NO: 13040901.0202.01

YD2040Y-F

YD2040Y-F Series of multi - functional smart power meter specification

Guangdong Yada Electronics Co.,Ltd.

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

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Chapter Ň Introduction

1.1 General

YD2040Y-F ă ă LCD ă ˅ ㄱ ă

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YD2040Y-F Series Smart meter is measurement, monitoring, LCD display and digital communication. It can be widely used in intelligent buildings, power systems, low-voltage power distribution, industrial automation, energy management systems and automation and other fields.

1.2 Function

1-1 ˅

Table1-1 Base function

Real-time measurement	
Current	ˆ ă Three- phase current, zero sequence current
Phase voltage	ˆ Three- phase voltage
Line voltage	ˆ Three- phase line voltage
˅ ˅	ˆ ˅ ˅ ă ˅ ˅

AtSvè Power# qV 9 Çï jq.!6ng<é^C n à&âC ¼Vúz.'the9K ă'hát ¼ w4X1 qvW&Ur 9 Æ W0Sg+³t1˜)™—»7V1˜ 60 »7C c 60 »1 $V1ca•+³t1V1c

№ ˇ ă ˇ ă ˇ № ă ă ă ă ă
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Time-sharing active, reactive, and apparent energy metering functions, accumulating, storing total, sharp, peak, flat, and valley energy according to the corresponding time period.

ч 14, 8 ч 14’
ч 15 № ’ ˥ ˤ Â

The maximum number of time zones is 14, and there are up to 8 daily timetables in each timetable. The maximum number of time zones is 14; the minimum interval is 15 minutes, and should be greater than the demand cycle set in the energy meter; the time period can be crossed. Zero setting.

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Ⓟ Â

Compound rate energy

The electric energy meter has two sets of time zone tables and two sets of daily timetables, and correspondingly two sets of time zone table switching time and two sets of daily timetable switching time.

The two sets of time zone tables can be programmed arbitrarily, and two sets of time zone table

Maximum	¡¯¡¯ à¯¡¯ à ¥ ì ₹ Three-phase current, three-phase voltage, maximum power demand and the date and time of its occurrence
Real-time alarm	
Loss of pressure alarm	Нъ Й¸ ^ 0A˜ ¥ Нъ ¡¯¡¯ ^ 0V Ь 0V˜ Нъ ^ 5~60 ╕ 60s˜ Â^ ¡¯¡¯ ¡¯¡¯ Й¸ Ь В ˜ The phase current is greater than the set voltage loss event current trigger lower limit (default 0A), and the phase voltage is lower than the set voltage loss event voltage trigger upper limit (0V does not turn on, default 0V), and the duration is greater than the set loss. Pressure event determination delay time (setting range 5~60, default 60s).(The B phase loss is not judged in the case of three-phase three-wire)
Overvoltage alarm	Нъ Й¸ ^ 0V Ь 0V˜ Нъ ^ 5~60 ╕ 60s˜ ^ ¡¯¡¯ ¡¯¡¯ Й¸ Ь В ˜ A phase voltage is greater than the set over voltage event voltage trigger lower limit (0V does not turn on, default 0V), and the duration is greater than the set over voltage event decision delay time (setting range 5~60, default 60s). (Do not judge B-phase over voltage in the case of three-phase three-wire)
Undervoltage alarm	Нъ ¡¯¡¯ ^ 0V Ь 0V˜ Нъ ^ 5~60 ╕ 60s˜ ^ ¡¯¡¯ ¡¯¡¯ Й¸ Ь В ˜ The phase voltage is less than the set under voltage event voltage trigger upper limit (0V is not on, the default is 0V), and the duration is greater than the set under voltage event determination delay time (setting range 5~60, default 60s), (Do not judge B-phase under voltage in the case of three-phase three-wire)

