NO: 13040901.0199.01

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
˅ ˅ Active power	ˆ˜ ˅ ˅ ă˜ ˅ ˅ Three-phase active power, three-phase total active power

№ ˇ ä ˇ ä ˇ № ä ä ä ä ä
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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 № ’ ך ץ 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	[illegible] ä [illegible] ä ˇ ì Ŧ Three-phase current, three-phase voltage, maximum power demand and the date and time of its occurrence
Real-time alarm	
Loss of pressure alarm	Ħ Й ˆ 0A˜ ˠ Ħ [illegible] ˆ 0V Ь 0V˜ Ħ ˆ 5~60 ╕ 60s˜ Âˆ [illegible] Й Ь B ˜ 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	Ħ Й ˆ 0V Ь 0V˜ Ħ ˆ 5~60 ╕ 60s˜ ˆ [illegible] Й Ь B ˜ 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	Ħ [illegible] ˆ 0V Ь 0V˜ Ħ ˆ 5~60 ╕ 60s˜ ˆ [illegible] Й Ь B ˜ 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 alarmW@P°K°Rb¶6®C°C°Â¶@¶Ð¶15ÂRÂ¶ Й ˆ Ь-(a » Å

Overload alarm	ˇ Hʊ ˇ ˇ Й¸ ˆ 0kW Ь 0kW˜ Hʊ ˆ 5~60 ╕ 60s˜ ˆ Ь ˇ ˜ ˆ Ь B ˇ ˜ 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)

ᴊᴏ Historical alarm information	ᴊᴏ 50 ᴛ 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

Chapter Installation

2.1 Installation prevention, preparation

Please read before starting the installation

ä ˘ Â Й Â

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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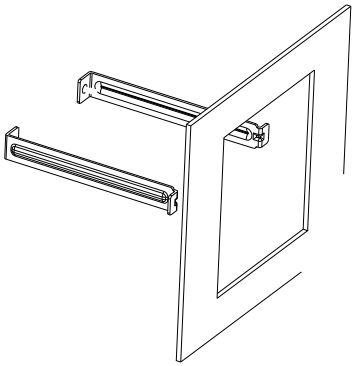
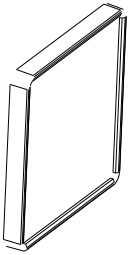
The meter should be installed in dry, clean, away from heat and strong electromagnetic fields avoid direct sunlight.The meter location is usually installed in the switch cabinet, which can protect the device from oil, dirt, dust, corrosive gas or other harmful substances.

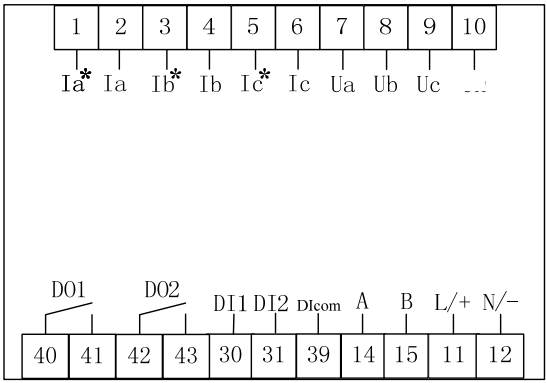
During installation, please pay attention to the convenience of maintenance. There is enough space to place the relevant lines, terminal blocks, short boards and other necessary equipment.

2.2.2 Installation dimensions: Panel Mounting





2.3 Terminal definition



Terminal NO.	Terminal definition	Remark	Terminal NO.	Terminal definition	Remark
1	Ia*	A A Phase current input	40 à 41	DO1	The 1st relay output
2	Ia	A A Phase current output	42 à 43	DO2	The 2nd relay output
3	Ib*	B B Phase current input	30	DI1	The 1st digital input
4	Ib	B B Phase current output	31	DI2	The 2nd digital input
5	Ic*	C C Phase current input	39	DIcom	The common terminal of digital input
6	Ic	C	14	A	RS485-A MODBUS-RTU

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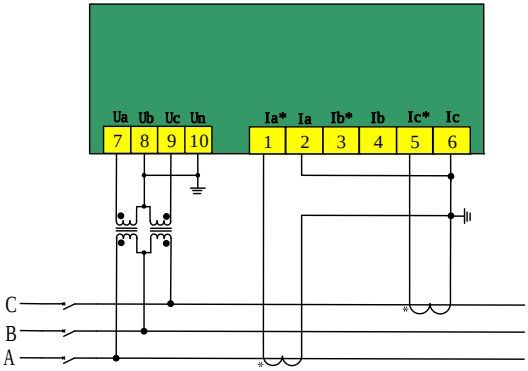
When the measuring line is a three-phase four-wire system, the wiring diagram is shown below, and the wiring mode of the device shall be set as "three-phase four-wire".



