 to disable.
034CH	844	Phase A odd-order harmonic voltage	2	R	Integer, unit V Keep 1 decimal place For example, the values are U=1010 and PT=6; Then U = U × PT = 1010 × 0.1 × 6 = 606 V
034DH	845	Phase B odd-order harmonic voltage	2	R	
034EH	846	Phase C odd-order harmonic voltage	2	R	
034FH	847	Phase A even-order harmonic voltage	2	R	
0350H	848	Phase B even-order harmonic voltage	2	R	
0351H	849	Phase C even-order harmonic voltage	2	R	
0352H	850	Phase A odd-order harmonic current	2	R	Integer, Unit A Keep 2 decimal places For example, if the values are I=200 and CT=10; I=I*CT=200*0.01*10=20A
0353H	851	Phase B odd-order harmonic current	2	R	
0354H	852	Phase C odd-order harmonic current	2	R	
0355H	853	Phase A even-order harmonic current	2	R	
0356H	854	Phase B even-order harmonic current	2	R	
0357H	855	Phase C even-order harmonic current	2	R	
0358H-0359H	856-857	Primary side rated voltage	4	R/W	2-byte integer
035AH-035BH	858-859	Primary side rated current	4	R/W	
035CH-035DH	860-861	The rated current of the single-phase neutral line	4	R/W	
035EH-035FH	862-863	The rated value of the primary residuale current	4	R/W	
0360H	864	Secondary side rated voltage	2	R/W	Integer Round to one decimal place, unit: V
0361H	865	Secondary side rated current	2	R/W	Integer Round to 2 decimal places, unit A
0362H	866	Rated value of neutral line current on the secondary side	2	R/W	
0363H	867	Rated value of secondary side residuale current	2	R/W	
0364H	868	system frequency	2	R/W	0:50Hz 1:60Hz
0365H	869	Lora frequency range	2	R	Default value: 470 MHz units
0366H	870	Lora bandwidth	2	R/W	0:7.8kHz 1:10.4kHz 2:15.6kHz 3:20.8kHz 4:31.2kHz 5:41.7kHz 6:62.5kHz 7:125kHz 8:250kHz 9:500kHz

0367H	871	Lorawan Uplink Transmission Type	2	R/W	0: The upstream frame is an Unconfirm frame 1: The upstream frame is a Confirm frame
0368H	872	Lorawan Communication Rate	2	R/W	0: Auto-adjust 1： SF12，BW125 2： SF11，BW125 3： SF10，BW125 4： SF9，BW125 5： SF8，BW125 6： SF7，BW125
0369H	873	Lorawan Network Access Method	2	R/W	0: OTAA Mode 1: ABP Mode
036AH	874	LorawanClass model	2	R/W	0：Class A 1：Class B 2：Class C
036BH-036CH	875-876	Lorawan Rx2 Frequency	4	R/W	Uint32 unit: kHz
036DH	877	Lorawan Rx2 Rate	2	R/W	0: Auto-adjust 1：DR0 (SF12 BW125) 2：DR1 (SF11 BW125) 3：DR2 (SF10 BW125) 4：DR3 (SF9 BW125) 5：DR4 (SF8 BW125) 6：DR5 (SF7 BW125)
036EH	878	Keep	2	R	
9000H	39864	Enable Phase Sequence Correction	2	R/W	0: Off 1: On
9001H	36865	Phase Sequence Correction Scheme	2	R/W	0: None 1: BAC 2:ACB 3;CBA 4:CAB 5:BCA
9002H	36866	Transformator polarity	2	R/W	Bit 0: Phase A Bit 1: Phase B Bit 2: Phase C Set 0 to forward, set 1 to reverse
9003H	36867	Phase Angle Judgment Threshold	2	R/W	Unit: 0.01°
9004H	36868	Power Factor Judgment Threshold	2	R/W	
9005H-9007H	36869-36871	Reserve	2	R/W	
9008H	36872	Enable automatic calibration	2	R/W	0: Off 1: On
9009H	36873	Reserve	2	R	
900AH-900CH	36874-36876	Phase angles of voltages Ua, Ub, and Uc	6	R	
900DH-900FH	36877-36879	Phase angles of currents Ia, Ib, and Ic	6	R	
9010H	36880	Number of self-checking plans for wiring connections	2	R	
9011H	36881	tempmethod_i	2	R	
9012H	36882	plan 1: Phase Sequence Correction Method	2	R	
9013H	36883	plan 1: Current Direction Configuration	2	R	