Phase failure alarmWÐ P°K°Rb¶ÐC°C°Ì¿¶ÐÐÐ15ÐRÐ¼S Й^ Ъ-(a » Å

Overload alarm	˅ Hʊ ˅ ˅ Й ^ 0kW Ь 0kW˜ Hʊ ^ 5~60 ╕ 60s˜ ^ Ь ˅ ¬ ▫̂▫ ▫̂▫ Ь B ˅ ˜ In a phase power is greater than the set overload event active power trigger lower limit (0kW does not open, the default 0kW), and the duration is greater than the set overload event determination delay time (setting range 5~60, default 60s), (not judged Power positive and negative signs, three-phase three-wire condition does not judge B-phase power overload)

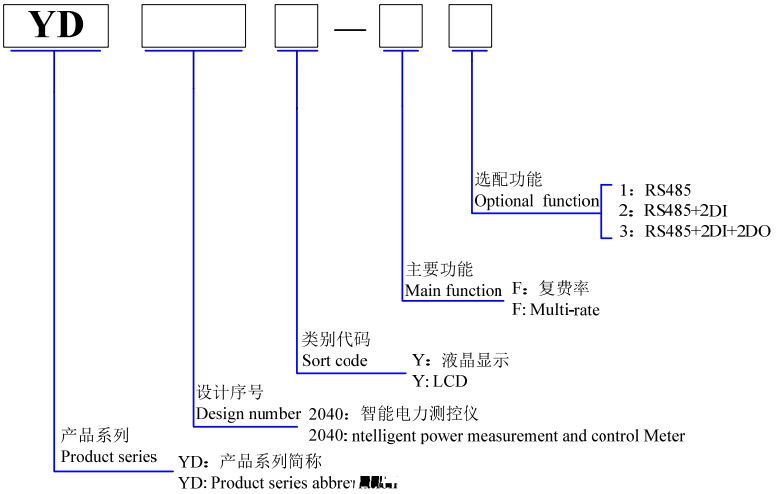
̀ Historical alarm information	̀ 50 ┐ The historical alarm information is stored in real time, and the number of storage alarms is 50. The corresponding value and generation time of the alarm generation time can be recorded
˙ ̀ Ь ̀ ă ̀ ̀ ̈ ̈ Ŧ Â Note: All kinds of historical data and set parameters are permanently saved. The storage of historical electricity data, historical operation data and historical alarms adopts the principle of first in, first out.	
Communication	
RS485	1 RS485 ˆ MODBUS DLT645-2007 ˜ 1-way RS485 interface matching˜ MODBUS protocolandDLT645-2007 protocol˜
ă ˇ Clock, timing function	
Clock	ĺ ă ă ˇ ˆ 23 ˜ Й ≤ ±0.5s/d The clock has an automatic calculation of calendar, timing, and leap year automatic conversion function. The clock accuracy is ≤ ±0.5s/d at the reference temperature (23 °C)

1-2 ˇ

Table 1-2 Optional function

Input	
Digital input	2Dĺ ˜ 2Dĺ passive contact˜
Ŧ Output	
Ŧ Relay output	2DO 2DO Optional

1.3 Model Description



Chapter Installation

2.1 Installation prevention, preparation

Please read before starting the installation

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This chapter contains important safety precautions that you must follow before installing, servicing, or servicing electrical equipment. Read and follow the following safety precautions carefully.

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The danger of electric shock, fire or explosion, so that only qualified personnel can install the equipment.This work should be carried out after reading all of this guidance.In the visual inspection, testing or maintenance, should disconnect all power connection.Please follow the wiring instructions in the instructions and carefully check if the wiring is correct.Aware of the potential danger, workers need to wear protective equipment and carefully check the wiring and installation is correct.When installing or removing the meter, make sure the power supply, signal source to be measured and related power supply are completely disconnected.

