USER MANUAL

DDM30SC single phase DIN-Rail kwh meter is a kind of new style single phase two wire active energy meter,which adopts micro-electronics technique,and imported large scale integrate circuit, using advanced technique of digital and SMT techniques, etc.
The meter completely accord with relevant technical requirements of class 1.0 single phase active energy meter stipulated in international standard IEC 62053-21.It can accurately and directly measure 50Hz or 60Hz active energy consumption from single phase two wire AC electricity net.
With a compact design, and due to international 35 mm DIN-rail mounting, it is very quick and easy to install . It has many advantages such as compact, light,delicate, accurate. With good capability of anti-EMI and low-power, they are widely used in the office buildings, shopping malls, residences, airports and metro etc. to realize the kWh counts in one by one unit.

CE Class 1

Manufactering company HUABANG

DDM30SC

SINGLE PHASE DIN-RAIL KWH METER

USER MANUAL

TG ELECTRONICS

OEM:101387

USER MANUAL

Specification

Nominal voltage (Un)	230V
Operation voltage	184~276VAC
Insulation capabilities	
AC voltage withstand 2kV for 1 minute	
Impulse voltage withstand 6kV - 1,2/50μs waveform	
Operation current	5(20)A 5(30)A 5(32)A
Operation current range	0.02 ~ 32A
Starting current	at Cos-Phi=1 typical 20mA
Over current withstand	2400A for 0,5s
Operational frequency range	50Hz or 60 Hz ± 10%
Registered harmonics	up to 7kHz
Internal power consumption	Voltage Circuit ≤1.0W 5VA Current Circuit ≤1VA(Ib)
Mounting	on a DIN-rail corresponding to DIN EN50022
1TE	18mm (DIN43880)
Interface	optical coupler (SO corresponding to DIN 43864)
Impulse valence Ra	=0,5 or 1.0 Wh/imp
Display	6+1 digits=999999,1kWH LCD
Green indicator	Consumption less than 4 W or no load

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Salmon/pink	Consumption > 4W, flashing rate=consumption
Flashing Red	Connected run
Dimension	18× 66 × 90.4mm (w × d × h)
Weight	Approx. 90g

Performance criteria:

International standard	IEC62053-21, EN62052
Accuracy	Class 1.0
Operation temperature	-25°C ~ +70°C
Storage temperature	-30°C ~ +75°C
Relative humidity	≤ 85%

Error limits:

Value of Current	Power Factor	Error Limits
0.05/0.02Ib	1	±1,5%
0.1/0.05Ib	0,5L	±1,5%
0.1/0.05Ib	0,8C	±1,5%
0.1Ib/0.05Ib~ Imax	1	±1,0%
0.2Ib/0.1Ib~ Imax	0,5L	±1,0%
0.2Ib/0.1Ib~ Imax	0,8C	±1,0%

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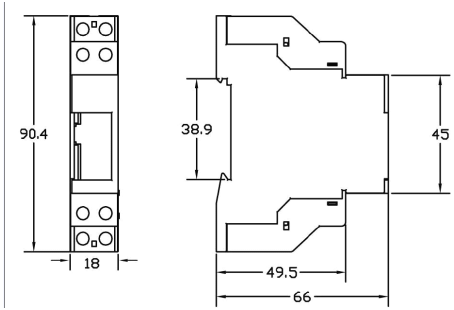
Features and Functions:

1.Measurement function: Single direction measure single phase two wire active power consumption. It is nothing with direction of the direction of the trend of bad current;
2. Display total energy consumption by 6+1 digits LCD ;
3. Bicolor LED instructions power state and signal of power impulse;
4. 35mm standard DIN-rain installation or front board setting;
5. Standard configuration pulse output with no power;
6. Adopt high reliability and long-life electric components, high in overload, do not need to calibrate for long-term operation.

Dimension:



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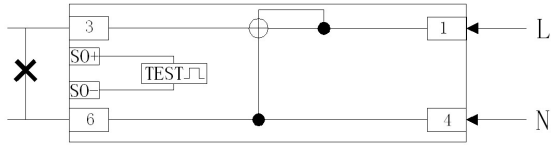
Wiring diagram:



Impulse:

The DDM30SC DIN-Rail KWH meter is equipped with an impulse output. To test the impulse output connect 5VDC to connector S+ (anode) and the signal wire (S) with connector S- (cathode).

Safety precaution:

Installation, maintenance and repair should only be done by a certified electrician.
Use only isolated tools.
Do not connect the meter to a 3 phase-380VAC/400VAC/ 415VAC electric net.
Place the meter only in dry surroundings.
Make sure the used wires are suitable for the max current the meter can measure.
Make sure the AC wires are installed correctly before activating the current / voltage.
Do not touch the meter connection clamps directly with your bare

hands, with metal, blank wire or other material as you would have the change of the electricity shock and a possible change for health damage.
Make sure the protection cover is placed after installation and has been sealed.
When the meter is taken out of the package and the casing might be damaged or broken, do NOT connect the meter but contact your dealer.
Never break the seals or open the front cover as this might Influence the functionality of the meter and would be dangerous.
Do not throw, drop, kick or do other physical violence to the meter as there are high precious components inside which would break or make the meter measure inaccurate.
Do not mount the meter in areas with harm gas, dust,mildew or insects or on unstable surfaces.

Installation Guide

Verficated version: 230V ± 20%, Max.32A, 50Hz (see meter)
For monitoring purpose only
For internal measurements: electrical operational/ limiting values are valid
Power supply:
Corresponding with mode of connection 1000 of DIN 43856
Phase supply lead "L" to terminal 1
Neutral supply lead "N" to terminal 4

Phase consumption lead "L" to terminal 3
Neutral consumption lead "N" to terminal 6
Fuses and wiring:
For fuse 10A, tripping characteristic B; Min wire thickness 1,5mm ^{2}
For fuse 16A, tripping characteristic B; Min wire thickness 2,5mm ^{2}
Passive impulse contact
corresponding to "SO" conditions of DIN 43864:
18~ 27V:,max27mA, max length of lead 20m.
impulse length >30ms, connection to terminal SO+ and SO-
Limits of values: max 60VDC, max 30mA

Diode against wrong connection is integrated (parallel)

Installation:

The meter can be installed and used after being tested and sealed.
The meter must be installed on a good ventilated and dry place.
You can choose different ways of installation such as 35mm DIN-rail or can be screwed against the base board
The board must be on a fire resistant and vibration free wall.
In dusty environments the meter must be installed in a protective box.
Connection must be made in accordance with the drawing in this manual or the drawing on the meter. Use a brass connector to avoid overheating due to loosing contacts.
When the meter is installed in an area with lots of thunderstorm, a protection against lightning is required.

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Guarantee limit

Within 12 months since the delivery date, if t is found that the product doesn't conform to the standards,it will be repaired or replaced free on the condition that the customers operate it according to the instruction manual and the seal is intact.