9014H	36884	After adjustment, the average phase angle of plan 1	2	R	
9015H-9017H	36885-36887	plan 2	6	R	Content is the same as in Plan 1.
9018H-901AH	36888-36890	plan 3	6	R	Content is the same as in Plan 1.
901BH-901DH	36891-36893	plan 4	6	R	Content is the same as in Plan 1.
901EH-9020H	36894-36896	plan 5	6	R	Content is the same as in Plan 1.
9021H-9023H	36897-36899	plan 6	6	R	Content is the same as in Plan 1.
9024H-9026H	36900-36902	plan 7	6	R	Content is the same as in Plan 1.
9027H-9029H	36903-36905	plan 8	6	R	Content is the same as in Plan 1.
902AH-902CH	36906-36908	plan 9	6	R	Content is the same as in Plan 1.
902DH-902FH	36909-36911	plan 10	6	R	Content is the same as in Plan 1.
9030H-9032H	36912-36914	plan 11	6	R	Content is the same as in Plan 1.
9033H-9035H	36915-36902	Plan 12	6	R	Content is the same as in Plan 1.
9036H	36918	Deal Adjust Current	2	R	
F000H-F006H	61440-61446	serial number	14	R/W	
F007H	61447	Software Number	2	R	
F008H	61448	Software Version Number	2	R	
F009H-F010H	61449-61456	Instrument Model	16	R	
F011H	61457	Registration Reset Time	2	R/W	
F012H	61458	Number of three-phase circuits	2	R/W	
F013H	61459	Wireless Module Characteristic Words	2	R/W	bit0−bit15: Set to 1 to enable the flag; set to 0 to reset it Bit 0: Upload IP Address bit1: Upload port number bit2: Clear run time
F014H	61460	Module Software Number	2	R	
F015H	61461	Module Software Version Number	2	R	
0216H-0249H	534-585	Data related to Alarm 2 and Alarm 3; see Section 6.3.2 for details			
024AH-0267H	586-615	Reserve			
0268H-0269H	616-617	Alarm 2, Alarm 3 status; see Section 6.3.2 for details			
8F00H-8F02H	36608-36610	Current minute freeze time	3	R	Second, Minute, Hour, Day, Month, Year
8F03H-8F04H	36611-36612	Current minute freeze forward active power value	2	R	Float type, with low byte first (DCBA)
8F05H-8F06H	36613-36614	Current minute freeze reverse active power	2	R	Float type, with low byte first

		value			(DCBA)
8F07H-8F08H	36615-36616	Current minute freeze forward reactive power value	2	R	Float type, with low byte first (DCBA)
8F09H-8F0AH	36617-36618	Current minute freeze reverse reactive power value	2	R	Float type, with low byte first (DCBA)
8F0BH-8FFFH	36619-36863	Other frozen data reserves			

7.3 Settings Related to the Alarm Function

7.3.1 Alarm 1 Related Parameter Register Address Table

Starting Address (Hexadecimal)	start address (decimal system)	Data Item Name	Length (bytes)	Read/ Write	remarks
01EBH	491	Alarm Status 1	2	R	bit0: Overvoltage alarm Bit 1: Low-voltage alarm Bit 2: Overcurrent Alarm Bit3: Low Current Alarm Bit4: Overpower Alarm Bit5: Low Power Alarm Bit6: Does DO1 trigger an alarm output? bit7: Does DO2 trigger an alarm output? Bit8: A-phase current loss alarm Bit9: B-phase current loss alarm Bit10: C-phase current loss alarm Bit11: A-phase voltage loss alarm Bit12: B-phase voltage loss alarm Bit13: C-phase voltage loss alarm Bit14: Phase sequence error alarm Bit15: Power Loss Report

01DOH	464	Alarm 1 Enable Bit	2	R/W	Bit0: Overvoltage alarm enable bit Bit 1: Low-voltage alarm enable bit Bit2: Overcurrent alarm enable bit Bit3: Current shortage alarm enable bit Bit4: Overpower Alarm Allow Bit Bit5: Power deficiency alarm enable bit Bit6: Does DO1 trigger an alarm output? bit7: Does DO2 trigger an alarm output? Bit8: A-phase current loss alarm enable bit Bit9: B-phase current loss alarm enable bit Bit10: C-phase current loss alarm enable bit Bit11: A-phase undervoltage alarm enable bit Bit12: B-phase voltage loss alarm enable bit Bit13: C-phase voltage loss alarm enable bit Bit14: Phase sequence error alarm enable bit Bit15: Power Loss Reporting Allowance Bit
01D1H	465	Overvoltage Alarm Threshold	2	R/W	Integer Unit: 0.1 V
01D2H	466	Overvoltage alarm delay	2	R/W	Integer Unit: 0.01 S
01D3H	467	Under-voltage alarm threshold	2	R/W	Integer Unit: 0.1 V
01D4H	468	Under-voltage alarm delay	2	R/W	Integer Unit: 0.01 S
01D5H	469	Overcurrent Alarm Threshold	2	R/W	Integer Unit: 0.01 A
01D6H	470	Overcurrent alarm delay	2	R/W	Integer Unit: 0.01 S
01D7H	471	Current deficiency Alarm Threshold	2	R/W	Integer Unit: 0.01 A
01D8H	472	Current deficiency alarm delay	2	R/W	Integer

					Unit: 0.01 S
01D9H	473	Overpower Alarm Threshold	2	R/W	Integer Unit: 0.001 kW
01DAH	474	Overpower alarm delay	2	R/W	Integer Unit: 0.01 S
01DBH	475	Power deficiency Alarm Threshold	2	R/W	Integer Unit: 0.001 kW
01DCH	476	Power deficiency Alarm Delay	2	R/W	Integer Unit: 0.01 S
01DDH	477	DI1 Initial State	2	R/W	0: Always On 1: Normally closed
01DEH	478	DI1 Programming	2	R/W	0: Not associated with DO 1: Associate DO1 2: Associate DO2
01DFH	479	DI2 Initial State	2	R/W	0: Always On 1: Normally closed
01E0H	480	DI2 Programming	2	R/W	0: Not associated with DO 1: Associate DO1 2: Associate DO2
01E1H	481	DI3 Initial State	2	R/W	0: Always On 1: Normally closed
01E2H	482	DI3 Programming	2	R/W	0: Not associated with DO 1: Associate DO1 2: Associate DO2
01E3H	483	DI4 Initial State	2	R/W	0: Always On 1: Normally closed
01E4H	484	DI4 Programming	2	R/W	0: Not associated with DO 1: Associate DO1 2: Associate DO2
01E5H	485	DO1 Output Mode	2	R/W	0: Level 1: Pulse
01E6H	486	DO1 Related Content	2	R/W	0: Regular DO 1: Total Failures 2: Total faults + DI1 + DI2 3: DI1 4:DI2 5:DI1+DI2
01E7H	487	DO1 Output Pulse Width	2	R/W	0: None 1:1S 2:2S 3:3S 4:4S 5:5S
			2	R/W	0: Level 1: Pulse

