

**AT180G**

**Direct three-phase multi-function**

**DIN rail meter**

**User's Manual V1.0**



## Statement

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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.

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## Chapter 1 Product Overview

### 1.1 Product Profile

AT180G series three-phase DIN-rail power meter is a series of three-phase multi-function power meter for power parameter collection and analysis. This series of products can support the measurement and analysis of a variety of power parameters, such as voltage, current, four-quadrant power parameter, power factor, etc., and at the same time, it can provide a variety of power parameter metering, such as bi-directional active and reactive power, etc. This series of products is suitable for campus power management, shopping mall power billing management, real-time power monitoring system and other applications. This series of products are suitable for campus power management, shopping malls, real-time power monitoring system and other applications, with multi-function, multi-purpose, high stability and long life and other characteristics. This series of products have RS485 communication interface, the highest baud rate support 38400bps, support Modbus and other communication protocols, can be convenient to achieve the remote data reading function, and at the same time using a large screen LCD and key design, can be convenient to carry out a variety of measurement parameters of the local view and setup operations, the product has a password protection function, to ensure that the product's data security.

## 1.2 Product characteristics

- Multi-functional parameter measurement, providing rich measurement data
- Maximum current support 100A direct access
- Standard 4-module width, TH35-7.5 rail mounted
- Multi-functional parameter measurement
- Supports bi-directional power metering
- Support 1 channel pulse output and 1 channel RS485 communication
- Large LCD screen, white backlight, adjustable backlighting time
- LCD display supports manual page turning and automatic rotating display (can be set to switch)

## 1.3 Product Functions

Measurement and display content:

- Phase voltage, line voltage
- three-phase current
- frequency
- Power and Power Factor
- Forward and reverse active energy
- Forward and reverse reactive energy

Setting parameters:

- System class parameters: user password, reset
- Pulse output type parameters: pulse output type, pulse output width, pulse output rate
- Communication parameters: communication address, baud rate, parity bit,

stop bit

- Time type parameters: automatic time rotation, backlight illumination time

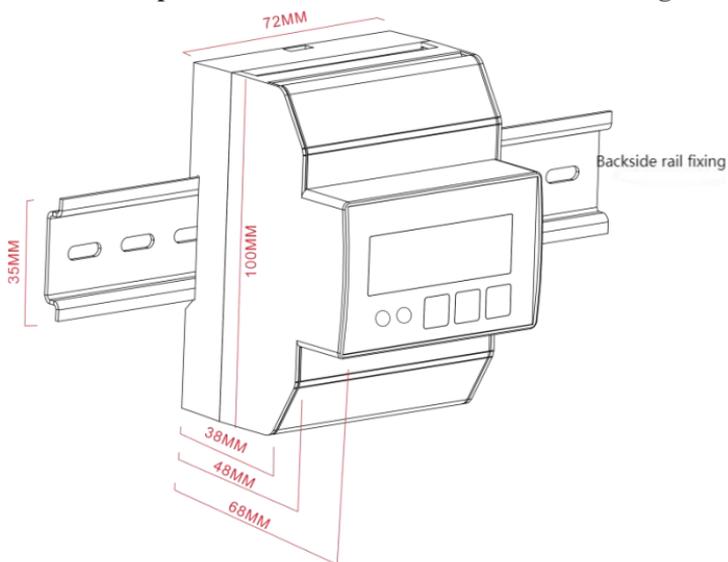
## Chapter 2 Technical specifications

### 2.1 Technical parameters

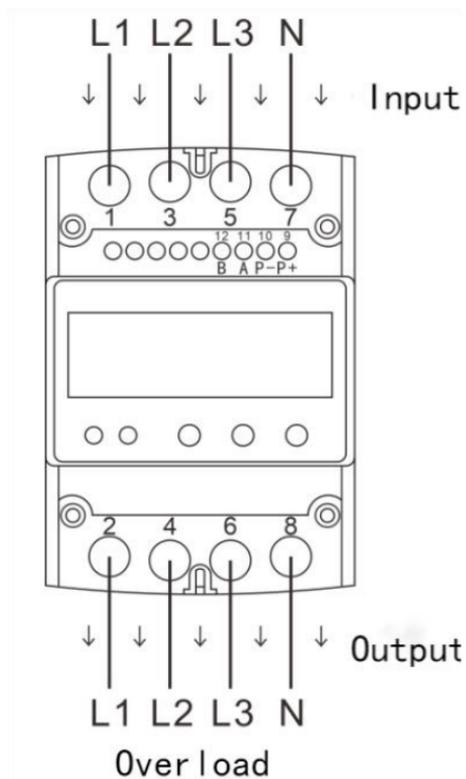
Technical indicators		
Access Type	direct access	
rated voltage	230VAC	
voltage range	176~276V AC	
rated current	10A	
Maximum current	100A	
minimum current	0.5A	
Starting current	0.4 per cent times the rated current	
power wastage	<2W/10VA	
frequency	50/60Hz	
compressive	4KV/1 minute	
Pulse withstand voltage	6KV-1.2us	
overloaded	30 times maximum current - 0.01s	
pulse output	400 imp/kWh (default)	
	400 imp/kWh/kVarh (configurable)	
demonstrate	LCD	
accurate	input voltage	± 0.5 per cent