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

2.4.3 Communication

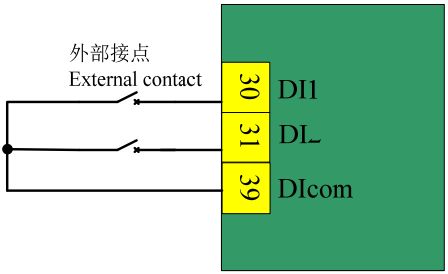
RS-485 ч A à B Â

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 terminals are marked as DI1, DI2, DICom, which are used to detect the status of external contacts. There is a 12V dc self-excitation power supply inside the device for passive contact monitoring. The status of DI will be displayed.

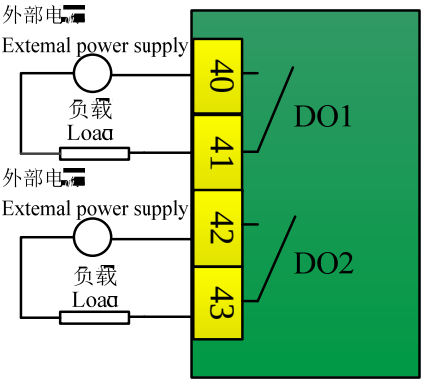


2.4.5 Ŧ Relay output

2 ч DO1 ã DO2 ╕ ℗ 250VAC/5A 30VDC/5A Â

Â

The device is equipped with 2 electromagnetic relays, whose terminal Banks are labeled DO1 and DO2, which can directly cut off the load of 250VAC/5A or 30VDC/5A. When the load current is large, it is recommended to add intermediate relay.



Chapter ’n Use and Operation

3.1 Keys definition

4 № Bs ,Up ,Dn ,St

There are four keys,they are Bs ,Up ,Dn ,St

Bs ‘ ‘ ß № Â

Bs ‘ Go back to the upper screen, when setting data: the data bit is shifted to the right, and the harmonic display screen enters the Fractals harmonic display interface.

Up ‘ ® ‘ Â

Up ‘ The screen switches up, when setting the data: the data plus one.

Dn ‘ Й ® ‘ Â

Dn ‘ The screen switches down. When setting the data: the data minus one.

St ‘ Й ‘ Â

St ‘ Go to the next screen,When setting the data:Modified data validation.

3.2 Display

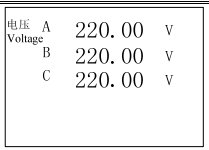
3.2.1 Data screen Description

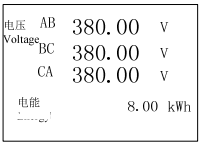
h 60S Â

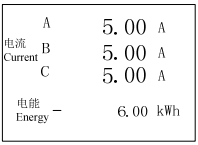
The display interface is mainly composed of an LCD screen and four keys. The backlight display is highlighted with the keys on, while the backlight is automatically turned off when there is no operation 60S.

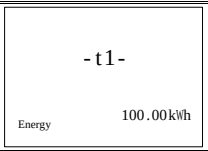
ط ß ‘ kW ã kvar ã kWh ã kvarh ã V ã A Â 2 ß ã 2 ß ã ˇ 3 ß ãˇ 3 ß ã 2 ß Â

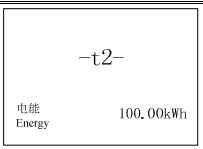
Simplified Chinese characters are adopted, and national legal units of measurement are adopted for data display, such as kW, kvar, kWh, kvarh, V, A, etc. Voltage 2 decimal, current 2 decimal, power 3 decimal, power factor 3 decimal, power display 2 decimal.

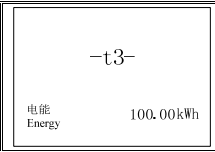

电压
Voltage
A 220.00 V
B 220.00 V
C 220.00 V


电压
Voltage
AB 380.00 V
BC 380.00 V
CA 380.00 V
8.00 kWh

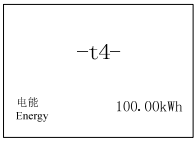

电流
Current
A 5.00 A
B 5.00 A
C 5.00 A
电能
Energy
6.00 kWh

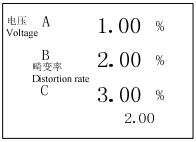


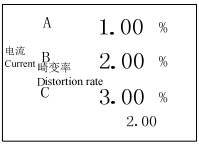




-t1- Energy 100.00kWh	-t2- 电能 Energy 100.00kWh	-t3- 电能 Energy 100.00kWh
᾿ The screen of combined active energy flat period	᾿ The screen of combined active energy peak period	᾿ The screen of combined energy peak period
ʻ ᾿ The 4th line: Combined active energy sharp period	ʻ ᾿ The 4th line: Combined active energy peak period	ʻ ᾿ The 4th line: Combined active energy peak period