01E8H	488	DO2 Output Mode			
01E9H	489	DO2 Related Content	2	R/W	0: Regular DO 1: Total Failures 2: Total faults + DI1 + DI2 3: DI1 4:DI2 5:DI1+DI2
01EAH	490	DO2 Output Pulse Width	2	R/W	0: None 1:1S 2:2S 3:3S 4:4S 5:5S

7.3.2 Parameter Register Address Tables for Alarm 2 and Alarm 3

Starting Address (Hexadecimal)	start address (decimal system)	Data Item Name	Length (bytes)	Read/ Write	remarks
0216H	534	Alarm 2 Allowance Bit	2	R/W	Bit0:A phase power factor is too low alarm allowed bit Bit1:B phase power factor is too low alarm allowed bit Bit2:C phase power factor is too low alarm allowed bit Bit3:Total power factor is too low alarm allowed bit Bit4:Phase A overtemperature alarm allowed bit Bit5:Phase B overtemperature alarm allowed bit Bit6:Phase C overtemperature alarm allowed bit bit7:Phase N overtemperature alarm allowed bit Bit8:UA Total distortion is too high alarm allowed bit Bit9:UB Total distortion is too high alarm allowed bit Bit10:UC Total distortion is too high alarm allowed bit Bit11:IA Total distortion is too high alarm allowed bit Bit12:IB Total distortion is too high alarm allowed bit Bit13:IC Total distortion is too high alarm allowed bit

					Bit14:Voltage imbalance exceeds the high alarm allowed bit Bit15:Current imbalance exceeds the high alarm allowed bit
0268H	616	Alarm 2: Alarm Status	2	R	Corresponding Alarm 2 Allowance Bit
0217H	535	Alarm 3 Allowance Bit	2	R/W	Bit0: Allowance bit for alarm when current forward active power demand is excessively high Bit 1: Allowance bit for the current alarm indicating excessively high reverse active power demand Bit 2: Allowance bit for alarm when current active reactive power demand is excessively high Bit3: Allowance bit for the current alarm indicating excessively high reverse reactive power demand Bit4: Current apparent demand alarm enable bit Bit5−Bit15: Reserved
0269H	617	Alarm 3: Alarm Status	2	R	Corresponding Alarm 3 Allowance Bit
0218H	536	Alarming threshold for excessively high Phase A power factor	2	R/W	Integer Unit 0.001
0219H	537	Alarming delay for excessively high Phase A power factor	2	R/W	Integer Unit: 0.01 S
021AH	538	Alarming threshold for excessively high Phase B power factor	2	R/W	Integer Unit 0.001
021BH	539	Alarming delay for excessively high Phase B power factor.	2	R/W	Integer Unit: 0.01 S
021CH	540	Alarming threshold for excessively high phase C power factor	2	R/W	Integer Unit 0.001
021DH	541	Alarming delay for excessively high Phase C power factor.	2	R/W	Integer Unit: 0.01 S
021EH	542	High Total Power Factor Alarm Threshold	2	R/W	Integer Unit 0.001

021FH	543	Alarming delay for excessively high total power factor	2	R/W	Integer Unit: 0.01 S
0220H	544	High temperature alarm threshold for Phase A	2	R/W	Signed integer Unit: 0.1℃
0221H	545	Alarming delay for excessively high Phase A temperature	2	R/W	Integer Unit: 0.01 S
0222H	546	High temperature alarm threshold for Phase B	2	R/W	Signed integer Unit: 0.1℃
0223H	547	Alarming delay for excessively high Phase B temperature	2	R/W	Integer Unit: 0.01 S
0224H	548	High temperature alarm threshold for Phase C	2	R/W	Signed integer Unit: 0.1℃
0225H	549	Alarming delay for excessively high Phase C temperature	2	R/W	Integer Unit: 0.01 S
0226H	550	High temperature alarm threshold for Phase N	2	R/W	Signed integer Unit: 0.1℃
0227H	551	Alarming delay for excessively high Phase N temperature	2	R/W	Integer Unit: 0.01 S
0228H	552	UA Total Distortion Alarm Threshold (Too High)	2	R/W	Integer Keep 2 decimal places
0229H	553	Alarming delay for excessively high total distortion in UA	2	R/W	Integer Unit: 0.01 S
022AH	554	UB Total Distortion Alarm Threshold Value	2	R/W	Integer Keep 2 decimal places
022BH	555	Alarming delay for excessively high total distortion in UB	2	R/W	Integer Unit: 0.01 S
022CH	556	UC Total Distortion Alarm Threshold Value	2	R/W	Integer Keep 2 decimal places
022DH	557	Alarming delay due to excessively high total distortion in UC	2	R/W	Integer Unit: 0.01 S
022EH	558	IA Total Distortion Alarm Threshold Value	2	R/W	Integer Keep 2 decimal places
022FH	559	Alarming delay for excessively high total distortion in IA	2	R/W	Integer Unit: 0.01 S
0230H	560	IB Total Distortion Alarm Threshold Value	2	R/W	Integer Keep 2 decimal places
0231H	561	Alarming delay for excessively high total distortion in IB	2	R/W	Integer Unit: 0.01 S
0232H	562	IC Total Distortion Alarm Threshold Value	2	R/W	Integer Keep 2 decimal places
0233H	563	Alarming delay for excessively high total distortion in IC	2	R/W	Integer Unit: 0.01 S
0234H	564	High voltage imbalance alarm threshold	2	R/W	Integer Unit: 0.01%
0235H	565	Alarming delay for excessively high voltage imbalance	2	R/W	Integer Unit: 0.01 S

