

Three-phase electronic electric energy meter Instruction





Danger and warning

Before installing, operating or maintaining the equipment, please read this manual carefully, get it and gradually get familiar with the equipment. This document is not an operating manual for non-trainees, and our company are not responsible for any problems arising out of its normal use.



Risk of electric shock, fire or explosion

- There is a power hazard in some parts of this equipment. Please operate in strict accordance with the specifications.
- Before maintenance and overhaul, the equipment must be powered off and grounded.
- All mechanical parts, doors and covers should be returned to their original position before the equipment is energized.
- Equipment maintenance and installation work can only be performed by qualified personnel.

If you do not pay attention to these precautions, it may cause serious injury.

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Chapter I : Product Introduction

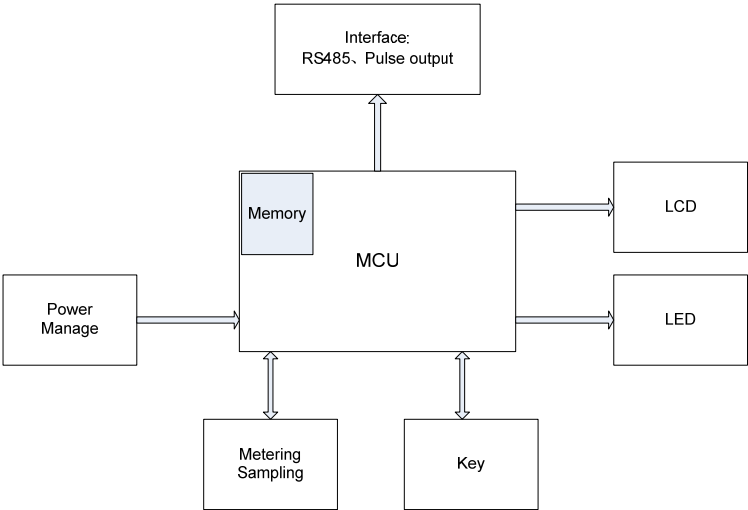
1.1 Overview

YDM403D Three-phase electronic electricity meter is mainly used to measure the single-phase active power of low-voltage network. At the same time, the voltage, current, power, frequency and power factor and other electrical parameters can be measured, and RS485 communication function can be selected for users to monitor, collect and manage electricity. It can be flexibly installed in the distribution box to realize the metering, statistics and analysis of electric energy for different areas and different loads. The meter has the advantages of small size, high accuracy, good electromagnetic compatibility and convenient installation, and meets the relevant technical requirements of the meter in IEC 62052-11 and IEC50470-3 standards.

(1) Reference standard:

Standard	Description
IEC62052-11:2021	Electricity metering equipment(a.c.)-General requirements,tests and test conditions-Part 11:Metering equipment
EN50470-3:2022	Particular requirements-Static meters for AC active energy(class indexes A,B and C)

(2) Instrument hardware design drawing:



1.2 Function introduction

function	function declaration
real-time measurement	Voltage and current measurement
	Active power, reactive power, apparent power, power factor, frequency measurement
Electric energy measurement	Combined active total energy measurement (forward+reverse, forward active total energy, reverse active total energy, A-phase forward active total energy, B-phase forward active total energy, C-phase forward active total energy)
	Positive reactive total energy, reverse reactive total energy, A-phase reverse active total energy, B-phase reverse active total energy, C-phase reverse active total energy

LCD show	8-bit segment LCD display, with automatic cycle and key switch two display ways
	Display real-time measurement value and total active power and reactive power
	The displayed numerical units adopt the national legal units of measurement, such as: V, A, kW, kvar, kVA, kWh, MWh, etc
communication	RS485 interface, supporting ModBus-RTU and DL/T645-2007 protocols. Real-time electrical parameters (voltage, current, power, power factor, energy, etc.) can be read through the protocol. For detailed information, please refer to the communication protocol.
pulse output	Active energy pulse output , reactive energy pulse output
Key programming	3 keys programmable communication address, baud rate, check bit, backlight time, wiring mode, voltage transformer ratio PT, current transformer ratio CT, wheel display interval and other parameters

1.3 Model description

Model	Function
YDM403D	Three-phase AC voltage, current, power, power factor, frequency real-time measurement and energy measurement, suitable for 3×230/400V, 3×400V and other power grid systems.

Chapter II Installation

2.1 Installation for prevention and preparation

Any execution of installation, wiring, testing and repair must comply with all local and national electrical codes.



