

## Instruction Manual

DSS/DTS858 three-  
phase electronic active energy meter

Compliance with standards: GB/T 17215.321-2008 Before

installing and using the product, please read the instruction manual

carefully and keep it properly for future reference.

## I. Overview

**DSS/DTS858 three-phase electronic active energy meter is launched by our company**

**New product. This product adopts advanced ultra-low power solid-state integration technology and SMT**

**The process of manufacturing ensures reliable measurement accuracy and stability.**

**This product complies with the national standard GB/T17215.321-2008 " Class 1 and Class 2 Stationary**

**All technical requirements for three-phase electronic watt-hour meters in the "Three-phase AC Active Energy Meter".**

### 2. Functions and Features

1) Three-phase bidirectional active energy measurement, accurate measurement when one or two phases are powered off

The degree is not affected;

2) Wide operating temperature range, high reliability, and no adjustment required for long-term operation;

**3) With power test signal output;**

4) With power failure and phase loss indication function (optional).

### 3. Specifications and main technical indicators

#### 1) Specification and

model	model accuracy level	Rated voltage	Rated current	constant
DTS858 Active	B(1) class active	3x 57.7/100V	1.5(6)A/0.05-0.25(6)A 1600im	p/kWh
	A(2)	3x	3(6)A/0.05-0.25(6)A	

<b>DSS858</b>		<b>220/380V</b>	<b>5(20)A/0.1-0.25(20)A</b>	<b>400imp/ kWh</b>	
			<b>10(40)A/0.2-0.5(40)A</b>		
			<b>5(60)A/0.25-0.5(60)A</b>		
		<b>3×100V</b>	<b>15(60)A/0.48-1(60)A</b>		
			<b>20(80)A/0.6-1.5(80)A</b>		
			<b>3×380V</b>		<b>10(100)A/0.8-2(100)A</b>
					<b>30(100)A/0.8-2(100)A</b>

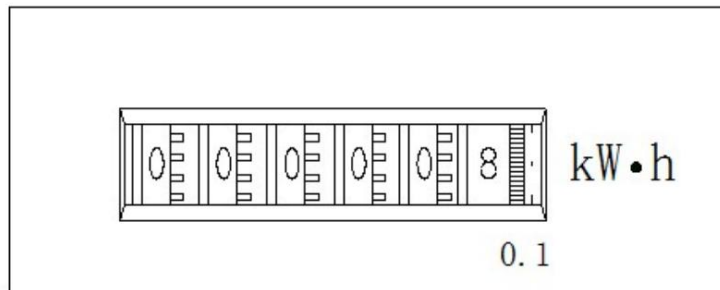
Note: The special meter constant is subject to the actual

**2) Accuracy level: B (1), A (2);**

**3) Starting current: 0.4%I<sub>b</sub> ( level 1), 0.5%I<sub>b</sub> ( level 2);**

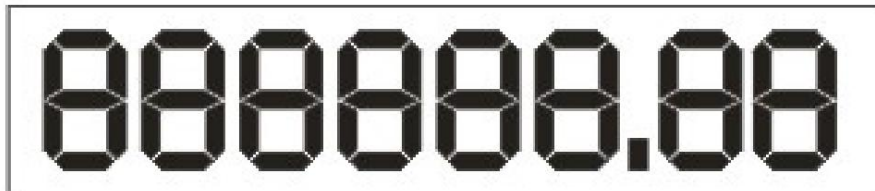
**4) Display mode:**

A. 6 -digit mechanical meter displays the user's total power consumption, with a resolution of 0.01kWh;



For example, the figure above shows that the power is 0.8 degrees

B. The LCD power display uses 8 -bit LCD display, 6 integers and 2 decimal places.



4.1 Electricity metering function

Energy metering function: Active energy metering. Three-phase power supply, one phase or

If two phases are powered off, the measurement accuracy will not be affected.

## 4.2 Output Interface

With optocoupler isolation active passive pulse output interface.

### 5) Installation and wiring

Before installing and using the energy meter, check whether the lead seal is intact.