0236H	566	High Current Imbalance Alarm Threshold	2	R/W	Integer Unit: 0.01%
0237H	567	Alarming delay for excessively high current imbalance	2	R/W	Integer Unit: 0.01 S
0238H	568	Current forward active power demand exceeds the alarm threshold	4	R/W	Integer, unit: kW Keep 3 decimal places
023AH	570	The current alarm for excessively high reverse active power demand has a delay in activation.	2	R/W	Integer Unit: 0.01 S
023BH	571	Current forward active power demand exceeds the alarm threshold	4	R/W	Integer, unit: kW Keep 3 decimal places
023DH	573	The current alarm for excessively high reverse active power demand has a delay in activation.	2	R/W	Integer Unit: 0.01 S
023EH	574	Current forward reactive power demand exceeds the alarm threshold	4	R/W	Integer, unit Kvar Keep 3 decimal places
0240H	576	The current alarm for excessively high reactive power demand has a delay in activation.	2	R/W	Integer Unit: 0.01 S
0241H	577	Current alarm threshold for excessively high reverse reactive power demand	4	R/W	Integer, unit Kvar Keep 3 decimal places
0243H	579	The current alarm for excessively high reverse reactive power demand has a delay in activation.	2	R/W	Integer Unit: 0.01 S
0244H	580	High residual current alarm threshold	4	R/W	Integer, Unit A Keep 3 decimal places
0246H	582	High residual current alarm with delay	2	R/W	Integer Unit: 0.01 S
0247H	583	Current view demand alarm threshold is too high	4	R/W	Integer, unit KVA Keep 3 decimal places
0249H	585	The current demand alarm has an excessive delay.	2	R/W	Integer Unit: 0.01 S

7.4 Primary Value Secondary Value Register Address Table

Primary electrical parameter value:

start address (16-bit)	start address (Decimal)	Data Identification	Data Item Name	Length (bytes)	Read/Write	remarks
8000	32768	UA	Phase A voltage	2	R	32-bit floating-point unit ： V
8002	32770	UB	Phase B voltage	2	R	
8004	32772	UC	Phase C voltage	2	R	
8006	32774	UAB	AB line voltage	2	R	
8008	32776	UBC	BC line voltage	2	R	
800A	32778	UCA	CA line voltage	2	R	
800C	32780	IA	Phase A current	2	R	32-bit floating-point
800E	32782	IB	Phase B current	2	R	

8010	32784	IC	Phase C current	2	R	unit ： A
8012	32786	IN	N linear current	2	R	
8014	32788	PA	Active power in Phase A	2	R	32-bit floating-point unit ： kW
8016	32790	PB	Active power in Phase B	2	R	
8018	32792	PC	Active power in Phase C	2	R	
801A	32794	PT	Total Active Power	2	R	
801C	32796	QA	Phase A reactive power	2	R	32-bit floating-point unit ： kVar
801E	32798	QB	Phase B reactive power	2	R	
8020	32800	QC	Phase C reactive power	2	R	
8022	32802	QT	Total reactive power	2	R	
8024	32804	SA	Phase A apparent power	2	R	32-bit floating-point unit ： kVA
8026	32806	SB	Phase B apparent power	2	R	
8028	32808	SC	Phase C apparent power	2	R	
802A	32810	ST	Total apparent power	2	R	
802C	32812	PFA	Phase A Power Factor	2	R	32-bit floating-point
802E	32814	PFB	Phase B Power Factor	2	R	
8030	32816	PFC	Phase C Power Factor	2	R	
8032	32818	PF	Total Power Factor	2	R	
8034	32820	F	frequency	2	R	32-bit floating-point unit ： HZ
8036	32822	UNAvg	Average reserved phase voltage	2	R	32-bit floating-point unit ： v
8038	32824	ULAvg	Average reserved line voltage	2	R	
803A	32826	IAvg	Average reserved Current	2	R	32-bit floating-point unit ： A
803C	32828	Uunbalance	Voltage imbalance	2	R	32-bit floating-point Unit: 0.1%
803E	32830	Iunbalance	Current imbalance	2	R	
8040	32832	Uresidual	Reserve zero-sequence voltage	2	R	32-bit floating-point unit ： v
8042	32834	Iresidual	Reserve zero-sequence current	2	R	32-bit floating-point unit ： A
8044	32836	APangle	Reserve Phase A Power Angle	2	R	32-bit floating-point Unit: 0.1°
8046	32838	BPangle	Reserve Phase B Power Angle	2	R	
8048	32840	CPangle	Reserve Phase C Power Angle	2	R	
804A	32842	AUangle	Phase A Voltage Angle	2	R	