Danger

Danger of electric shock, explosion, or arc flash

- Please wear the personnel protection equipment (PPE) and follow the electrical operation safety procedures.
- Before operating the equipment or within the device, turn off all the power to the device and the device. Do not work alone or work in dangerous conditions.
- Always use the correct voltage induction device with rated voltage rating to confirm that all power supplies are switched off.
- Live equipment with hazardous communication shall be assumed unless confirmed by testing.
- Never exceed the maximum rating of this equipment.
- Do not verify that the power supply is turned off based on the meter data.
- Before powering on the equipment, reinstall all the devices, doors and protective covers. Do not touch the voltage and current terminals when the equipment is powered on.
- There are no parts available can maintenance, please arrange qualified personnel for maintenance.
- The voltage input circuit for this device must be connected to an appropriate safety device or circuit breaker.
- RS485 connecting line shall be double insulated shielding cable.
- The strong and weak current circuits should not use the same cable, and the cores should be arranged in bundles.
- Equipment shall be installed in dry, clean, away from heat source and strong electromagnetic field.
- Do not use water or any liquid material to clean the products. Use a cleaning cloth to remove the dirt. If the dirt cannot be removed, please contact the local technical support representative.
- The installer is responsible for coordinating the rating and characteristics of the power supply side overcurrent protection device with the maximum rated current, ensuring that it matches the UC2 of this table.

Failure to follow the instructions will lead to serious consequences such as personal casualties.

2.2 Installation information

2.2.1 Installation dimensions

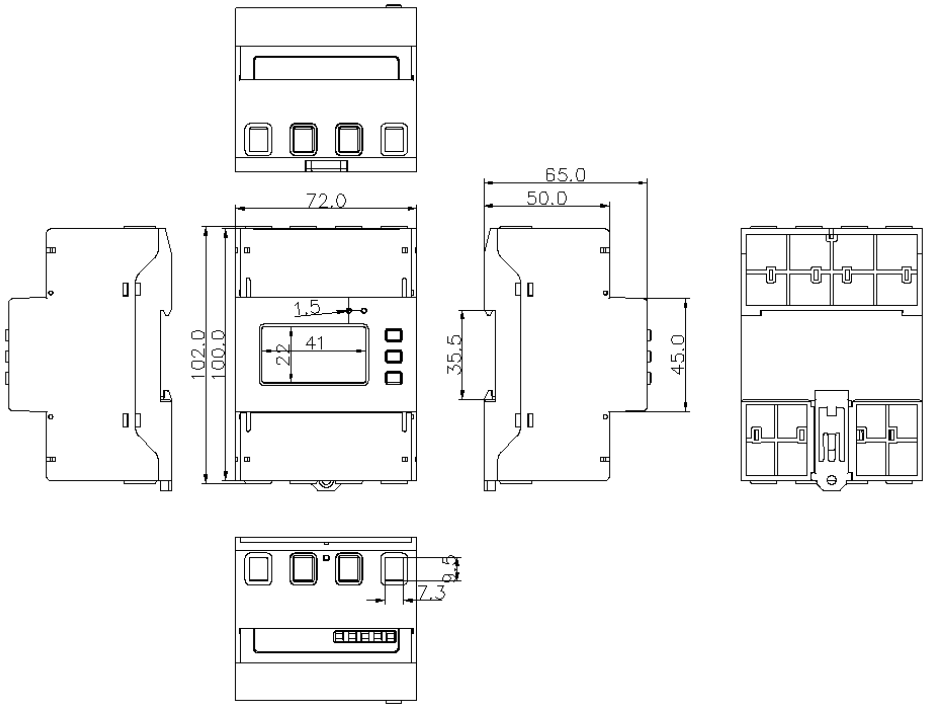
(1) Product host (Unit: mm, Tolerance: ± 0.5)

Overall dimensions: 72mm×100mm×65mm

DIN rail installation size: 35mm;

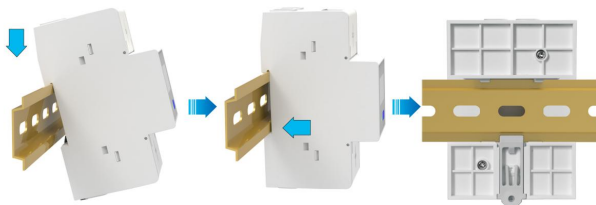
Weight: about 0.338kg

Overall dimensions and installation dimensions are shown in the following figure:



2.2.2 Installation

- (1) Install the electricity meter on the DIN35mm standard guide rail.
- (2) Install the meter on the standard guide rail from top to bottom, and then push the electricity meter from the bottom to the front into the guide rail, and then push the plug tip up and push it in place.
- (3) When dismantling the machine, please use a screwdriver to insert the round hole ($\phi 3.4$) in the tip to push down, and then take out the meter.
- (4) Wiring moment $2.0 \pm 0.2 \text{ N} \cdot \text{m}$, stripping length: 10-12mm.
- (5) After the installation, only the front face cover part is exposed, and the left and right sides can not be touched.
- (6) This table is suitable for wall and cabinet installations.