	amps	$\pm 0.5$ per cent
	frequency	$\pm 0.2$ per cent
	power factor	$\pm 1$ per cent
	active power	$\pm 1$ per cent
	reactive power	$\pm 1$ per cent
	apparent power	$\pm 1$ per cent
	active energy	Level 1 ICE52053-21
		Class B EN50470-3
reactive energy	$\pm 1$ per cent	
operating environment	operating temperature	$-25^{\circ}\text{C}\sim+55^{\circ}\text{C}$
	Storage temperature	$-40^{\circ}\text{C}\sim+75^{\circ}\text{C}$
	relative humidity	0~95%RH, no condensation
	height above sea level	<2000m
	vibratory	10Hz~50Hz, IEC 60068-2-6,2g

## 2.2 External/product dimensions & installation drawings



## 2.3 Wiring diagram



## Chapter 3 Operational instructions

### 3.1 Start-up interface

The instrument is powered up and the LCD interface is fully displayed for 1s.



### 3.2 Scrolling display

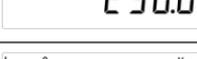
After the system initialisation is completed, the meter displays the measured power value, and by default the total active power is displayed. If the user wants to view other power information, he can press the "Up" and "Down" buttons to view it.

The display is shown in the following display order.

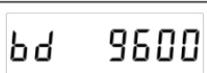
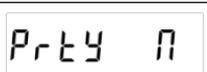
Total active power → Total resettable active power → Forward active power → Forward and reverse active power → Forward reactive power → Reverse reactive power → L1 voltage → L2 voltage → L3 voltage → L12 voltage → L23 voltage → L31 voltage → L1 current → L2 current → L3 current → L1 active power → L2 active power → L3 active power → Total active power → Total reactive power → Total apparent power → L1 power factor → L2 power factor → L3 power factor → total power factor → frequency → pulse constant →

communication address → baud rate → calibration mode → version number.

### 3.3 Display content

	Total active electrical energy
	Total resettable active energy
	Positive active energy
	Reverse active energy
	Positive reactive energy
	Reverse reactive energy
	L1 voltage
	L2 voltage
	L3 voltage
	L12 voltage

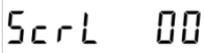
L 23 38.10 V	L23 voltage
L 31 38.10 V	L31 voltage
L 1 5.000 A	L1 current
L 2 5.000 A	L2 current
L 3 5.000 A	L3 current
L 1 1.100 kW	L1 active power
L 2 1.100 kW	L2 active power
L 3 1.100 kW	L3 Active power
$\Sigma$ 3.300 kW	Total active power
$\Sigma$ 0.0 kvar	Total reactive power
$\Sigma$ 3.300 kVA	total apparent power

	L1 power factor
	L2 power factor
	L3 power factor
	Total power factor
	frequency
	pulse constant
	mail address
	baud
	Calibration method
	version number

### 3.4 Setting the mode

Press "Enter" button  and hold it for 3s to enter the setting mode of the instrument, select the parameter to be set, long press "Enter" button  to enter the modification, long press "Enter" button to save and return to the main interface. Press "Enter" button  to save and return to the main interface.

	cryptographic To enter setup mode, the system requires a login password. Default Password:1000
	mail address The default mailing address is: 001 Setting range: 001~247
	baud Default Value:9600bps Setting range: 1200, 2400, 4800, 9600bps.
	Calibration method Default: N Setting range: N (no parity), E (even parity), O (odd parity)

	<p>pulse output</p> <p>Default: Total active energy</p> <p>Setting range: total active energy/forward active energy/reverse active energy</p>
	<p>Pulse Setting</p> <p>Default: 400</p> <p>Setting range: 400 / 6400</p>
	<p>Pulse Width Setting</p> <p>Default: 80mS</p>
	<p>stop bit</p> <p>Default: 1</p>
	<p>Scroll interval display time</p> <p>Default: 0S</p> <p>Setting range: 0 ~60S</p>
	<p>Backlight Hold Time</p> <p>Default: 60 min</p> <p>Setting range: 0 (OFF)/ 5/ 10/ 20/ 30/ 60</p>
	<p>Reset power clear</p> <p>Press and hold "Enter" to enter the clearing interface.</p>
	<p>Password Setting</p> <p>Default: 1000</p>

## Liquid Crystal Segment Code English

### Correspondence Table

1	2	3	4	5	6	7	8	9	0	A	B
1	2	3	4	5	6	7	8	9	0	A	B
C	D	E	F	G	H	I	J	K	L	M	N
c	d	E	F	G	H	I	J	K	L	M	N
O	P	Q	R	S	T	U	V	W	X	Y	Z
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 technical director.
2. The company's technology is always ready to answer product-related questions.
3. Respond to any problems arising from the use of the product within one working day.
4. Our company's warranty for the above products is one year free of charge from the date of sale.

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Technical description, subject to change without notice

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