804C	32844	BUangle	Phase B Voltage Angle	2	R	
804E	32846	CUangle	Phase C Voltage Angle	2	R	
8050	32848	AIangle	Phase A Current Angle	2	R	
8052	32850	BIangle	Phase B Current Angle	2	R	
8054	32852	CIangle	Phase C Current Angle	2	R	
8056	32854	TempIn	Reserve Internal Temperature	2	R	32-bit floating-point Unit: 0.1℃
8058	32856	Temp1	temperature 1	2	R	
805A	32858	Temp2	temperature 2	2	R	
805C	32860	Temp3	temperature 3	2	R	
805E	32862	Temp4	temperature 4	2	R	
8060	32864	LouDian1	Residual Current 1	2	R	32-bit floating-point unit ： A

Primary electrical value:

start address (16-bit)	start address (Decimal)		Data Item Name	Length (register)	Read/Write	remarks
887E	34942		Total active power	2	R	32-bit floating-point unit ： kWh
8880	34944		Total forward active power energy	2	R	
8882	34946		Total reverse active power energy	2	R	
8884	34948		Total reactive power energy	2	R	32-bit floating-point unit ： kVar
8886	34950		Total forward reactive power energy	2	R	
8888	34952		Total reverse reactive power energy	2	R	
888A	34954		Reserve apprent power	2	R	32-bit floating-point unit ： kVAh
888C	34956		spike active power energy.	2	R	32-bit floating-point unit ： kWh
888E	34958		peak active power energy.	2	R	
8890	34960		flat active power energy.	2	R	
8892	34962		valley active power energy.	2	R	
8894	34964		forward active power energy T1 rate	2	R	
8896	34966		forward active power energy T2 rate	2	R	

8898	34968		forward active power energy T3 rate	2	R	
889A	34970		forward active power energy T4 rate	2	R	
889C	34972		Reverse Active Power Energy T1 Rate	2	R	
889E	34974		Reverse Active Power Energy T2 Rate	2	R	
88A0	34976		Reverse Active Power Energy T3 Rate	2	R	
88A2	34978		Reverse Active Power Energy T4 Rate	2	R	
88A4	34980		forward reactive power energy T1 rate	2	R	32-bit floating-point unit ： kVar
88A6	34982		forward reactive power energy T2 rate	2	R	
88A8	34984		forward reactive power energy T3 rate	2	R	
88AA	34986		forward reactive power T4 rate	2	R	
88AC	34988		Reverse reactive power energy T1 rate	2	R	
88AE	34990		Reverse reactive power energy T2 rate	2	R	
88B0	34992		Reverse reactive power energy T3 rate	2	R	
88B2	34994		Reverse reactive power energy T4 rate	2	R	
88B4	34996		Total active power energy in Phase A	2	R	32-bit floating-point unit ： kWh
88B6	34998		forward active power energy in Phase A	2	R	
88B8	35000		Reverse active power energy in Phase A	2	R	
88BA	35002		Total reactive power energy in Phase A	2	R	32-bit floating-point unit ： kVar
88BC	35004		Phase A forward reactive power energy	2	R	32-bit floating-point unit ： kVar
88BE	35006		Phase A reverse reactive power energy	2	R	
88C0	35008		Reserve the total active power rate T1 for Phase A	2	R	32-bit floating-point unit ： kWh

88C2	35010		Reserve the total active power rate T2 for Phase A	2	R	
88C4	35012		Reserve the total active power rate T3 for Phase A	2	R	
88C6	35014		Reserve the total active power rate T4 for Phase A	2	R	
88C8	35016		Total active power energy in Phase B	2	R	32-bit floating-point unit ： kWh
88CA	35018		forward active power energy in Phase B	2	R	
88CC	35020		Reverse active power energy in Phase B	2	R	
88CE	35022		Total reactive power energy in Phase B	2	R	32-bit floating-point unit ： kVar
88D0	35024		Phase B forward reactive power energy	2	R	32-bit floating-point unit ： kVar
88D2	35026		Phase B reverse reactive power energy	2	R	
88D4	35028		Reserve B-phase total active power T1 rate	2	R	32-bit floating-point unit ： kWh
88D6	35030		Reserve B-phase total active power T2 rate	2	R	
88D8	35032		Reserve B-phase total active power T3 rate	2	R	
88DA	35034		Reserve B-phase total active power T4 rate	2	R	
88DC	35036		Total active power energy in Phase C	2	R	32-bit floating-point unit ： kWh
88DE	35038		forward active power energy in Phase C	2	R	
88E0	35040		Reverse active power energy in Phase C	2	R	
88E2	35042		Total reactive power energy in Phase C	2	R	32-bit floating-point unit ： kVar
88E4	35044		Phase C forward reactive power energy	2	R	32-bit floating-point unit ： kVar
88E6	35046		Phase C reverse reactive power energy	2	R	
88E8	35048		Reserve C-phase total	2	R	32-bit floating-point

			active power T1 rate			unit ： kWh
88EA	35050		Reserve C-phase total active power T2 rate	2	R	
88EC	35052		Reserve C-phase total active power T3 rate	2	R	
88EE	35054		Reserve C-phase total active power T4 rate	2	R	
88F0	35056		Quadrant 1: Total reactive power	2	R	32-bit floating-point unit ： kVar
88F2	35058		Quadrant 2: Total reactive power	2	R	
88F4	35060		Quadrant 3: Total reactive power	2	R	
88F6	35062		Quadrant 4: Total reactive power	2	R	
88F8	35064		Reserved net active power energy	2	R	32-bit floating-point unit ： kWh
88FA	35066		Net value of reserved reactive power energy	2	R	32-bit floating-point unit ： kVar