2.2.3 Cable Requirements (recommended)

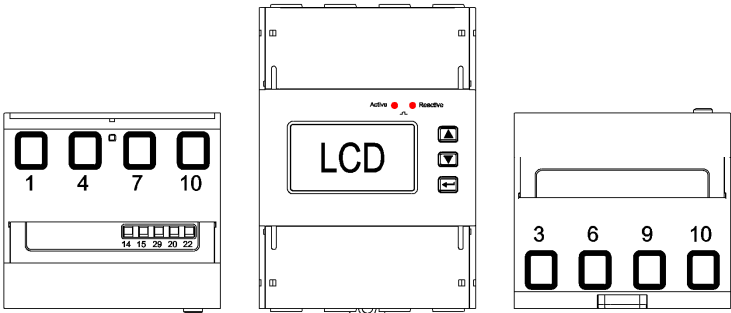
Cable	Port	Type	Conductor section area	External diameter	Behaviour of electricity	Source
Voltage cable	Ua	Single core copper cable	4mm ² ~35mm ²	5~14mm	105℃、600V	User preparation
	Ub					
	Uc					
	Un					
Communication cable	RS485A RS485B	Two-core twisted-pair shielding wire	0.25mm ² ~1mm.5 ²	4~11mm	80℃、300V	User preparation

Note:

- (1) The minimum cross-sectional area and diameter of the cable shall meet the local cable standards.
- (2) Factors affecting the selection of cables are: rated current, cable type, laying method, ambient temperature and maximum expected line loss, etc.

2.3 Interface definition

2.3.1 Panel description and interface definition

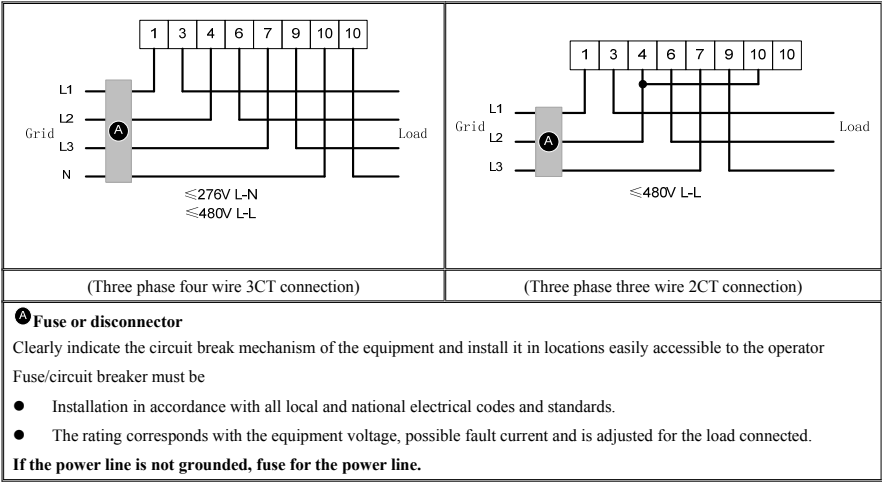


Characteristic	Function	Description
LCD	Segment code LCD display	Display the basic data, visual window size: 41mm×22mm
	key	Turn pages, shift, add, set
Active 	Pulse indicator light	Active power pulse indication, colorless and transparent when not flashing, and red when flashing
Reactive 	Pulse indicator light	Reactive energy pulse indication, colorless and transparent when not flashing, and red when flashing

Terminal number	Terminal identification	Explanatory note	Terminal number	Terminal definition	Explanatory note
1	Ua	A-Phase current and voltage input	3	/	A-Phase current and voltage output
4	Ub	B-Phase current and voltage input	6	/	B -Phase current and voltage output
7	Uc	C-phase current and voltage input	9	/	C-phase current and voltage output
10	Un	The N (zero) line is the input / output	29	com	Active or reactive power pulses- (Common end)
14	A	The RS485 communication output positive electrode	20	AP	Active Pulse +
15	B	RS485 communication output negative electrode	22	RP	Reactive Pulse +