If the storage time is more than 1 year, the relevant department should be asked to re-calibrate before installation and use.

If any abnormality is found during use of the meter, the user shall not dismantle it without permission and shall

**Handled by qualified professionals.**

**6) Power consumption: voltage loop  $\leq 1W$  and  $8VA$ , current loop  $\leq 0.6VA$ ;**

**7) Creeping: With logic anti-creeping function;**

8) Environmental conditions:

**Working temperature:  $-10^{\circ}C \sim +45^{\circ}C$ ;**

**Extreme working environment:  $-40^{\circ}C \sim +75^{\circ}C$ ;**

Relative humidity: Annual average  $\leq 75\%$ . **30 days in a year (naturally**

**Diffusion) humidity can reach 95%, and 85% at other times;**

**9) Weight: about 2kg (plastic case);**

**10) See installation and dimensions drawing**

#### 4. Main structure and working principle:

The working principle is shown in Figure 1. The voltage is sampled by the voltage divider and the current is

The transformer completes the current sampling, and after sampling, the voltage and current signals are collected by the power dedicated collector.

The circuit converts it into a power signal, which drives the stepper motor to drive the meter after frequency division processing.

The meter works to realize energy measurement.

Test pulse output, as shown in Figure 2 .

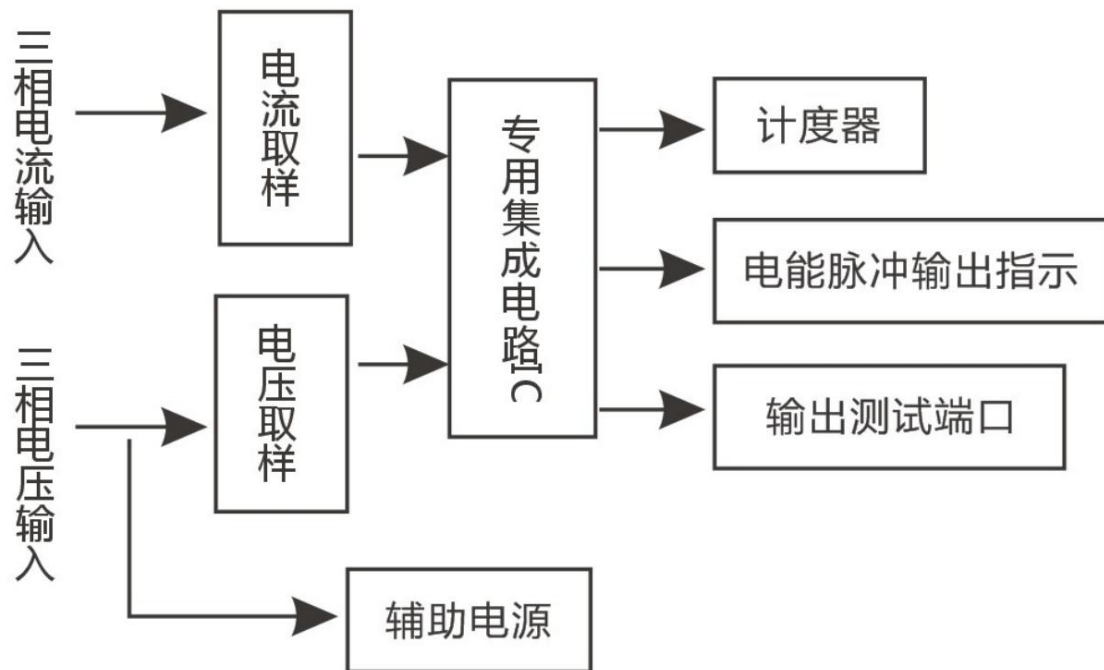


图1 工作原理图

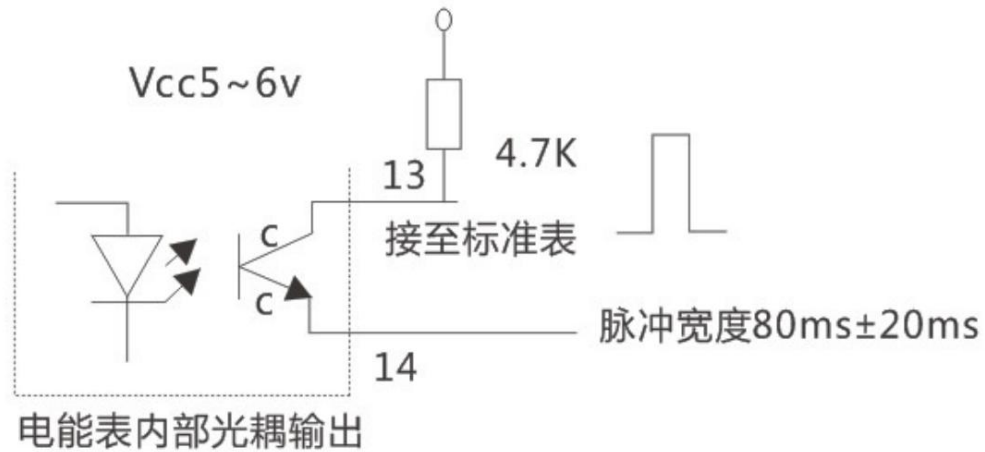
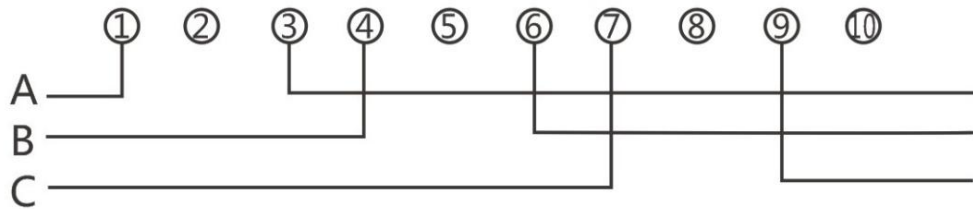
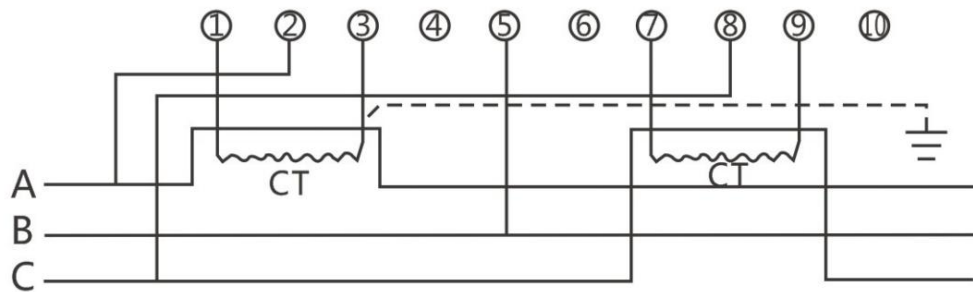


图2 电能测试脉冲输出示意图

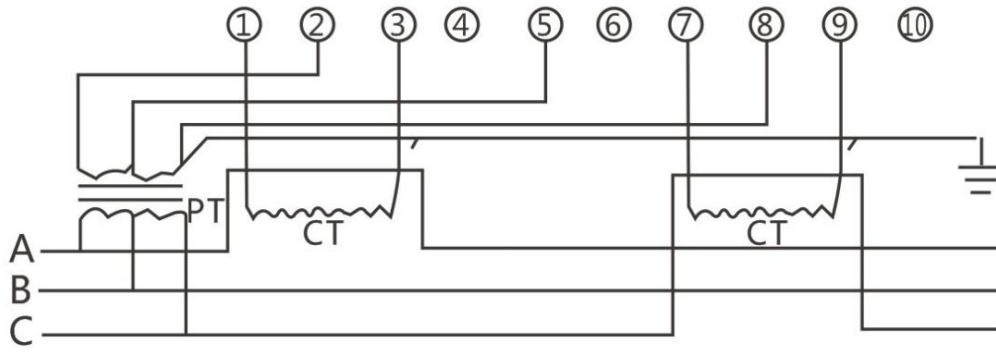
### 5. Wiring diagram of power terminals and function terminals