Secondary electrical value:

start address (16-bit)	start address (Decimal)	Data Item Name	Length (register)	Read/Write	remarks
8800	34816	Total active power	2	R	32-bit integer unit ： kWh
8802	34818	Total forward active power energy	2	R	
8804	34820	Total reverse active power energy	2	R	
8806	34822	Total energy reserved for reactive power compensation	2	R	32-bit integer unit ： kVar
8808	34824	Total forward reactive power energy	2	R	
880A	34826	Total reverse reactive power energy	2	R	
880C	34828	Reserve visual power	2	R	32-bit integer unit ： kVAh
880E	34830	spike active power energy.	2	R	32-bit integer unit ： kWh
8810	34832	peak active power energy.	2	R	
8812	peak active power energy.	flat active power energy.	2	R	
8814	34836	Valley active power energy.	2	R	

8816	34838	forward active power spkie value	2	R	
8818	34840	forward active power peak value	2	R	
881A	34842	forward active power flat value	2	R	
881C	34844	forward active power valley value	2	R	
881E	34846	Reverse active power spike value	2	R	
8820	34848	Reverse active power peak value	2	R	
8822	34850	Reverse active power flat value	2	R	
8824	34852	Reverse active power valley value	2	R	
8826	34854	forward reactive power spike value	2	R	32-bit integer unit ： kVar
8828	34856	forward reactive power peak value	2	R	
882A	34858	forward reactive power energy flat value	2	R	
882C	34860	forward reactive power energy valley value	2	R	
882E	34862	Reverse reactive power energy spike value	2	R	
8830	34864	Reverse reactive power peak value	2	R	
8832	34866	Reverse reactive power energy flat value	2	R	
8834	34868	Reverse reactive power energy valley value	2	R	
8836	34870	Total active power energy in Phase A	2	R	32-bit integer unit ： kWh
8838	34872	Phase A forward active power energy	2	R	
883A	34874	Phase A reverse active power energy	2	R	
883C	34876	Reserve a total reactive power energy for Phase A.	2	R	32-bit integer unit ： kVar
883E	34878	Phase A forward reactive power energy	2	R	32-bit integer unit ： kVar
8840	34880	Phase A reverse reactive power energy	2	R	
8842	34882	Reserve a total active power energy for Phase A.	2	R	32-bit integer unit ： kWh
8844	34884	Reserve the peak value of total active power in Phase A	2	R	
8846	34886	Reserve the average value of total active power energy in Phase A	2	R	

8848	34888	Reserve the total active power valley value for Phase A	2	R	
884A	34890	Total active power energy in Phase B	2	R	16-bit integer unit ： kWh
884C	34892	Phase B forward active power energy	2	R	
884E	34894	Phase B reverse active power energy	2	R	
8850	34896	Total reactive power energy reserved for Phase B	2	R	32-bit integer unit ： kVar
8852	34898	Phase B forward reactive power energy	2	R	32-bit integer unit ： kVar
8854	34900	Phase B reverse reactive power energy	2	R	
8856	34902	Reserve the spike active power energy value for Phase B	2	R	32-bit integer unit ： kWh
8858	34904	Reserve the peak active power energy value for Phase B	2	R	
885A	34906	Reserve the flat active power energy value for Phase B	2	R	
885C	34908	Reserve the valley active power energy value for Phase B	2	R	
885E	34910	Total active power energy in Phase C	2	R	32-bit integer unit ： kWh
8860	34912	forward active power in phase C	2	R	
8862	34914	reverse active power in phase C	2	R	
8864	34916	Reserve the total reactive power energy in phase C.	2	R	32-bit integer unit ： kVar
8866	34918	Phase C forward reactive power energy	2	R	32-bit integer unit ： kVar
8868	34920	Phase C reverse reactive power energy	2	R	
886A	34922	Reserve the spike active power energy value for Phase C	2	R	32-bit integer unit ： kWh
886C	34924	Reserve the peak active power energy value for Phase C	2	R	
886E	34926	Reserve the flat active power energy value for Phase C	2	R	
8870	34928	Reserve the valley active power energy value for Phase C	2	R	
8872	34930	Quadrant 1: Total reactive power	2	R	32-bit integer unit ： kVar
8874	34932	Quadrant 2: Total reactive power	2	R	

8876	34934	Quadrant 3: Total reactive power	2	R	
8878	34936	Quadrant 4: Total reactive power	2	R	
887A	34938	Reserved net active power energy	2	R	32-bit integer unit ： kWh
887C	34940	Reserved net reactive power energy	2	R	32-bit integer unit ： kVar

7.5 Historical Data Storage

The electricity reading method for the previous month is shown in the table below:

First address of the range (high byte)	Historical Data Types
48-53H	Last 1 month-last 12 months

First address of the range (low byte)	data type
00H	Record Date and Time
03H	History total active energy
05H	History total forward active energy
07H	History total reversing active energy
09H	History total forward reactive energy
0BH	History total reversing reactive energy
0DH	Total active energy on phase A
0FH	Total forward active energy on phase A
11H	Total reversing active energy on phase A
13H	Total forward reactive energy on Phase A
15H	Total reversing reactive energy on Phase A
17H	Total active energy on phase B
19H	Total forward active energy on phase B
1BH	Total reversing active energy on phase B
1DH	Total forward reactive energy on Phase B
1FH	Total reversing reactive energy on Phase B
21H	Total active energy on phase C
23H	Total forward active energy on phase C
25H	Total reversing active energy on phase C
27H	Total forward reactive energy on Phase C
29H	Total reversing reactive energy on Phase C
2BH	Current total spike energy
2DH	Current total peak energy
2FH	Current total flat energy
31H	Current total valley energy
33H	The total active power energy of the T5 .
35H	The total active power energy of the T6