2.2 Installation Information

2.2.1 β Installation environment and location

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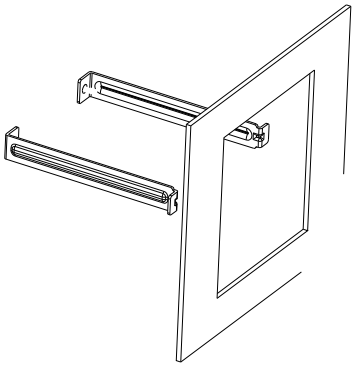
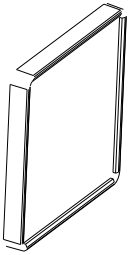
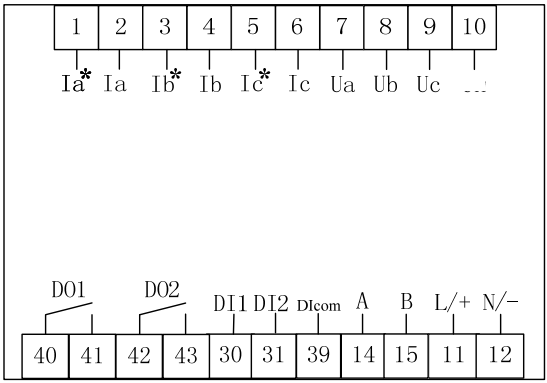
The meter should be installed in dry, clean, away from heat and strong electromagnetic fields avoid direct sunlight.The meter location is usually installed in the switch cabinet, which can protect the device from oil, dirt, dust, corrosive gas or other harmful substances. During installation, please pay attention to the convenience of maintenance. There is enough space to place the relevant lines, terminal blocks, short boards and other necessary equipment.

2.2.2 Installation dimensions: Panel Mounting





2.3 Terminal definition



2) CT ћ Ь CT CT ћ ’

The secondary measurement of CT cannot be opened. When the CT and monitoring loop are disconnected, the secondary measurement of CT should be shortened;

3) ’

The device is suitable for all kinds of three-phase systems. Please read this chapter carefully to choose the appropriate wiring mode;

4) ’

The voltage to be applied should be within the rated voltage range of the device;

5) PT PT 25VA PTћ ’

The PT must be protected by a circuit breaker or fuse. If the rated capacity of the PT used is greater than 25 VA, the PT secondary test shall also be equipped with a fuse;

6) PT CT PT CTћ ’

ЙPT ã CTћ Â

The excitation of the PT and CT primary test will generate a large voltage and current in the PT and CT secondary test circuit, so necessary safety measures must be taken when installing the instrument, such as removing the PT fuse and short CT secondary test.

2.4.1 Power supply

L/+ N/- Â AC85V~265V 50Hz/60Hz Â

When used in AC system, the phase line is connected to the L/+ terminal, and the neutral line is connected to the N/- terminal. Power supply rangeAC85V~265V, 50Hz/60Hz.

L/+ N/- Â DC20V~60V DC100V~330V í Â

When used in DC systems, the positive terminal is connected with L/+ terminal and the negative terminal is connected with N/-terminal. Power supply range is DC20V~60V or DC100V~330V, refer to the information marked on the nameplate.

2.4.2 Voltage and Current

1) iring of three-phase four-wire

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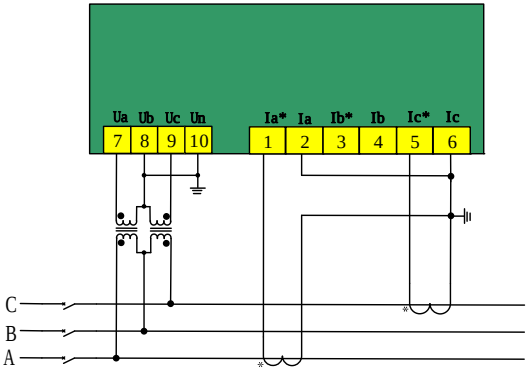
When the measuring line is a three-phase four-wire system, the wiring diagram is shown below, and the wiring mode of the device shall be set as "three-phase four-wire".



2PT,2CT Three-phase three-wire system, 2PT,2CT

2.4.3 Communication

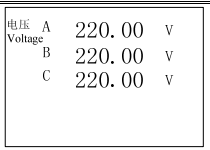
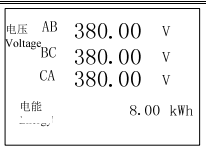
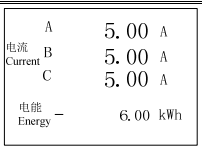
RS-485 ч A à B Â