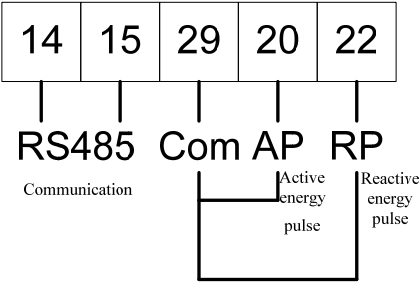
2.4 Wiring diagram

2.4.1 Schematic diagram of voltage and current wiring



2.4.2 Wiring diagram of communication and pulse terminal

(1) Communication and pulse terminals



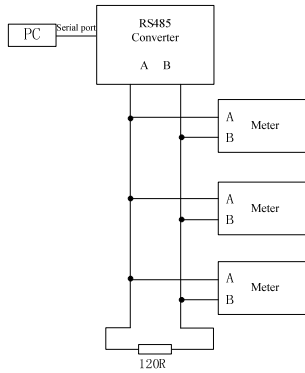
(2) Communication instructions

The RS485 communication interface of the instrument supports ModBus-RTU and DL/T645-2007 protocols. The communication port rate can be set between 1200bps, 2400 bps, 4800 bps, 9600bps, 19200 bps and 38400 bps. The check bit by default is no check. Instrument RS485 communication requirements using shielding twisted pair connection, wiring to consider the layout of the whole network: such as the length of the communication cable, direction, the position of the upper machine, the end of the network matching resistance, communication converter, network scalability, network coverage, environment such as electromagnetic interference factors, to consider.

Note:

- ① In the wiring project to be strictly in accordance with the requirements of the construction;
- ② When conducting RS485 cable connection, try to use two-color twisted pair, with all RS 485 communication ports "A" terminating to the same color and "B" to another color.

- ③ The RS485 bus (from the upper computer communication port to any connected instrument terminal communication port) shall not exceed 1200 meters long.
- ④ If the shielding twisted pair is long, it is recommended to have a resistance of about $120\ \Omega$ at its end to improve the reliability of the communication.



Chapter III: Use and Operation

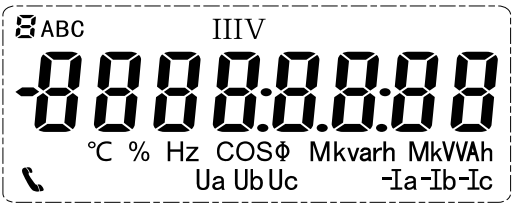
3.1 Keys definition

Key icon	Key name	Key function
	Up key	1、 When viewing the interface, turn up the screen to display; 2、 When programming, in the parameter interface, exit the menu; 3、 When programming, in the book editing interface, flashing digital right shift.
	Down key	1、 When viewing the interface, turn down the screen to display; 2、 When programming, in the parameter interface, turn over the screen display; 3、 When programming, in the editing interface, the flicker bit value decreases.
	Setting key	1、 When viewing the interface, enter the parameter screen; 2、 When programming, in the parameter interface, enter the editing interface; 3、 When programming, confirm the save settings in the editing interface;

3.2 Display instructions

3.2.1 Display the functional description

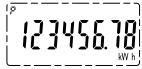
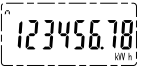
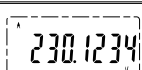
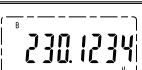
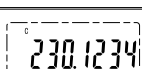
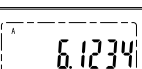
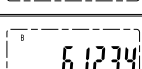
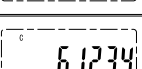
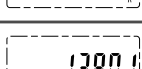
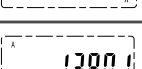
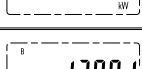
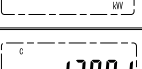
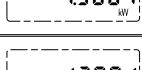
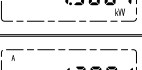
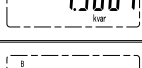
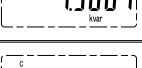
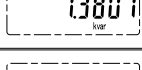
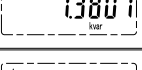
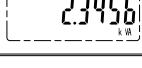
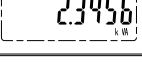
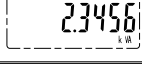
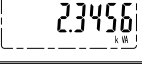
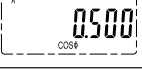
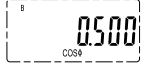
- (1) Using segment code liquid crystal display, display mode is divided into automatic cycle display, display of key switch display, display items can not be set.
- (2) The display has backlight function, the backlight is white, and can be lit by the key. When there is no key operation, the delay is 60 seconds, and the backlight is closed; when the key is effectively operated, the backlight will light. In no operation, the backlight is closed after 60 seconds delay.
- (3) Indicator light instructions: active energy and reactiveenergy pulse indication (red).
- (4) At the start of the startup, the LCD will display the CRC check code of the instrument, and the instrument CRC number is 91b9ACEb.
- (5) Long press the up key  to enter the LCD full display, in the full display state, Press any key briefly to exit full display, the full display is as follows:

