

KEE HING CHEUNG KEE CO., LTD.
DLFTZ CHANG HING KEE
INT'L INDUSTRY & TRADE CO., LTD.



WATT-HOUR METER



CONTENT

Three-Phase Four-Wire Electronic Multi-functional Energy Meter	1
Single-phase Electronic Pre-paid Time-sharing Watt-hour Meter	5
Single-phase Electronic Pre-paid Watt-hour Meter	7
Three-phase Three-wire Electronic Pre-paid Watt-hour Meter	8
Single-phase Mechanical Watt-hour Meter	9
Three-phase Three-wire Mechanical Watt-hour Meter	10

Three-Phase Four-Wire Electronic Multi-functional Energy Meter

PRODUCT 1

General Description

Three-phase electronic multi-functional watt-hour meter is a new intelligent product designed for customers' needs. It has the functions of inserting IC card to prepay and multi-tariff management. Adopting the intelligent IC card and the high safety CPU card, to make its functions of prepaying, or break off the electricity once owe charge.



Technical Specification

Executive Standards	GB/T17215-2002
	GB/T17882-1999
	DL/T614-1997
	DL/T614-1997
Reference Voltage	$0.7U_n \sim 1.2U_n$
Operating Environment Temperature	$-20^{\circ}\text{C} \sim 55^{\circ}\text{C}$
Rated Environment Temperature	$-50^{\circ}\text{C} \sim 70^{\circ}\text{C}$
Relative Humidity	$\leq 90\%$
Power Consumption	$\leq 2\text{W}$

Functions

1. Measure the forward and reverse active electric energy by period of time
2. Measure four phase reactive electric energy by period time
3. Measure the max forward and reverse active demand by period time
4. With four tariffs, 10 period of time per day and 4 time zones
5. Has the inspection function when a phase off or power cut
6. Communication with PC by RS485 port, or with handheld computer by infrared ray communication to finish

programming and reading, and also can read the meter by infrared remote control equipment (record manually).

7. Display the set of each parameter and data measured by LCD

8. Can display the parameter in turns, the parameter and time of display in turns can be preset, the sequence of the parameter also can be set discretionally.

9. The meter has forward active and reverse reactive locomotion impulse output port, the locomotion impulse constant is 6400 imp/kw.h and the impulse width is 80ms±20ms.

10. Measure the voltage, virtual value of current and currently frequency on the A, B, C phase real-timely.

11. Has the function on preventing to be programmed, data reset and demand reset.

12. It can read the meter by the annexed outer DC power under the power cut condition when the users choose the power cut read meter mode, use the infrared remote control equipment more than 1000 times.

Main Feature

* The three-phase electric multi-function meter adopts large scare IC and applies figure sampling management technology and SMT technology, it can measure the three phase forward, reverse, active and reactive electric energy, active, reactive, power, voltage, current, frequency accurately.

PRODUCT 2

Main Function

1. Measure the forward and reverse active electric energy by period of time

2. Measure four phase reactive electric energy by period of time

3. Measure the max forward and reverse active demand by period of time

4. Has four tariffs, 10 period of time per day and 4 time zones

5. Has the inspection function when phase off or power cut

6. Communication with PC by RS485 port, or with handheld computer by infrared ray communication to finish programming and reading, and also can read the meter by infrared remote control equipment (record manually)

7. Display the set of each parameter and data measured by LCD



8. Can display the parameter in turns, the parameter and time of display in turns can be preset, the sequence of the parameter also can be set discretionally
9. The meter has forward active and reverse reactive locomotion impulse output port, the locomotion impulse constant is 6400 imp/kw.h and the impulse width is 80ms±20ms
10. Measure the voltage, virtual value of current and currently frequency on the A, B, C phase real-timely
11. Has the forbid to program, data reset and demand reset function
12. It can read the meter by the annexed outer DC power under the power cut condition when the users choose the power cut read meter mode, use the infrared remote control equipment more than 1000 times.

Technical Specification

Accuracy Class	Class Active 0.5, Reactive2.0
Electromagnetism Compatibility	According with GB/T17215-2002 standard
Other Technical Parameter	According with GB/T17215-2002 standard
Power Loss (W)	≤2W, 10VA
Rated Voltage (V)	3×100V、3×220/380×、3×57.7/100V
Basic Current (A)	3×1(2)A, 3×1.5(6)A, 3×3(6)A
Relative Humidity	≤75%
Working Environment	-20℃~+55℃

Main Feature

The three-phase electric multi-function meter adopts large scare IC and applies figure sampling management technology and SMT technology, it can measure the three phase forward, reverse, active and reactive electric energy, active, reactive, power, voltage, current, frequency accurately.

Single-phase Electronic Pre-paid Time-sharing Watt-hour Meter



Product Introduction

Single-phase electronic pre-paid time-sharing watt-hour meter is a new type of IC card pre-paid time-sharing meter, which has such function as power time-sharing metering, load control and customer information management. It is an ideal product when reforming electric-use system, achieving electrical energy to commercialize,

setting charge and adjusting load stage in the electric network. All the indexes comply with the technological specifications aiming to the single-phase electronic pre-paid time-sharing watt-hour meter in the standard of GB/T 1806.3-2001 and GB/T1217-2002.