37H	The total active power energy of the T7
39H	The total active power energy of the T8
3BH-4AH	The current forward active power energy for T1 to T8
4BH-5AH	The Current reverse active power energy for T1 to T8
5BH-6AH	The current forward reactive power energy for T1 to T8
6BH-7AH	The Current reverse reactive power energy for T1 to T8
7BH-7EH	Maximum demand for Phase A current
7FH-82H	Maximum demand for phase B current
83H-86H	Maximum demand for phase C current
87H-8AH	Maximum forward active power demand
8BH-8EH	Maximum forward reactive power demand
8FH-92H	Maximum reverse active power demand
93H-96H	Maximum reverse reactive power demand
97H-9AH	Maximum apparent power demand

7.6 Storage of Extreme Data

Maximum Value Record:

First address of the range (high byte)	Historical Data Types
04	Extremum of the month and Occurrence time
05	Extremum of last 1 month and Occurrence time
06	Extremum of last 2 month and Occurrence time
07	Extremum of last 3 month and Occurrence time

Offset address for each interval (low byte)	data type
00	Voltage of phase A maximum value and occurrence time
03	Voltage of phase B maximum value and occurrence time
06	Voltage of phase C maximum value and occurrence time
09	Voltage between A-B maximum value and occurrence time
0C	Voltage between B-C maximum value and occurrence time
0F	Voltage between C-A maximum value and occurrence time
12	Current of phase A maximum value and occurrence time
15	Current of phase B maximum value and occurrence time
18	Current of phase C maximum value and occurrence time
1B	Three phase current vector sum maximum value and occurrence time
1E	Active power of phase A maximum value and occurrence time
22	Active power of phase B maximum value and occurrence time

26	Active power of phase C maximum value and occurrence time
2A	Total active power maximum value and occurrence time
2E	Reactive power of phase A maximum value and occurrence time
32	Reactive power of phase B maximum value and occurrence time
36	Reactive power of phase C maximum value and occurrence time
3A	Total reactive power maximum value and occurrence time
3E	Apparent power of phase A maximum value and occurrence time
42	Apparent power of phase B maximum value and occurrence time
46	Apparent power of phase C maximum value and occurrence time
4A	Total apparent power maximum value and occurrence time

Minimum Value Record:

First address of the range (high byte)	Historical Data Types
04	Extremum of the month and Occurrence time
05	Extremum of last 1 month and Occurrence time
06	Extremum of last 2 month and Occurrence time
07	Extremum of last 3 month and Occurrence time

Offset address for each interval (low byte)	data type
4E	Voltage of phase A minimum value and occurrence time
51	Voltage of phase B minimum value and occurrence time
54	Voltage of phase C minimum value and occurrence time
57	Voltage between A-B minimum value and occurrence time
5A	Voltage between B-C minimum value and occurrence time
5D	Voltage between C-A minimum value and occurrence time
60	Current of phase A minimum value and occurrence time
63	Current of phase B minimum value and occurrence time
66	Current of phase C minimum value and occurrence time
69	Three phase current vector sum

	minimum value and occurrence time
6C	Active power of phase A minimum value and occurrence time
70	Active power of phase B minimum value and occurrence time
74	Active power of phase C minimum value and occurrence time
78	Total active power minimum value and occurrence time
7C	Reactive power of phase A minimum value and occurrence time
80	Reactive power of phase B minimum value and occurrence time
84	Reactive power of phase C minimum value and occurrence time
88	Total reactive power minimum value and occurrence time
8C	Apparent power of phase A minimum value and occurrence time
90	Apparent power of phase B minimum value and occurrence time
94	Apparent power of phase C minimum value and occurrence time
98	Total apparent power minimum value and occurrence time

Note: Each record of an extreme value and its occurrence time consists of 3 characters. The specific data layout follows the table below:

Register Address	Event Name	data type	remarks
0400H	Maximum voltage of A phase and occurrence time	The data of Maximum voltage of A phase	data and decimal place refer to address table 6.2
0401H		Occurrence time of minutes and hours	High byte is minute
0402H		Occurrence time of Days and months	High Byte is Day

The cumulative electricity rate is shown in the table below:

First address of the range (high	data type	First address of the range (low byte)	data type

byte)			
E2H	Secondary-side electrical energy value	0x00	Secondary value of the total active power energy.
E3H	Primary electrical energy value	0x02	Secondary value of forward active power
		0x04	Secondary value of reverse active power
		0x06	Secondary value of total reactive power energy
		0x08	Secondary value of forward reactive power
		0x0a	Secondary value of reverse reactive power
		0x0c	Secondary value of apparent electrical energy
		0x0e	Secondary value of the total active T1 energy.
		0x10	Secondary value of the total active T2 energy.
		0x12	Secondary value of the total active T3 energy.
		0x14	Secondary value of the total active T4 energy.
		0x16	Secondary value of the total active T5 energy.
		0x18	Secondary value of the total active T6 energy.
		0x1a	Secondary value of the total active T7 energy.
		0x1c	Secondary value of the total active T8 energy.
		0x1e	Secondary value of the forward active T1 energy.
		0x20	Secondary value of the forward active T2 energy.
		0x22	Secondary value of the forward active T3 energy
		0x24	Secondary value of the forward active T4 energy
		0x26	Secondary value of the forward active T5 energy
		0x28	Secondary value of the forward active T6 energy
		0x2a	Secondary value of the forward active T7 energy