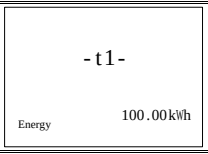
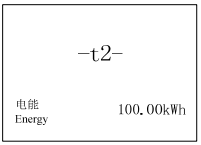
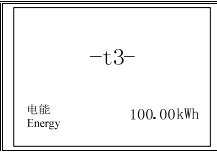
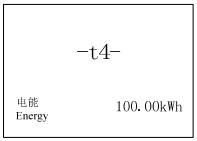
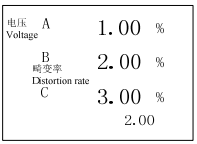
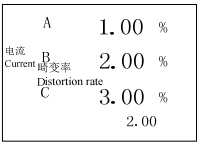
2.4.4 Digital input

2 ч DI1 ã DI2 ã DICom Â 12V

Â DI Â

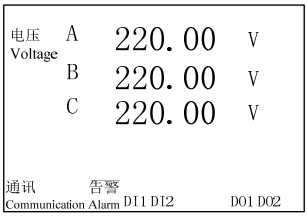
The device is equipped with 2-channel or 4-channel switching input, and the termin

		
The screen of three phase phase-voltage	The screen of three phase line voltage and combined active energy	The screen of three phase current and reverse total active energy
A	AB	A
The 1st line: Phase-voltage of A phase	The 1st line: AB phase line voltage	The 1st line: A Phase current

		
The screen of combined active energy flat period	The screen of combined active energy peak period	The screen of combined energy peak period
The 4th line: Combined active energy sharp period	The 4th line: Combined active energy peak period	The 4th line: Combined active energy peak period
		
The screen of combined active energy valley period	Total harmonic voltage wave distortion rate	Total harmonic current wave distortion rate

‘ C № ı The 3rd line: Voltage fractional harmonic distortion rate of C phase	‘ C № ı The 3rd line: Current fractional harmonic distortion of C-phase	
‘ № The 4th line: Sort number	‘ № The 4th line: Sort number	

3.2.2 ä ä DI ä DO The screen of Communication, alarm, DI, DO



a ä Й ’

When the product communication is normal, the word communication will be displayed at the bottom left of the screen;

b ä Й ’

When the system generates any alarm, the word ľ Alarm Ł will be displayed at the bottom left of the screen;

c ä DI1 Й DI1 DI2 Й DI2 ’

When the product digital input DI1 is closed, the word "DI1" will be displayed at the bottom of the display, and the word "DI2" will be displayed at the bottom of the display;

d ä Ŧ DO1 ↘ Й DO1 Ŧ DO2 ↘ Й DO2 ’

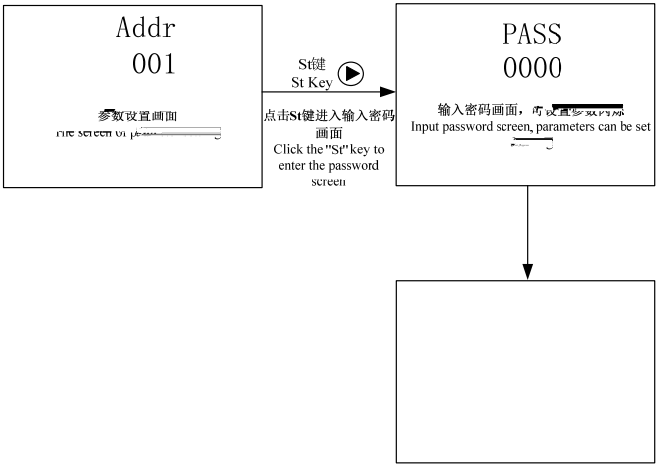
When the product relay outputs DO1, the word DO1 will be displayed in the bottom right corner of the display, and the relay outputs DO2, the word DO2 will be displayed in the bottom right corner of the display.