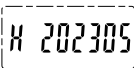
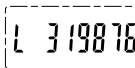


LCD display (full display)

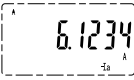
3.2.2 Description of the data interface

- (1) You can turn the page by pressing  the up key or  the down key in the serial number 1 to 30. When there is no operation, the display will be automatically entered after a delay of 60 seconds, and the residence time of each page is fixed for 5 seconds:

Order number	Display interface	Explain	Order number	Display interface	Explain
1		Positive total active energy =123456.78kWh	2		Reverse active total energy =123456.78kWh
3		Positive total reactive energy =123456.78kvarh	4		Reverse reactive total energy =123456.78kvarh
5		A-Phase voltage =230.1234V	6		B -Phase voltage =230.1234V
7		C-phase voltage =230.1234V	8		A-Phase current =6.1234A
9		B-Phase current =6.1234A	10		C-Phase phase current =6.1234A
11		Total active power =1.3801kW	12		A-phase active power =1.3801kW
13		B-phase active power =1.3801kW	14		C-phase active power =1.3801kW
15		Total reactive power = 1.3801 kvar	16		A-phase reactive power = 1.3801 kvar
17		B-phase reactive power = 1.3801 kvar	18		C-phase reactive power = 1.3801 kvar
19		Total apparent power = 2.3456 kVA	20		A-phase apparent power = 2.3456 kVA
21		B-Phase apparent power = 2.3456 kVA	22		C -phase apparent power = 2.3456 kVA
23		Total power factor =1.000	24		A -Phase power factor =0.500
25		B -Phase power factor =0.500	26		C-Phase power factor =0.500
27		Frequency =50.00Hz	28		Modbus-RTU communication address

29		Production serial number is 6 bits high , atotal of 12 bits	30		Production serial number is 6 bits lower,A total of 12
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Other symbol uses are said to be:

order number	Display interface	Explain	Order number	Display interface	Explain
1		When the symbol is displayed on the liquid crystal, the machine is communicating	2		It means that the current is facing the user's power trend direction, i. e. the positive (power) trend
3		When the liquid crystal lights up, -Ia, -Ib, -Ic, it indicates that the current at this time is the direction of the power flow opposite to the positive (electrical) flow direction	/	/	/

(2) Display the resolution and the display range

Order number	Displays item	unit	Resolution ratio	Display range	Remarks
1	Positive activeenergy	kWh	/	/	/
			0.01	100000.00~999999.99	/
			0.1	1000000.0~4294967.2	/
2	Reverse active power	kWh	/	/	/
			0.01	100000.00~999999.99	/
			0.1	1000000.0~4294967.2	/
3	Total reactive energy	kvarh	/	/	See Note 1
			0.01	100000.00~999999.99	
			0.1	1000000.0~4294967.2	
4	Voltage	V	0.001	/	/
5	Current	A	0.001	/	/
6	Active power	kW	0.0001	/	/
7	Reactive power	kvar	0.0001	/	/
8	Apparent power	kVA	0.0001	/	/
9	Power factor	/	0.001	-1~0~1	/
10	Frequency	Hz	0.01	45~65Hz	/

Note1:

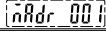
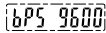
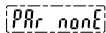
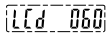
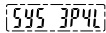
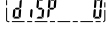
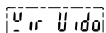
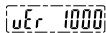
Due to the limitations of the LCD display, there is no unit switching. After setting the transformation ratio, the display is set to the primary side value display. The reactive energy unit can only reach kvarh. Once it exceeds the range, it cannot be displayed and only the last eight digits can be shown. Values higher than the eight digits are not displayed.

3.2.3 Parameter setting interface

In any display item in the measurement display interface, press  the Set key to enter the communication address "MAdr 001" in the parameter interface. Press  the down key to flip the screen to view the version number, baud rate/check bit, LCD backlight time, software version and other parameters. If you need to update a parameter, press  the button on the corresponding parameter screen, the password screen "Pd 0000" pops up, enter the password "Pd 2000", and press  the button to confirm. After the password is entered correctly, the pre-modified parameter starts to blink, you can change the parameter. After entering the password on the parameter screen, you can also change the Settings of other items. You do not need to enter the password again.

