

# DTS353M

## STATIC THREE-PHASE MODULAR WATT-HOUR METER INSTRUCTION

### I . Summary

DTS353M type three-phase four-wire electronic watt-hour meter is adopted special large scale integrated circuit and international advanced technology, designed particularly, made with fine crafts. Its general goal is the high reliability, it is carried out in every step of designing, producing, testing, aging and exam. Compared with traditional watt-hour meter, it is higher accuracy, higher reliability, light and compact. It's easy to realize the expanding the modern managing function, It has the indication of short phase, and puts out the impulse.

### II . Principium

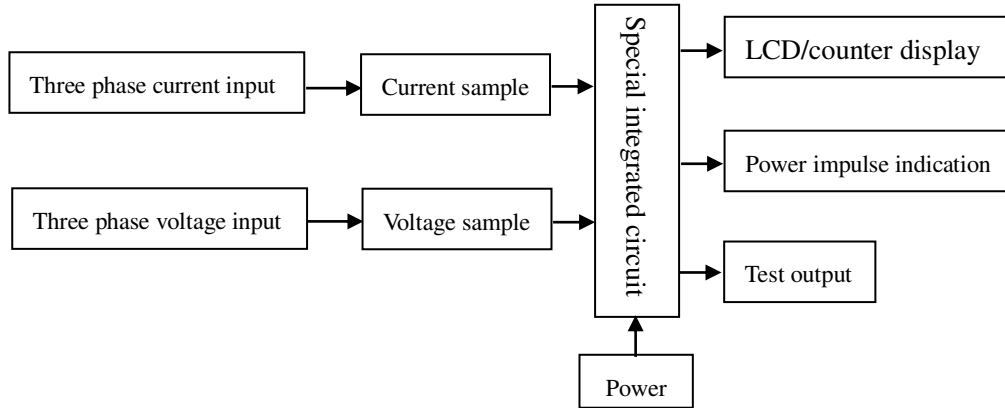


Figure 1

Showing as figure 1, sending the sampling current and sampling voltage into the special integrated circuit, through the inner cushion amplifier, next to multiplying unit, multiply the voltage and current signals. Then through A/D conversion, convert the logic signal to the digital signal, next to frequency circuit and drive circuit, then put out the drive impulse and show the watt-hour indication.

### III. Technology specification

#### 1.Specification

TYPE	Class index	Voltage (V)	Current (A)
DTS353M	1.0	3x230/400	10 (100) A

#### 2.Start

The instrument can be started and recorded continuously at the reference current (see the table)

Meter	Meter grade			Power factor
	1	2	3	
Directly pass	0.004Ib	0.05Ib	0.01Ib	1.0
Via mutual inductance	0.002Ib	0.003Ib	0.005Ib	1.0

#### 3.Creep

Its output is not more than one impulse when the voltage is 115% voltage rating, the circuit doesn't has any current.

#### 4, Electric parameter

Reference voltage: 0.9—1.1 voltage rating

Ultra voltage: 0.8—1.15 voltage rating

Display mode: LCD 6+1 = 999999.9kW      Counter 6+1 = 999999.9kWh

Impulse constant:      800imp/kWh. 12800imp/kWh

power: ≤2W, 10VA

#### 5. Climate condition

##### 5.1 Temperature

Normal temperature: -10~45℃      Ultra temperature:    -20~55℃

Temperature for storage and transportation: -25~70℃

##### 5.2 Humidity

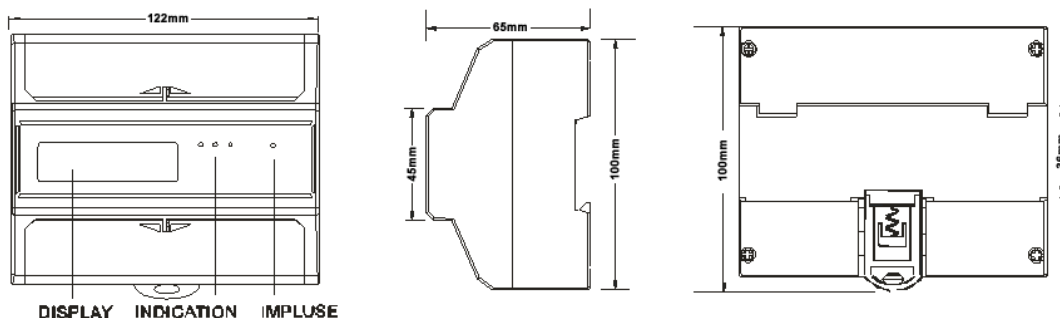
Annual average humidity: ≤75%

30 days in a year (as natural diffusion) may reach 95%,and other time may reach 85%,sometimes.