3.2.3 The parameter setting screen

Ð St ľ ▶ Ł , ┐ ä PTCT ä Ð St ľ ▶ Ł 2000 ┐ ľ Ŧ Ŧ Ь ; Ð St ľ ▶ Ł 3366 Ð Bs ľ ◀ Ł Â 60 Ŧ Ь Â

Click St Key“ ▶ in any data screen to enter the parameter setting screen. You can view the communication parameters, PTCT parameters, version information and other information.To change parameters, click the St “ ▶ ”and enter the password 2000.After entering the password in the setting screen, you can change the parameters. After exiting the parameter setting screen, you can enter the parameter setting screen again. To set parameters, you need to input the password again.Do not exit the setting screen, do not enter the password again; Then click the set St" ▶ button and enter the password 3366; Click "Bs" ◀ to return the data screen.In the parameter setting interface, it will automatically exit to the measurement screen after 60 seconds of no key operation, and the data will not be saved if not confirmed.

Sample password input



CLr-E 0000	CLr-d 0000	vEr 2.0.00 F1
Remove energy ' 3366 Password: 3366	Clear demand ' 3366 Password: 3366	Product information

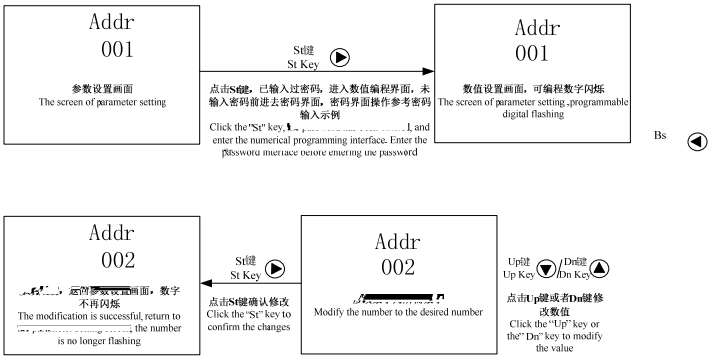
℗ Up Ï' Ł Dn Ï' Ł St Ï' Ł

Â

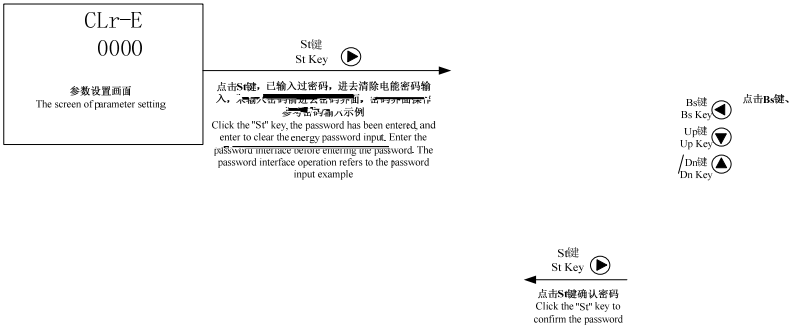
The screen switch between them is realized by pressing Up key " " and Dn key" ". Press St key " " to enter the password screen. If the password has been entered, it will enter the digital flashing screen directly.

3.2.3.2 Example of parameter setting

1˜ Address setting



3˜ Clear energy



Chapter IV Technical indicators

4.1 Accuracy

Parameter	Accuracy	Measuring range
Current	0.5 0.5 Class	AC0.05A~6A
Phase voltage	0.5 0.5 Class	AC20V~400V
Frequency	±0.02Hz	45Hz~65Hz
Power	0.5 0.5 Class	
Power factor	0.5 6W~ 0.5Class (Apparent power is greater than 6W)	0~±1.0
Energy	0.5S 1 0.5SClass 1Class	

4.2 Working conditions and Power supply

Working conditions	
-40 ~+70 Storage temperature: -40 ~+70	-10 ~50 Working temperature: -10 ~50
-20 ~55 2	The limit working temperature: -20 ~55

Static immunity

Chapter V maintenance and troubleshooting

5.1 Troubleshooting

Possible problems	Possible cause	Possible solution
No display after power-on	The power supply is not added to the meter	Check the me A7JTT2 ( )T>10856 cor( )1-.5eg[L/+ N/- 7 1 3 (e) 4 5 6 1 5(y)19.7.5(s)10a

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Technical support 86-762-3493926 3493989

TJ/TT6 1 Tf 8.0851 0 TD 0 Tw 4 g 2 d 4 f j /TT2 1 Tf 1 0482 0 TD .00036 c