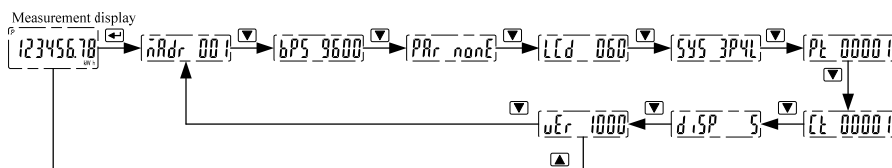
In the parameter or edit interface, if there is no key action within 60 seconds, it will automatically return to the measurement interface.

Can set the parameter items:

Order number	Parameter interface	Meaning	Set ranging	Factory default
0		Password input	Fixed 2000, can not change	2000
1		ModBus-RTU communication address setting	1~247	001
2		Baud rate selection	1200:1200bps 2400:2400bps 4800:4800bps 9600:9600bps 192~-19200bps 384~-38400bps	9600
3		Check bit selection	non E: No check; Odd: odd; EvEn: Even	No nonE
4		Backlight time setting	0: Often bright; 0~300: Backlight delay of 0~300 seconds.	60 Seconds
5		Wiring mode (wire selection)	3P4L: three-phase four-line 3P3L: three-phase three-line	3P4L: three-phase four-line
6		Voltage transformer ratio	1~50000	1
7		Current transformer ratio	1~50000	1
8		Displays the switch settings	0: Display the secondary side value 1: Displayed as a primary side value	0
9		Reserved function	/	/
10		Version number Ver 1.0.00	Do not set	The final instrument display shall prevail

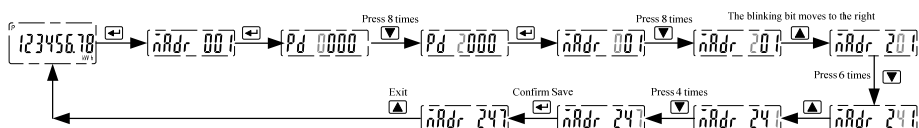
3.2.4 Key operation for example

(1) Parameter viewing:



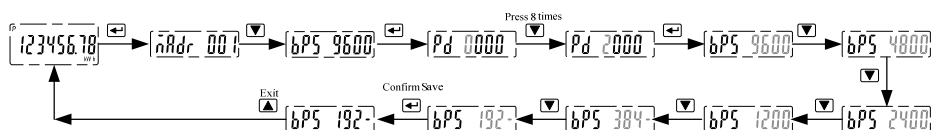
Note: In any page of parameter items, press the up key to return to the measurement screen.

(2) The communication address is set from 001 to 247. The specific operation are as follows:

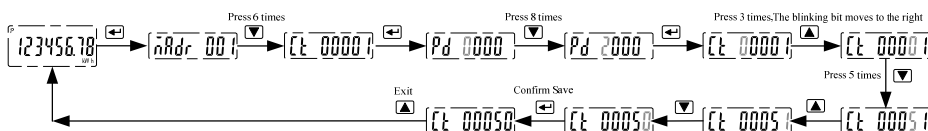


Note: The font in the above virtual box is gray means that this bit is flashing.

(3) The port rate is set from 9600 to 19200 as follows:



(4) The current transformer change ratio is set to 50 from 1, and the specific operation is as follows:



Chapter IV Technical indicators

4.1 Specifications

Item	Specifications 1	Specification 2
nominal voltage U_n	3×230/400	3×230/400
minimum current I_{min} — nominal current I_n (maximum current I_{max})	0.25-5(80)A	0.25-5(80)A
Pulse constant	400imp/kWh	400imp/kWh
breakover current I_{tr}	0.5A	0.5A
nominal frequency f_n	50Hz /60Hz	50Hz /60Hz
Accuracy level (active energy)	A level	B level
Note: The above parameters shall be marked on the nameplate.		

4.2 Test accuracy

Item	Index (Specification I)	Index (Specification II)	Measuring range
Current	±1%	±0.5%	$I_{tr} \leq I \leq I_{max}$
	±1%	±1%	$I_{min} \leq I < I_{tr}$
Voltage	±0.5%	±0.5%	176V~276V
Active power	±1%	±0.5%	$I_{tr} \leq I \leq I_{max}$
	±2%	±1%	$I_{min} \leq I < I_{tr}$
Reactive power	±2%	±2%	/
Frequency	±0.02Hz	±0.02Hz	45Hz~65Hz
Power factor	±2°	±2°	0.5L ~1.0~0.5C
Active energy	Class A (Class 2.0)	Class B (Class 1.0)	/
Reactive energy	Level 2	Level 2	/

- (1) The maximum allowable error of electric energy is basic

When the percentage error caused by the change in the current and power factors within the range given in Table 1 shall not exceed the limit of the corresponding accuracy level given in Table 3.