Technical Specification

Executive Standards	GB/T 1806.3-2001
	GB/T1217-2002
Reference Voltage	220V~240V
Basic Current (A):	5 (20) , 5 (30) , 10 (40) , 15 (60)
Accuracy Class	Class1,Class2
Relative Humidity	
Power Consumption	

Function and Feature

1. Each meter responds to a card, well protection from forgery
2. User's data can be automatically recorded to the electric power network that makes the electric power management department or company easier to manage the situation of the whole electric power network.
3. Once the remaining electric energy quality is approaching the alarming power quality, the digital tube should be lighted to remind user of timely purchasing
4. Once the electric energy in the IC card is used out, it should break-off automatically.
5. It's convenient for electric power manager actualize add the capability.
6. The IC card power selling control system has the function as power selling and using control.
7. Each of four periods has different rates (point period, peak period, smooth period and trough period). Every period of time can be programmed into 10periods of time and the minimum time interval is one minute.
8. The watt-hour meter displays the electric quantity via digital-tube, there are six digits in total, five digits are integration and one decimal, but in the interior of the meter there are 8 digits in total, 6 digits are integration and two decimal. So it will be displayed 8 digits when copying to the computer and RS485.
9. All the data were protected by the password and the hardware.
10. Read the data directly via LED.

11. The meter has a reliable clock and it cost little current (less than 0.5 μ A) the life of the clock is as long as the battery.

Single-phase Electronic Pre-paid Watt-hour Meter

Main Function

1. The users prepaid for the electricity, the max load limited electricity quantity set, IC cards express data
2. Store the leave factory meter No., meter constant, mechanical counter first value, user's address and name and telephone No., etc.
3. Reread the residual electricity quantity, the cumulated total electricity quantity, total times of prepaid for the electricity etc.
4. Alarm for the residual electricity quantity, over load and okW.h power break off times, etc.
5. User's archives management



Technical Specification

Accuracy Class	Class 1, Class2
Electromagnetism Compatibility	According with GB/T17215-2002 standard
Other Technical Parameter	According with GB/T17215-2002 standard
Power Loss (W)	$\leq 2W$, 10VA
Reference Voltage (V)	220V
Basic Current (A)	2.5(10), 5(20)A, 10(40)A, 20(80)A
Relative Humidity	$\leq 85\%$
Working Environment	$-20^{\circ}C \sim +55^{\circ}C$

Main Feature

1. High accuracy, high overload, high reliability, low power loss and against stealing electricity.
2. User's data can be automatically recorded to the electric power network that makes the electric power management department or company easier to manage the situation of the whole electric power network.
3. The single-phase and three-phase prepaid energy meters can share a set of electricity-selling management system.
4. Adopts the advanced SMT solid state integration technology and sirocco circumfluence weld technology, has high anti-interference ability, prepaid management of using electricity after fee paid first and load control ability, it is effective for solving the problem of electricity fee in arrears.

Three-phase Three-wire Electronic Pre-paid Watt-hour Meter

Main function

1. The users prepaid for the electricity, the max load limited electricity quantity set, IC cards express data
2. Store the leave factory meter No., meter constant, mechanical counter first value, user's address, name and telephone No., etc.
3. Reread the residual electricity quantity, the cumulated total electricity quantity, total times of prepaid for the electricity etc.
4. Alarm for the residual electricity quantity, over load and okW.h power break off times, etc.
5. User's archives management



Technical Specification

Accuracy Class	Class 1
Electromagnetism Compatibility	According with GB/T17215-2002 standard
Other Technical Parameter	According with GB/T17215-2002 standard
Power Loss (W)	≤1.5W,6VA
Reference Voltage (V)	3×100V
Basic Current (A)	3×1.5(6)A~3×30

Relative Humidity	≤85%
Working Environment	-20℃ ~ +55℃

Main Feature

1. High accuracy, high overload, high reliability, low power loss and against stealing electricity
2. The counter displays the residual electric energy and total electric energy consumption, the numeral tube displays each statue for the using of electric energy
3. The single-phase and three-phase prepaid energy meters can share a set of electricity-selling management system
4. Adopts the advanced SMT solid state integration technology and sirocco circumfluence weld technology, has high anti-interference ability, prepaid management of using electricity after fee paid first and load control ability, it is effective for solving the problem of electricity fee in arrears

Single-phase Mechanical Watt-hour Meter

Main Function

This type of meter is designed for high load, low power loss, and economize on energy feature. Accommodate the rate frequency is 50HZ and in single phase AC electric wire to consume the electric energy.



Technical Specification

Accuracy Class	Class Active2.0
Electromagnetism Compatibility	GB/T15283-94
Power Loss (W)	≤2W
Rated Voltage (V)	100V, 220V

Basic Current (A)	1.5(6)A~30(100)
Relative Humidity	≤85%
Working Environment	-10℃~+40℃

Three-phase Three-wire Mechanical Watt-hour Meter

Technical Specification



Accuracy Class	Class 1,2,3
Electromagnetism Compatibility	JB/T7655-95
Power Loss (W)	
Rated Voltage (V)	3×100V, 3×220/380V, 3×380V
Basic Current (A)	3×1.5 (6) A~3×3 (6) A
Relative Humidity	≤75%
Working Environment	-25℃~+55℃