



# MA309M Smart Three-Phase Meter

MA309M is the Three-Phase AMI meter. Due to the Integrated design and innovative industrial solution, It is only 50% as volume as traditional products, which may significantly lower the cost of customer transportation and storage

The MA309M supports Prime 1.3.6 and Prime 1.4 in one hard design.



Long lifecycle with high quality control



Safe electricity protection:  
Z-Load and Breaker Voltage detection



Neutral Current



Prime 1.3.6 and 1.4  
Prime injection

# MA309M Smart Three-Phase Meter Datasheet



## Main features

### Energy Register

- ✓ Instantaneous values: Import/export/absolute active and reactive energy  
Voltage/current/power/PF/Vrms/Irms/Frequency/Angle
- ✓ Neutral Current
- ✓ Energy load profile: incremental/Absolute values
- ✓ Quality profiles
- ✓ Billing: end of billing/current billing/Daily billing
- ✓ Average RMS values

### Power Quality Monitoring

- ✓ Sag & Swell
- ✓ Long Interruptions

### TOU

- ✓ Support 3 contracts, contract power(1 and 3)
- ✓ Programmable tariff structure: up to 24 periods per day, up to 12 weekly program, up to 12 seasons, 30 definable special days;
- ✓ Max demand in the import direction and export direction

### Real Time Clock

- ✓ Clock accuracy according to EN 62054-21; clock is synchronized internally by internal quartz battery as the backup energy

### Communication Interface

- ✓ Communication interface1: Optical interface, IEC 62056-21
- ✓ Communication interface2: PLC Prime interface, compatible with both v1.3 and v1.4
- ✓ Optional: 2xRS485 or 1xRS232
- ✓ Optional: 2xAux relay
- ✓ Optional: 1xRS485

### Events & Alarms

- ✓ Support different Event type: Standard/Service switch/Power quality/Neutral loss/Fraud/Demand management/High frequency/Security event
- ✓ Support alarm and event push

### Load Control

- ✓ Internal switch according to UC2 specified in IEC 62052-31
- ✓ Load control according to power threshold
- ✓ High impedance detection
- ✓ Load voltage detection(under relay disconnect)
- ✓ Protection against temporary over voltages
- ✓ Auxiliary relay(optional)

### LEDs

- ✓ the meter has two LEDs
- ✓ one LED for consumption(active or reactive can be configured)
- ✓ one LED for Prime communication, three colors, to indicate the different status



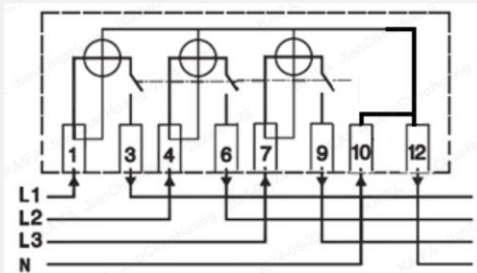
## Specification

<b>Accuracy</b>	Active	Class 1
	Reactive	Class 2
<b>Voltage</b>	Rated voltage 3P4W	3x230/400V a.c. or 3x127/220V a.c.
	Operation voltage range	80% to 115% Un
<b>Current</b>	Ib and I <sub>max</sub>	5(80)A
	Starting current	According to IEC 0.4%I <sub>b</sub>
<b>Frequency</b>		50 Hz, ± 5% Hz
<b>Pulse Constant</b>		1000 imp/kWh (can be defined by customer)
<b>Real-Time Clock</b>		≤0.5 seconds per day (< 5ppm)
<b>Humidity</b>		Up to 95%
<b>Standards</b>	EN 50470-1 EN 50470-3 IEC 62053-23 IEC 62052-11 IEC 62053-21 IEC 62052-31 IEC 62053-52 IEC 62053-31 IEC 62053-61 IEC TR 62059-11 IEC 62059-41 IEC 61709 IEC 62052-21 IEC 62054-21 EN 50160	
<b>Protection degree</b>		IP54 without suction
<b>Working Temperature</b>	Operating temperature	-25°C to 70°C
	Storage temperature	-25°C to 85°C
<b>Dimensions(L,W,H)</b>		167x167x75.4
<b>Weight (Kg)</b>		923g
<b>Housing material</b>		PC+GF
<b>Insulation protection</b>		II
<b>Terminals</b>		Brass
<b>Meter Life Time</b>		15 years