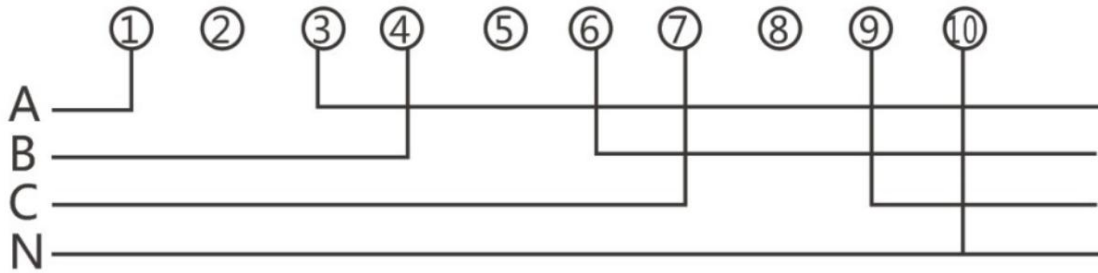
Wiring diagram of direct access type **DSS858** electronic energy meter



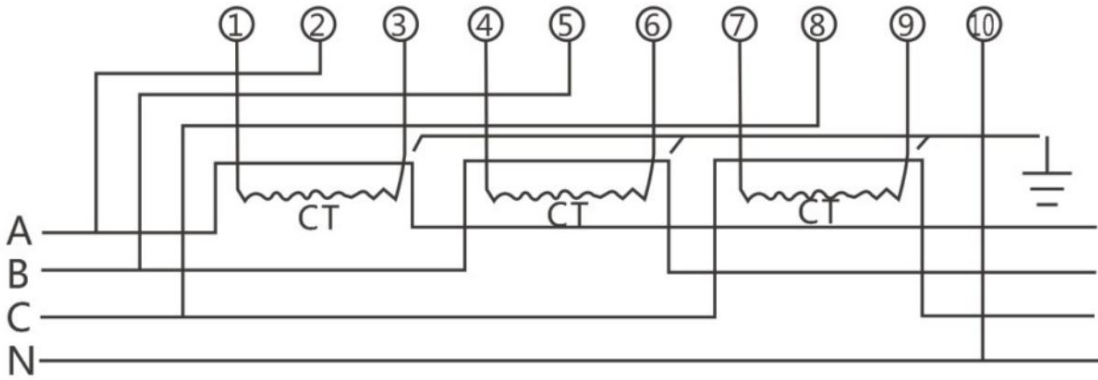
Wiring diagram of **DSS858** electronic energy meter connected via current transformer



Wiring diagram of **DSS858** electronic energy meter connected via voltage and current transformer



Wiring diagram of direct access type **DTS858** electronic energy meter



Wiring diagram of **DTS858** electronic energy meter connected via current transformer

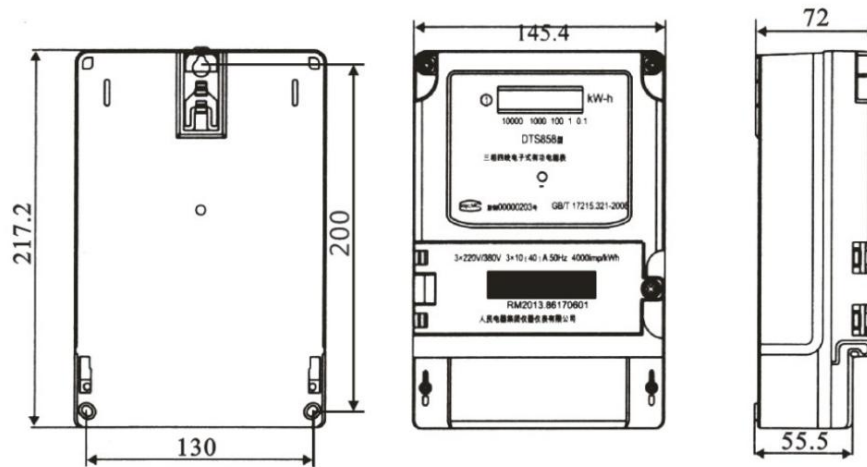
### 功能端子



测试输出端

测试地

## 6. Installation and Dimensions



## 7. Transportation and Storage

7.1 The transportation and storage of the energy meter should not be subjected to severe impact.

The extreme temperature range is  $-40^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$ , and according to GB/T25480-2010 "Instrument

