AT100G

Single Phase Direct DIN Rail

Energy Meter

User Manual V1.0

Hangzhou Antin Power Technology Co., Ltd

Statement

The Company reserves the right to make changes in the specifications of the products described in this manual without prior notice. Before ordering, please contact us or your local agent for the latest specifications of this product.

Content

Chapter 1 Product Overview

1.1 Product Introduction

AT100G series single-phase din rail energy meter is designed to collect, analyze and measure power parameters. AT100G series single-phase din rail energy meter can support the measurement and analysis of various power parameters, such as voltage, current, four-quadrant power parameters, power factor, bi-directional active and reactive power etc. This series of products have RS485 communication interface, the highest baud rate support 38400bps, support Modbus, DLT645 and other communication protocols, can easily realize remote data reading. Meanwhile, it adopts LCD display, which can view and set various measurement parameters locally, and the product has password protection function to ensure the data security of the product.

1.2 Product Features

● Up to 100A direct access

● Standard 2-module width, TH35-7.5 type din rail mount

● Touch key design

● Multi-functional parameter measurement

● Support bi-directional power metering

● Support 1-channel passive pulse output, 1-channel RS485 communication

● LCD full-view display, white backlight, backlight lighting time adjustable

● LCD display refresh time: 1 second, support manual page turning and automatic display rotation (can be set to switch)

1.3 Measurement and Display Content

● Voltage

● Frequency

● Current, current demand

● Power, maximum power demand and power factor

● Forward and reverse active energy

● Forward and reverse reactive power

1.4 Parameters to be set

● System password

● Demand statistics time

● Reset demand option

● Pulse parameters

Two pulse outputs for real-time power metering. The remote computer can realize the remote monitoring with the 485 communication output of the meter. RS485 serial communication.

The meter uses RS485 serial port and Modbus RTU communication protocol to provide remote monitoring and control functions, in addition, the 485 serial communication parameters can be modified through the menu.

Pulse output.

This instrument provides two pulse outputs for measuring active and reactive energy. The pulse setting parameters can be set through the setup menu.

Chapter 2 Technical Specifications

2.1 Technical Parameters

Technical Parameters		
Access type		Direct access
Rated voltage		230V
Voltage range		176~276V AC
Current rating		10A
Maximum current		100A
Minimum current		0.5A
Starting current		0.4% times of the rated current
Power consumption		<2W/10VA
Frequency		50/60Hz
Pressure-resistant		4KV/1 min
Pulse withstand voltage		6KV-1.2us
Overload		30 times the maximum current - 0.01s
Pulse output		1000imp/kWh (default)
		1000/100/10/1 imp/kWh/kVarh (configurable)
Display		LCD
Precision	voltage	±0.5%
	current	±0.5%

	frequency	±0.2%
	Factor	±1%
	Active power	±1%
	Reactive power	±1%
	Apparent power	±1%
	Active electrical energy	1 级 ICE52053-21
		Class B EN50470-3
	Reactive electrical energy	±1%
Operation Environment	Operating temperature	-25℃~+55℃
	Storage temperature	-40℃~+75℃
	Reference temperature	23℃±2℃
	relative humidity	0~95%RH, no condensation
	elevation	250m or more
	Warm-up time	10s
	vibration	10Hz~50Hz，IEC 60068-2-6,2g

2.2 Appearance/product dimensions and installation

drawings
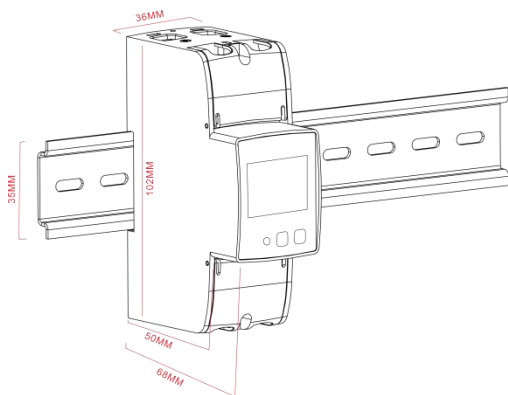
2.3 Wiring Diagram

Chapter 3 Operating Instructions

3.1 Startup Screen

The meter is powered on, and the LCD interface is fully displayed for 1s.
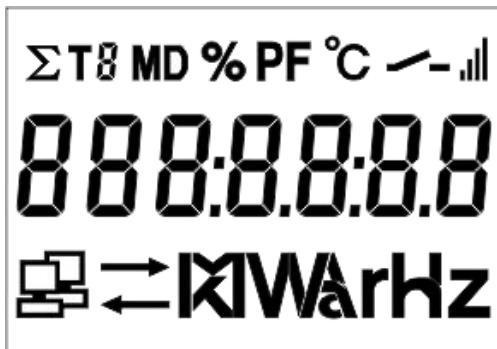
3.2 Scrolling

After the system initialization is completed, the meter displays the measured power value, and the total active energy is displayed by default. If the user wants to check other battery information, he can press the scrolling display button to view.
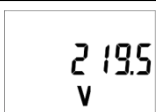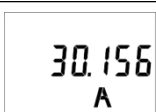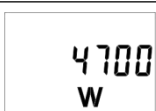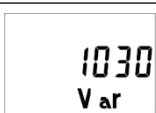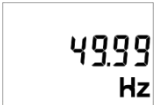
Press the key to display the content in the following order:

Total active energy→ input active energy→ output active energy→ total reactive energy→ input reactive energy→ output reactive energy→ maximum power demand→ voltage→ current→ active power→ reactive power→ apparent

power→ power factor→ frequency→ pulse → communication address→ baud rate→ continuous operation time.