If it is a bidirectional representation, the values in Table 3 apply to each direction.

Table 1 percentage error limits (single-phase instruments and multi-phase instruments with balanced or single-phase loads)

Current	Power factor	Percentage error limit /% of instrument level		
		A	B	C
$I_{min} \leq I < I_{tr}$	1	±2.5	±1.5	±1.0
$I_{tr} \leq I \leq I_{max}$	From 0.5L to 1 to 0.8C	±2.0	±1.0	±0.5
$I_{st} \leq I < I_{min}$	1	$\pm 2.5 \frac{I_{min}}{I}$	$\pm 1.5 \frac{I_{min}}{I}$	$\pm 1.0 \frac{I_{min}}{I}$
pour: $I_{st} \leq I < I_{min}$ Tested only under balanced load conditions.				

- (2) Starting

The instrument shall start at the following specified voltage, power factor, frequency and starting current, and the electric energy shall be recorded continuously.

Voltage	Power factor	Frequency	The meter level corresponds to the starting current I_{start}		
			A	B	C
176V	1.0	50Hz or 60Hz	$0.05I_{tr}$	$0.04I_{tr}$	$0.04I_{tr}$

(3) Shunt running

When applying a $1.1U_n$ Or $0.8 U_n$, and when the current line has no current, the meter shall not produce more than one pulse in the shortest Δt time.

The shortest amount of Δt is:

$$\Delta t \geq \frac{240 \times 10^3}{k \cdot m \cdot U_{test} \cdot I_{start}} [min]$$

Where: k-pulse constant (imp/kWh), m-number of measuring elements, U_{test} -Maximum working voltage (V),

I_{start} -Starting current (A)

4.3 Communication parameters

Item	parameter	Item	parameter
Communication port	RS-485 (double line), isolated communication	check bit	No check/even check/odd check (the factory default has no check)
Communication address	001~247 (factory default 001)	data bit	8bits
Baud rate	1200/4800/9600/19200/38400 (factory default 9600bps)	stop bit	1bits
Communication protocol	ModBus-RTU and DL/T645-2007 protocols	Communication interval	Interval between sending double commands > 40ms
Data upload	Data communication was performed by the standard ModBus protocol	response time	≤300ms

4.4 Use of the environment

4.4.1 Electrical parameters

Item	Index	Item	Index
Operating voltage range	176VAC~276VAC	Limit working voltage range	154VAC~299VAC
Overpressure category	III	Working frequency range	45Hz~65Hz
power dissipation	Voltage circuit per phase: ≤1.5W、6VA; Current circuit of each phase: ≤0.5VA。	/	/

4.4.2 Working environment conditions

Item	Index	Item	Index
Working temperature range	-25℃~55℃	Limit working temperature range	-40℃~70℃
Storage and transport temperature range	-40℃~85℃	Working relative humidity	5%~95% (no condensation)
Altitude	≤2000 meters	class of pollution	2

Barometric pressure	86kPa~106kPa	Application place	Indoor meter (H1 and H2)
IP grade	Panel IP51 (Display screen)	Type of use	Three phase four wire or three phase three wire
Protection level	II	Use classes	UC2

