THE NEW TYPE DIN RAIL METER USE MANUAL

Instruction manual version 2.0

USER MANUAL

MODEL DIN THREE PHASE ELECTRONIC kWh METER
USER MANUAL

1. Characteristics and Range of application:

Model DIN three phase electronic meter is a kind of new style three phase whole electronic type meter, and adopt up to date micro-electronics technique and imported special large scale integrate circuit, use advanced technique of digital sampling technique and SMT technics etc. The meter are completely conformed to the relative requirements of the National Standard GB/T17215-2002 and International Standard IEC62053-21 on the meter (Class 1 or Class 2).

The meter is used for measuring active energy power consumption in a rated frequency of 50Hz or 60Hz three phase alternating current circuit. It can accurately and directly measure active energy consumption from positive and reverse directions. It has following features: Good reliability, small volume, light weight, specious nice appearance, advanced technics. It can choose many kinds of installation ways such as 35mm DIN standard rail.

The meter is installed indoors. The site conditions shall be assumed as follows: The ambient temperature is –25~55℃,relative humidity is not more than 95%. There isn't heavy corrosive gas or any influence of dust, mold and insects etc.

2. Basic specifications and main technical parameters:

2.1 Specifications

Name	Model	Class of precision	Rated voltage Ub	Rated current (A)
3 phase 4 Wire active energy electronic meter		1	220/380V 57.5/100V	5A/CT, 20(80),5(30), 10(50), 15(60), 20(100); 10(40), 5(100)
		2		

Remark: In the column of Rated Current, the value before the bracket is demarcated current value Ib, and the value in the bracket is the maximum current Imax.

2.2 Technical parameter

2.2.1 Basic errors:

With balanced loads

Current value		Power factor (COS Φ)	Error limits of percentage (%)	
Direct connection	Connection through CT		Class 1	Class 2
0.05Ib	0.02Ib	1.0	±1.5	±2.5
0.1Ib	0.05Ib	0.5L	±1.5	±2.5
		0.8C	±1.5	—
0.1Ib~Imax	0.05Ib~Imax	1.0	±1.0	±2.0
0.2Ib~Imax	0.1Ib~Imax	0.5L	±1.0	±2.0
		0.8C	±1.0	—

With single phase load

Current value		Power factor (COS Φ)	Error limits of percentage (%)	
Direct connection	Connection through CT		Class 1	Class 2
0.1Ib~Imax	0.05Ib~Imax	1.0	±2.0	±3.0
0.2Ib~Imax	0.1Ib~Imax	0.5L	±2.0	±3.0

2.2.2 Starting

The dial runs ceaselessly when the meter is in circumstance of the rated voltage, rated frequency and cos Φ =1.0, and when current loaded is as Table following.

Connecting mode	Class 1	Class 2
direct	0.004Ib	0.005Ib
With transformer	0.002Ib	0.003Ib

2.2.3 Creeping

As no current in the circuit and the voltage value is 115% percent of the rated voltage, the testing output no more than one impulse.

2.2.4 Insulation performance

All circuit interval of the meter can withstand impulse voltage with waveform 1.2/50 μ S, leak value 6KV, and it can not occur electric arc or rout as it is tested at the same pole.

All circuit insulating earthing of the meter can withstand AC voltage 2KV with actual sine wave 50Hz and it can withstand 1 minutes.

2.2.5 Working voltage limit: 70~130% Ub

2.2.6 Power consumption: ≤2W and 10VA / phase

3. Installation and usage:

3.1 Installation notice points and ways

3.1.1 The meter can be installed and used after being test and sealed with letterpress printing. Without letterpress printing or storage time is too long the meter must be reset.

3.1.2 When take out the meters from original packing, if the inner packing or meter cover is found broken, then do not install the meter, please contact company technical service dept.

3.1.3 Only experienced electrician or professional technician can install the meter, and confirm to read through the Usual Manual.

3.1.4 The meter must be installed ventilate and arid place. It can choose many kinds of installation ways such as 35mmDIN standard rail, the meter base board must be on the wall of fire resistance and uneasily shaking.

3.1.5 The meter must be installed in the protective box in the dusty place or against possible mechanical injury.

3.1.6 Connecting must accord with meter case body connecting or the connecting drawing of the Usage Manual. Commend to use soft brass wires to input to avoid that the meter shall be burnt due to loose contact.

3.1.7 When meter connect to electricity net rightly, the meter power indication light should be bright up.

3.2 Usage Explain

3.2.1 In the too much thunderstorm place to adopt measures to avoid lighting injury.

3.2.2 The load capacity of the meter is between 0.05Ib~Imax(Direct)or 0.02Ib~Imax(with transformer). If the capacity exceeds above the register shall not be accurate or the current coil shall be heated and burnt.

3.2.3 When the meter is connected with CT, the total energy consumption shall be that the numbers read

multiply the times of CT.