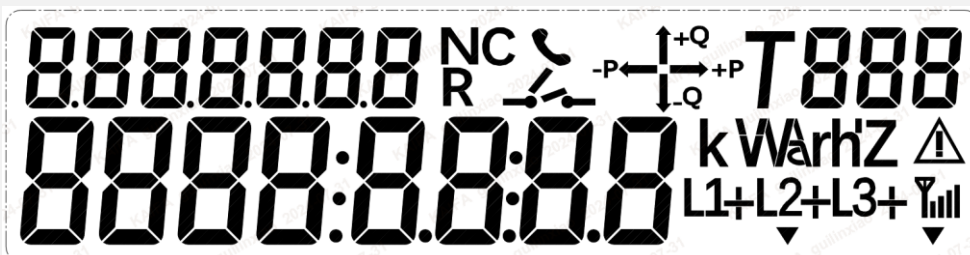


## Wiring diagram and Display

### Wiring diagram

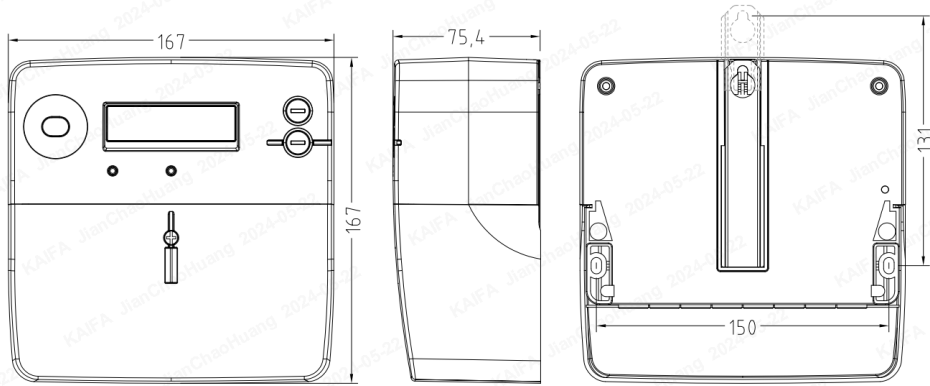


### Display format



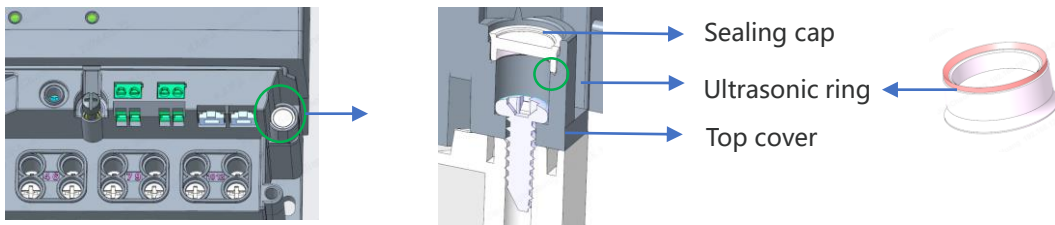
## Overall dimensions

To be updated

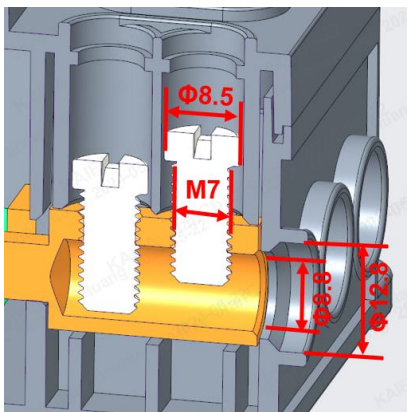


During the transportation, the hook is slide into housing to increase the container capacity  
 During the installation, the hook need be slide out

## Meter cover sealing method



## Installation related information



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