4.5 Electromagnetic compatibility

Item	Index	Satisfied
RE(Radiation emission)	CLASS B (-3dB) @30MHz~6GHz	No limit value-3dB
RS (Radiation immunity)	10V/m, 80%AM(1k Hz)、80~6000MHz	criterion A
	30V/m, 80%AM(1k Hz)、80~6000MHz	
CE(Conducted emission)	CLASS B (-3dB) @150kHz~30MHz	No limit value-3dB
CS (Immunity to conducted disturbances)	10V、80%AM(1kHz)、0.15~80MHz	criterion A
SURGE (surge immunity), impulse current	Protection grade of RS485 communication port: surge differential mode 4kV (internal resistance 42 Ω, 1.2/50us)	criterion B
	Surge from RS485 communication port to AC power port is 4kV; (485 signal lines are connected together and AC input lines are connected together for verification)	criterion B
	Supply power port: surge difference mode 4kV	criterion B
EFT (Electrical Fast Transient Burst Immunity)	Power supply and communication port of ± 4kV	criterion A
Voltage dip, short interruption test	Voltage interruption test, Δ U voltage decreased by 100%, duration 5s, test times 10 times, interval between trials 10s	criterion B
	Voltage drop test, Δ U voltage reduced by 60%, duration 1s, 10 times, interval between tests 10s	criterion B
	Voltage temporary drop test, Δ U voltage reduced by 60%, duration 0.5s, test times 10 times, interval between tests 10s	criterion B
	Voltage temporary drop test, Δ U voltage reduced by 60%, duration 0.5s, test times 10 times, interval between tests 10s	criterion B
Harmonic (Current harmonic of power supply port)	50-2000Hz, Requirements for Class A products	Class A
ESD (Electrostatic discharge immunity)	Contact discharge ± 8kV; air discharge ± 15kV	criterion B
Power-frequency magnetic field immunity	The PMS index of unit shell port shall meet the requirements of IEC61000-4-8 standard. The specific requirements are system index - steady state: 30A/m, 1 minute test	criterion A
Universal criterion: A: Temporary degradation or loss of essential functions is not permitted; The contents of the power register displayed by the display should be read without ambiguity, but degradation of the display quality (such as color, brightness, contrast, sharpness, geometry, etc.) is acceptable. At any time during the test, the deviation caused by the influence or interference should not exceed the limit specified by the standard for the instrument of each accuracy class. B: Temporary degradation or loss of function or performance is permitted, This includes the temporary reduction or loss of communication, the temporary reduction or loss of display function, and the self-resetting of embedded software (firmware), but the power control switch and load switch should not be accidentally operated, and the contents of the power register displayed by the display should be read without ambiguity.		

At any time during the test and in the case of testing immediately after the end of the test, the change in the value of the meter power register should not produce greater than the critical change value.

Note: When the influence or interference is removed and restored to the reference test conditions, the instrument shall not be damaged and shall work correctly in accordance with the relevant provisions of the standard, and its own metering performance shall not be allowed to be reduced. All meter functions should be restored.

4.6 Rated pulse voltage and power frequency withstand voltage resistance

Item	Index
Rated pulse voltage	Voltage input to RS485 communication: voltage peak 6kV standard 1.2/50us pulse
Power frequency and pressure resistance	Voltage input to RS485 communication: 3.0kV • min • mA

Chapter V: Maintenance and Troubleshooting

5.1 Troubleshooting

The instrument does not contain any user-serviceable components. If the instrument needs repair, contact a local YADA representative.

NOTICE

Instrument damage risk

- **Do not open the instrument enclosure.**
- **Do not attempt to repair any parts of the instrument**

Failure to follow these instructions may cause equipment damage.

Common fault phenomena and troubleshooting methods. If the problem still persists after following the instructions in the table, please contact our company's after-sales service department in a timely manner.

Fault phenomenon	Analysis of causes	Processing method
No display after power on	1. Wrong wiring mode.	1. If the wiring method is incorrect, please conduct wiring according to the correct wiring method (see the wiring diagram).
	2. The power supply is abnormal.	2. If the power supply voltage is abnormal, please provide the voltage according to the collector specification.
RS485 Communication anomaly	1. RS485 communication line is not connected, short circuit or reversed.	1. If there is any problem with the communication cable, please replace the cable.
	2. The communication address, baud rate, data bit, and check bit are not consistent with the host.	2. Press the key to set the communication address, baud rate, data bit and check bit consistent with the host. See "Parameter Setting" for key setting operation.
Electrical energy metering is not accurate	1. Incorrect wiring, check whether the phase sequence corresponding to the voltage and the current is correct.	If the wiring method is not correct, please follow the correct wiring method (see the wiring diagram).
	2. Check whether the high end and low end of the current transformer inlet line are connected.	

Note: If there are some problems that cannot be solved, please contact our after-sales service department in time.

Chapter VI Quality Assurance

6.1 Quality Assurance

All new meters sold to customers shall be provided with free quality assurance for the faults caused by design, materials and process within 12 months after power-on or 18 months after receiving the goods. If the products are determined to meet the above quality guarantee conditions, our company shall be responsible for free maintenance

6.2 The quality of limit

Problems with the following devices are not covered by free warranty:

- Damage due to incorrect installation, use, and storage.
- Excessive operating and application conditions beyond the product specifications.
- The meter that has been repaired by an organization or person that is not authorized by the company.
- The meter that exceeds the free warranty period.

Note: The above pictures are for reference only, and the product is subject to the actual product.



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