3.2.4 Data display: Adopt step type impulse counter display

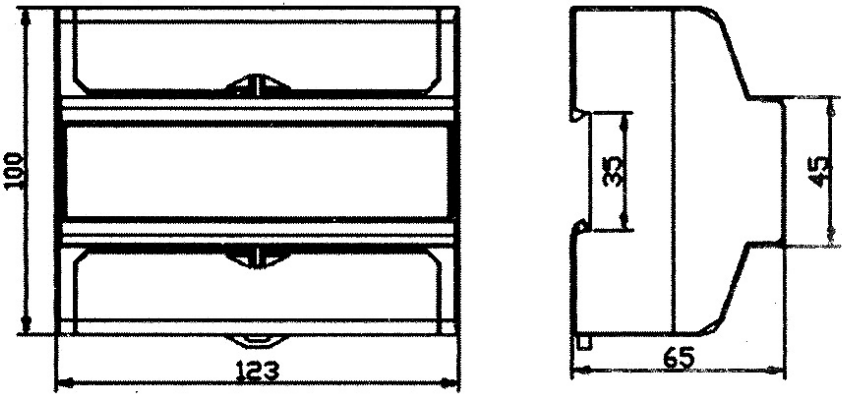
3.2.5 Power supply lack phase indication: There are three lack voltage indicator lights, when some phase voltage lack phase, the relevant lack voltage indicator light will be go out.

3.2.6 Impulse indication: When connecting meter load using energy, the impulse indicator light twinkle display (Lighting about 80ms).

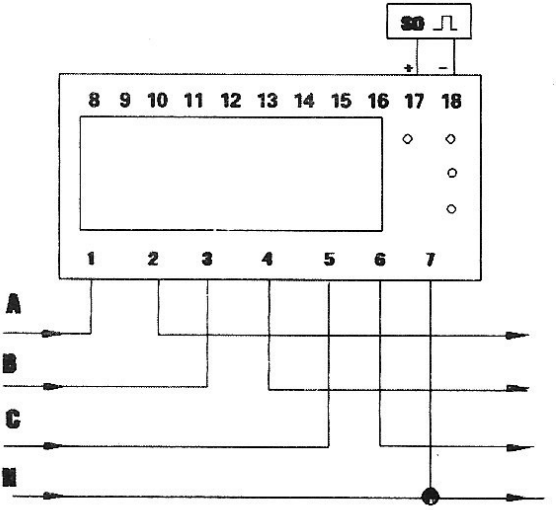
3.2.7 Reverse direction indication: When connecting meter load is reverse direction using energy, reverse direction indicator light will be lighten.

4. Outer and connecting drawing:

4.1 Outer drawing

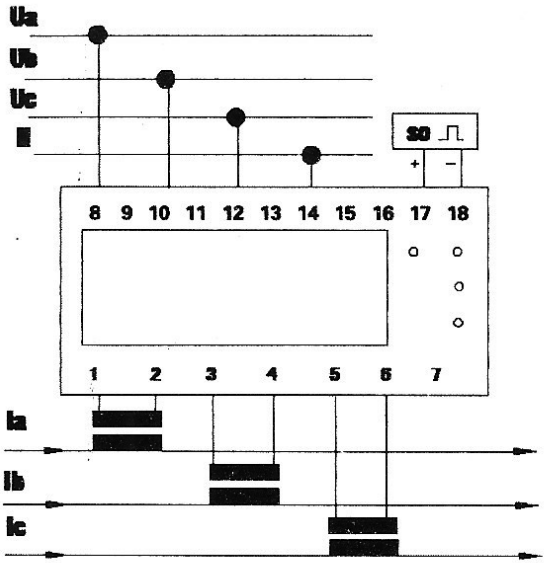


4.2 Connecting drawing



1/2	Ia	IN/OUT
3/4	Ib	IN/OUT
5/6	Ic	IN/OUT
7	Neutral wire	
8/ 9	Test pulse output contact	

Direct（Drawing 1）



	1/2	Ia IN/OUT
	3/4	Ib IN/OUT
	5/6	Ic IN/OUT
	18/16/14/12	Phase A/B/C/N
	7	N
8	8/ 9	Test pulse output contact

Connect by CT(Drawing 2)

5. Test mode:

The meter has energy impulse output port, it locates in terminal 7 and terminal 8, connect test device +5V_{DC} to terminal 8(Anode), connect signal wire to terminal 7(Cathode).

6. Transport and storage:

6.1 Transport and storage of the meter must not be shaken and must accord with *ZBY002-81*

6.2 The meter must be stored in the original packing box and the environmental temperature is in -30℃～+65℃ Relative humidity shall not exceed 85%. And there isn't any corrosive gas. The environmental temperature shall not vary violently.

6.3 The meters should be in the original packing box and the boxes should be piled up no more than five on the rack. The separate meter is not suitable for storage.

7. eadline of guarantee:

Within 18 months from the date of manufacture the user complies with all of above rules. If the meter still being sealed does not conform to any technical requirements of IEC 521, or of any certification of Power Department or Measuring Department, the manufacture guarantees to repair freely or to change.

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WEEE-Reg.Nr. DE44369545