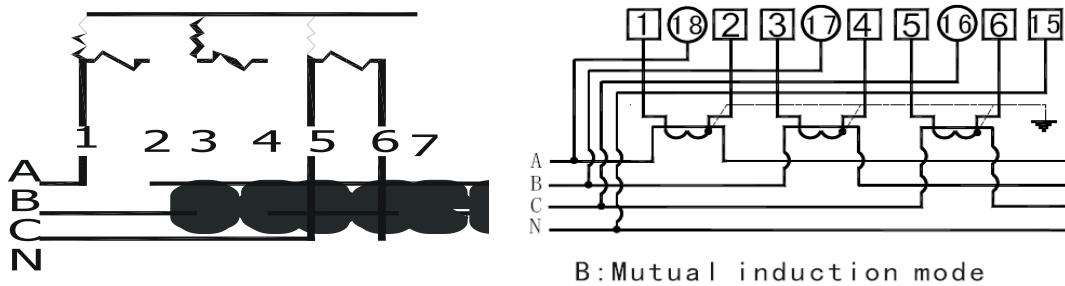
6. Outer size: 122mm×100mm×65mm, Weight: 0.6KG

### IV . Installation and connection of the meter

1. The installation size ( figure 2)



2. The figure of connection



A: Direction mode

B: Mutual induction mode

## V. Transportation and storage

It must be packed when transporting, it cannot be vibrated and struck tempestuously. Its pack should be accordance with IEC61036 *The Universal Technical Condition for Instruments and Meters Pack*. When storage it should not pile up more than 5 layers, and the storehouse must be clean ,the temperature should be between  $-20^{\circ}\text{C}$ -- $+70^{\circ}\text{C}$ , the humidity is not over 85%, any cautory gas and mildew cannot be in the air.

## VI. Assurance term

The manufactory will repair or exchange the products while the lead seal is still exited, within 18 months, when discovering the products not accordance with the technical specification.

### SAFETY

This instrument has been constructed and tested in accordance with IEC 61036 / EN61036 class 1 standards and left the production factory in perfect condition of technical safety. In order to maintain these conditions and to ensure safe operation, the user must comply with the instructions. During opening of covers or the removal of parts, expect carried out by hand, live components may be stripped. The connection points may also be live. Before carrying out any compensation, servicing, repair or replacement of parts requiring the instrument to be opened, it must be disconnected from all power sources. The capacitors inside the instrument may be charged even after it has been disconnected from all power sources.

If the safe use of the instrument is no longer possible, it must be taken out of service and precautions taken against accidental use.


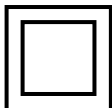
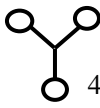
Safe operation is not possible in the following cases:

- when the instrument shows clearly visible damage.
- when the instrument no longer works.
- after lengthy storage in unfavorable conditions.
- after serious damage incurred during transport.

Operator safety

Read this pages carefully before installing and using the instrument.

The instrument described in this manual is intended for use by suitably trained staff only. Maintenance and / or repair operations must be carried out – exclusively – by qualified, authorized staff. For proper, safe use of the instrument and / or repair it is essential that the person instructed to carry out the procedures follow normal safely precautions.

Symbols  Read the instructions  Double insulation  4 wires network/3 drives system

Precautions in case of break-downs

In case of suspect that the instrument is no longer safe, for example because of damage incurred during transport or use, it must be taken out of service and precautions taken to prevent accidental use. Contact authorized technicians for control and any repairs.

Installation instructions

Preliminary inspections:

When the instrument is received, check that it is complete and has not been damaged during transport. For any problem contact the after-sales services for repairs or replacements.

Safety instructions

Measurement and power supply voltage:

The instrument is able to take a three-phase voltage of:

$3 \times 127\text{V}$  phase-neutral;  $220\text{V}$  phase-phase ( $-20\%$ )  $1\text{VA}$ ;

to  $3 \times 230\text{V}$  phase-neutral;  $415\text{V}$  phase-phase ( $+15\%$ )  $1\text{VA}$ ;

Frequency ranges from 50 to 60Hz.

While the meter is connected, the furnished covers must be in place.