		0x2c	Secondary value of the forward active T8 energy
		0x2e	Secondary value of the reverse active T1 energy
		0x30	Secondary value of the reverse active T2 energy
		0x32	Secondary value of the reverse active T3 energy
		0x34	Secondary value of the reverse active T4 energy
		0x36	Secondary value of the reverse active T5 energy
		0x38	Secondary value of the reverse active T6 energy
		0x3a	Secondary value of the reverse active T7 energy
		0x3c	Secondary value of the reverse active T8 energy
		0x3e	Secondary value of the forward reactive T1 energy
		0x40	Secondary value of the forward reactive T2 energy
		0x42	Secondary value of the forward reactive T3 energy
		0x44	Secondary value of the forward reactive T4 energy
		0x46	Secondary value of the forward reactive T5 energy
		0x48	Secondary value of the forward reactive T6 energy
		0x4a	Secondary value of the forward reactive T7 energy
		0x4c	Secondary value of the forward reactive T8 energy
		0x4e	Secondary value of the reverser reactive T1 energy
		0x50	Secondary value of the reverser reactive T2 energy
		0x52	Secondary value of the reverser reactive T3 energy
		0x54	Secondary value of the reverser reactive T4 energy
		0x56	Secondary value of the reverser reactive T5 energy
		0x58	Secondary value of the reverser reactive T6 energy

		0x5a	Secondary value of the reverser reactive T7 energy
		0x5c	Secondary value of the reverser reactive T8 energy
		0x5e	Secondary value of total active power energy in Phase A
		0x60	Secondary value of forward active power energy in Phase A
		0x62	Secondary value of reversr active power energy in Phase A
		0x64	Secondary value of reactive power in Phase A
		0x66	Secondary value of forward reactive power in Phase A
		0x68	Secondary value of reverse reactive power in Phase A
		0x6a	Secondary value of forward active T1 energy in Phase A
		0x6c	Secondary value of forward active T2 energy in Phase A
		0x6e	Secondary value of forward active T3 energy in Phase A
		0x70	Secondary value of forward active T4 energy in Phase A
		0x72	Secondary value of forward active T5 energy in Phase A
		0x74	Secondary value of forward active T6 energy in Phase A
		0x76	Secondary value of forward active T7 energy in Phase A
		0x78	Secondary value of forward active T8 energy in Phase A
		0x7a	Secondary value of total active power energy in Phase B
		0x7c	Secondary value of forward active power energy in Phase B
		0x7e	Secondary value of reversr active power energy in Phase B
		0x80	Secondary value of reactive power in Phase B
		0x82	Secondary value of forward reactive power in Phase B
		0x84	Secondary value of reverse reactive power in Phase B
		0x86	Secondary value of forward active T1 energy in Phase B

		0x88	Secondary value of forward active T2 energy in Phase B
		0x8a	Secondary value of forward active T3 energy in Phase B
		0x8c	Secondary value of forward active T4 energy in Phase B
		0x8e	Secondary value of forward active T5 energy in Phase B
		0x90	Secondary value of forward active T6 energy in Phase B
		0x92	Secondary value of forward active T7 energy in Phase B
		0x94	Secondary value of forward active T8 energy in Phase B
		0x96	Secondary value of total active power energy in Phase C
		0x98	Secondary value of forward active power energy in Phase C
		0x9a	Secondary value of reversr active power energy in Phase C
		0x9c	Secondary value of reactive power in Phase C
		0x9e	Secondary value of forward reactive power in Phase C
		0xa0	Secondary value of reverse reactive power in Phase C
		0xa2	Secondary value of forward active T1 energy in Phase C
		0xa4	Secondary value of forward active T2 energy in Phase C
		0xa6	Secondary value of forward active T3 energy in Phase C
		0xa8	Secondary value of forward active T4 energy in Phase C
		0xaa	Secondary value of forward active T5 energy in Phase C
		0xac	Secondary value of forward active T6 energy in Phase C
		0xae	Secondary value of forward active T7 energy in Phase C
		0xb0	Secondary value of forward active T8 energy in Phase C
		0xb2	Quadrant 1: Secondary value of total reactive power
		0xb4	Quadrant 2: Secondary value of total reactive power

		0xb6	Quadrant 3: Secondary value of total reactive power
		0xb8	Quadrant 4: Secondary value of total reactive power
		0xba	secondary value of total active power energy.
		0xbc	secondary value of total reactive power energy.

8、Common Fault Diagnosis

8.1 Communication failure in the RS485 networking configuration for instruments

Diagnostic Recommendations: First, check for loose RS485 connections or reversed AB terminals. Then, use the button to verify that selected parameters (e.g., address, baud rate, parity bit) are correctly configured.

8.2 Wireless Communication Failure of Instrument

Diagnostic Recommendations: First, connect the instrument to its RS485 interface using a USB-to-485 serial cable, then read the internal parameters via communication to verify their consistency with the wireless configuration of the master station (including channel and spread spectrum factor). If discrepancies are found, adjust the instrument's wireless parameters to match those of the master station and retest. If parameters match, the issue may stem from excessive distance between the instrument and the master station or significant field interference; in such cases, consider using an external antenna or installing a nearby additional wireless master station before conducting further testing.

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