The basic environmental conditions and test methods for the transportation and storage of instruments and equipment are as follows:

Storage. The storage place should be clean and the ambient temperature should be  $-40^{\circ}\text{C}$  to  $+55^{\circ}\text{C}$ .

The humidity should not exceed 85% and there should be no corrosive gas in the air.

7.2 The electric energy meters should be placed on the racks in the warehouse, and the stacking height should not exceed 5

After unpacking, the stacking height of single-packaged electric energy meters shall not exceed 10.

## 8. Warranty period and after-sales service

The electric energy meter is within 18 months from the date of manufacture and the lead seal is intact at the manufacturer.

If the user complies with the transportation, storage and use regulations specified in the manual,

If the table does not meet the requirements of the product standard, our company will exempt it from the



Repair or replacement without charge.

## **IX. Disposal of Electric Meters**

### **1. Disposal of the entire meter**

**When disposing of the meter as a whole, please note that the meter contains a liquid crystal display.**

**Hazardous (dangerous) waste such as LEDs, batteries, etc.**

**Qualified institutions shall recycle or destroy the waste in accordance with local laws or regulations.**

### **2. Component disposal**

**According to ISO 14001 environmental management system requirements, the meter should be discarded as recyclable.**

**Classify and dispose of waste, non-recyclable waste, and hazardous (dangerous) waste.**

**Disposal of the following devices: ÿ Hazardous (dangerous) waste: Liquid crystal display (LCD) and**

**Light-emitting diodes (LEDs), batteries, printed circuit boards, etc.; ÿ Recyclable waste:**

**Metal parts, plastic parts of the housing, etc. must be followed by relevant qualified organizations**

**Recycle or destroy in accordance with the local waste disposal and environmental protection regulations.**

## 10. Simple troubleshooting

Fault phenomenon	and cause	
No display	No power supply	Processing 1. Use a multimeter to check whether there is voltage in the circuit (it is recommended to measure on the voltage terminal block of the meter). 2. Is the voltage of the meter connected according to the rated
No metering or under-metering of electricity	Metering circuit is not working properly	voltage marked on the meter panel? 1. Is the connected voltage normal? Does the current wiring meet the requirements (are the input and output wires of one phase or two phases connected in reverse)? 2. Users with conditions can use a field calibrator to test the accuracy of the meter. 3. By estimating the power load of the user's electrical appliances and comparing it with the power displayed by the meter, if the difference is not large, the meter is working properly. 4. Is the current short-circuit wire removed from the terminal block in the junction box or metering cabinet?
Auxiliary terminal power pulse cannot be measured	Incorrect wiring, no external power supply	(This phenomenon occurs after installing a new meter or replacing the meter) 1. If the power pulse light on the nameplate flashes, check whether the test line is connected correctly. 2. The pulse output mode of our company's meter is mostly empty contact output, and an external power supply (5V-24V) DC must be added. The voltage cannot be higher than this value. You can

If the above methods still cannot solve the problem, please contact our customer service department

Contact . This manual is subject to change without prior notice. Updated on

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Note: For the contents of this manual, if due to technical upgrades or the adoption of newer production processes, Renmin Electric has the right to change or alter them at any time without further explanation.

## 人民电器集团有限公司

Manufacturer: People's Electric Group Instrument Co., Ltd.

Address: No. 555, Liule Road, Liushi, Yueqing City,

Zhejiang Province Official website:

[www.chinapeople.com](http://www.chinapeople.com) Sales hotline: 0577-62739568 Customer service hotline: 400 898 1166