3.3 Display Content
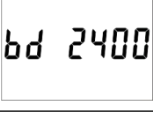
Σ **0007 0.00** **kW h**	Toal active energy Example: 70.00kWh
0005 0.00 →**kW h**	Input active energy Example: 50.00kWh
0002 0.0.0 ←**kW h**	Outputs active energy Example: 20.00kWh
Σ ɾ **0000 2.68** **kW h**	Total resettable active energy
Σ **000 10.00** **kV arh**	Total reactive energy 例:10.00kVarh
00005.00 →**kV arh**	Input reactive energy 例:5.00kVarh
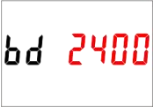
00005.00 ←kVarh	Output reactive energy 例:5.00kVarh
Σ ⌐ 00001.49 kVarh	Total resettable Reactive energy
Σ MD 6930 W	Total maximum power demand Example: 6930W
219.5 V	voltage Example: 229.5V
30.156 A	current Example: 30.156A
4700 W	Active power Example: 4700W
1030 Var	Reactive power Example: 1030Var
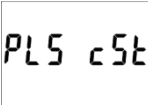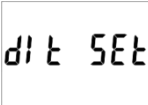
4811 **VA**	Apparent power Example: 4811VA
PF **1.000**	Power Factor Example: 1.000
49.99 **Hz**	Frequency Example: 49.99Hz
cSt 1000	Pulse constant Example: 1000
Add 001	Comm. Port Example: 001
bd 9600	baud rate Example: 9600
10.0h	Continuous running time
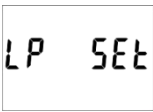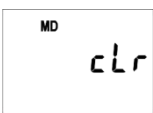
3.4 Setting Mode

Press the "Enter" key 🔁 and hold for 3s to enter the meter setting mode.

9ood	Displayed when setting is correct
Err	Displayed ff the input information is incorrect
PRS0000	password To enter the setup mode, the system needs to enter the login password. Default password: 1000
Add 001	Communication Port The default comm. port is: 001 Setting range: 001~247
Add 001	Press the "Enter" key and the first digit flashes. Press "Scroll" to change the value of the blink digit.
bd 2400	baud rate Default value: 9600bps Setting range: 1200, 2400, 4800, 9600bps.

bd 2400	Press the "Enter" key, the red number flashes when it appears, press the "Scroll" key to change the setting value. Confirm that the changes are complete , press the "Enter" key to confirm the settings.
PrtY E	Check digit Default: None Set range: None, Even, Odd
PrtY E	Press the "Enter" key, the red number flashes when it appears, press the "Scroll" key to change the setting value. Confirm that the changes are complete , press the "Enter" key to confirm the settings.
Σ **PLS oUt kW h**	Pulse output Default: Export kWh Set Range: kWh / KVarh / Imp. Kwh / Exp.kWh / Imp.kVarh / Exp.kVarh
Σ **PLS oUt kW h**	Press the "Enter" key, the red number flashes when it appears, press the "Scroll" key to change the setting value. Confirm that the changes are complete , press the "Enter" key to confirm the settings.

PL5 c5t	Pulse settings Default: 1000 Setting range: 1000 / 100 / 10 / 1
c5t 1000	Press the "Enter" key, the red number flashes when it appears, press the "Scroll" key to change the setting value. Confirm that the changes are complete , press the "Enter" key to confirm the settings.
PL5 t	Pulse Width setting Default: 100mS Setup range: 200 / 100 / 60ms
PL5t 100	Press the "Enter" key, the red number flashes when it appears, press the "Scroll" key to change the setting value. Confirm that the changes are complete , press the "Enter" key to confirm the settings.
dl t 5Et	Demand time Default:15 minutes Setting Range: 0 / 5 / 10 / 15 / 30 / 60
dl t 15	Press the "Enter" key, the red number flashes when it appears, press the "Scroll" key to change the setting value. Confirm that the changes are complete

	, press the "Enter" key to confirm the settings.
5crL t	The rolling display interval Default: 0S SETTING RANGE: 0 ~30S
t 30 5	Press the "Enter" key, the red number flashes when it appears, press the "Scroll" key to change the setting value. Confirm that the changes are complete , press the "Enter" key to confirm the settings.
LP 5Et	Backlight hold time Default: 60 min Set Range: 0 (OFF)/5/10/20/30/60
LP 60	Press the "Enter" key, the red number flashes when it appears, press the "Scroll" key to change the setting value. Confirm that the changes are complete , press the "Enter" key to confirm the settings.
cLr	Electricity Zeroing Press and hold "Enter" to enter the clearing interface
MD cLr	Demand zeroing Press and hold "Enter" to enter the clearing interface.

Σ r cLr kVarh	Resettable energy zeroing Press and hold "Enter" to enter the clearing interface.
SEtPASS	Password settings Default: 1000
PAS0000	Press the "Enter" key, the red number flashes when it appears, press the "Scroll" key to change the setting value. Confirm that the changes are complete , press the "Enter" key to confirm the settings.

English correspondence table of LCD segment code

1	2	3	4	5	6	7	8	9	0	A	B
C	D	E	F	G	H	I	J	K	L	M	N
O	P	Q	R	S	T	U	V	W	X	Y	Z

After-sales service

1. If the user does not understand the description in the manual during installation and commissioning, please contact the aftersales team.

2. The company's technology is ready to answer product-related questions.

3. The problems arising in the use of the product will be replied within one working day.

4. Our company has a one-year free warranty for the above products from the date of sale.

Technical descriptions are subject to change without notice

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