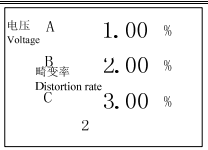


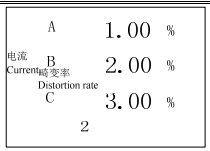
-t4- 电能 Energy 100.00kWh	电压 Voltage A 1.00 % B 畸变率 Distortion rate 2.00 % C 3.00 % 2.00	A 1.00 % 电流 Current B 畸变率 Distortion rate 2.00 % C 3.00 % 2.00
᾿ The screen of combined active energy valley period	1 Total harmonic voltage wave distortion rate	1 Total harmonic current wave distortion rate
	ʻ A 1 The 1st line: Total harmonic voltage wave distortion rate of A phase	ʻ A 1 The 1st line: Total harmonic current wave distortion rate of A phase
	ʜ ʻ B 1 The 2nd line: Total harmonic voltage wave distortion rate of B phase	ʜ ʻ B 1 The 2nd line: Total harmonic current wave distortion rate of B phase
	ʻ C 1 The 3rd line: Total harmonic voltage wave distortion rate of C phase	ʻ C 1 The 3rd line: Total harmonic current wave distortion rate of C phase
ʻ ᾿ The 4th line ʻ Combined active energy valley period	ʻ 1 The 4th line: Average Total harmonic voltage wave distortion rate	ʻ 1 The 4th line: Average Total harmonic current wave distortion rate

ᄀᆡ ᄀᆞ Up lʼ ▲ Ł Dn lʼ ▼ Ł ℗ Â

When the data screen is operated without buttons by the customer, all the screens are displayed in wheel show, and manual switching can also be achieved by pressing Up key” ▲ ” and Dn key” ▼ ”.

№ Ordered harmonic display screen



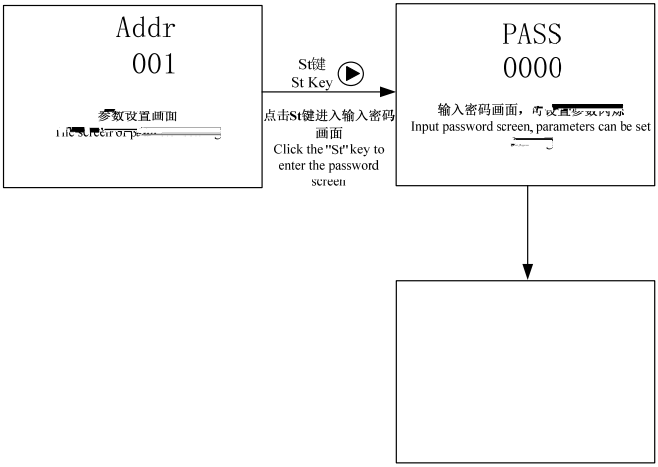


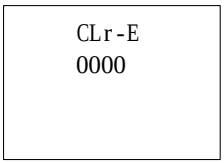
电压 Voltage A 1.00 % B 畸变率 Distortion rate 2.00 % C 3.00 % 2	A 1.00 % 电流 Current B 畸变率 Distortion rate 2.00 % C 3.00 % 2	
№ 1 Voltage fractional harmonic distortion rate	№ 1 Current fractional harmonic distortion rate	
ʻ A № 1 The 1st line: Voltage fractional harmonic distortion rate of A phase	ʻ A № 1 The 1st line: Current fractional harmonic distortion of A-phase	

ʜ ʻ B № 1

‘ C № 1 The 3rd line: Voltage fractional harmonic distortion rate of C phase	‘ C № 1 The 3rd line: Current fractional harmonic distortion of C-phase	
‘ № ¬ The 4th line: Sort number	‘ № ¬ The 4th line: Sort number	

Sample password input




CLr-E
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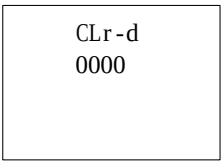
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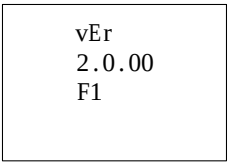
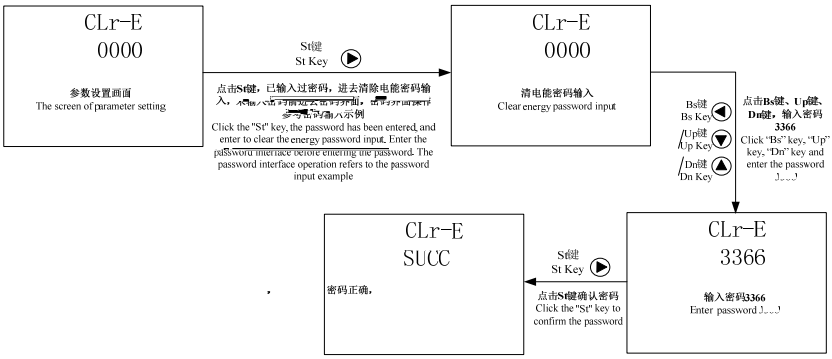

vEr
2.0.00
F1

3˜ Clear energy



Note: voltage/current exceeding the rated range of the product may cause instrument damage. Long full range applications

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	L/+ N/-

Chapter VI Quality Assurance

6.1 Quality Assurance

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All new meters sold to customers shall be provided with free quality assurance for the faults caused by design, materials and process



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International market 86-762-3496222

Technical support 86-762-3493926 3493989

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