AUTOMETERS SYSTEMS

ADL200

Single phase, 80A MID approved (B&D) meter

General

ADL200 single phase electric meter is designed for single phase active energy measurement on low voltage system, in the same time it can measure the electrical parameters like voltage, current, power and so on. There is also RS485 can be chosen. This electricity meter has advantages of smaller volume, high precision, good EMC, easily installing etc, All meters meet the related technical requirements of electricity meter in the IEC62053-21, IEC62053-22 standards.

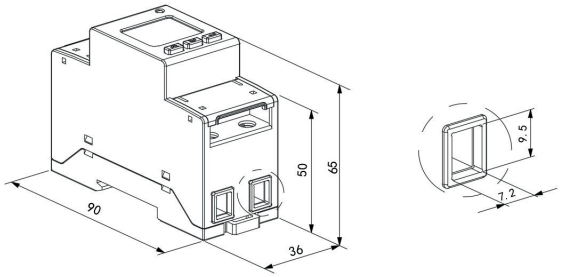
Functions

Function	Function description	Function provide
Measurement of kWh	Single-phase active kWh (positive and negative) 3 months historical energy data frozen storage	■
Measurement of electrical parameters	Voltage, Current, Active power, Reactive power, Apparent power, Power factor and Frequency	■
LCD Display	8 bits section LCD display	■
Key programming	3 keys to set parameters like code, address, baud rate, multi-tariff and communication protocol	■
Pulse output	Active energy pulse output	■
Multi-tariff	Adapt 4 time zones, 2 time interval lists, 14 time interval by day and 4 tariff rates	□
Communication	Communication interface: RS485, Communication protocol: MODBUS-RTU	■

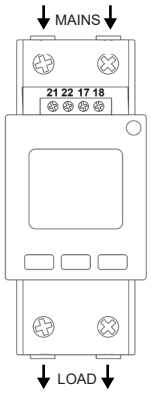
(： Standard；□：Optional)

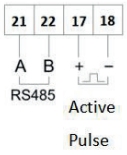
Outline (unit: mm)

■ Two Module Meter outlook and size



Wiring and installing





Parameters

■ Electric performance

Input voltage	Reference voltage	AC 220V
	Reference frequency	50Hz
	Power consumption	<10VA
Input current	Basic current	10A
	Maximum current	80A
	Starting current	4‰Ib
	Consumption	<4VA
Measurement performance	Accuracy of measuring	1 class
	Range of measuring	000000. 00~99999999kWh
Clock accuracy		Error≤0.5s/d
Active pulse	Pulse width	80±20ms
	Pulse constant	100imp /kWh
Communication	Interface	RS485(A+ 、B-)
	Connection mode	Shielded twisted pair conductors
	Protocol	MODBUS-RTU

■ Mechanical performance

Outline	Length x Width x Height	90mm×36mm×65mm
Strong current terminal	<1.8Nm	
Torque		

■ Work environment

Temperature range	Work-25 temperature	℃~55℃	
	Storage-40 Temperature	℃~70℃	
Relative humidity		≤95%(No condensation)	
Altitude		<2000m	

Diagnosis, analysis and elimination of common faults

■ Auxiliary power failure

Failure performance: the meter flashes and does not light up after being powered on.
Troubleshooting: 1. Check whether the wiring of the auxiliary power supply is consistent with the wiring diagram of the instrument, and whether the wiring is loose or falling off;
2. Use a multimeter to measure whether the input voltage value of the auxiliary power supply is within the normal working voltage range of the instrument.

■ Signal input failure

Failure performance: After the meter is powered on, the display power or energy count is not accurate.
Troubleshooting: Switch the display interface of the meter to the power (active P, power factor λ) interface, check whether the power display is negative and whether the power factor is between 0.9-0.95, and then check whether the input and output of the current signal line are reversed (That is, the incoming line of the current must be consistent with the incoming end of the instrument), And consistent with the wiring on the meter.

■ Communication failure

Failure performance: After the meter is powered on, it cannot communicate with the host computer normally.
Troubleshooting: 1. The voltage value between the communication output A and B of the measuring instrument should be between +(4.4-4.5)V;
2. Check whether the communication wiring method is correctly wired according to the wiring diagram (that is, the communication terminal A/B of the instrument should correspond to the communication serial port A/B.

Operation and display

■ Key description

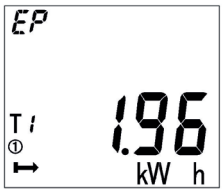
Key Icon	Key Name	Key Function
	Key Up	View voltage and current in the view interface Up and flashing shift in the programming interface
	Key Down	View power in the view interface Scroll down and modify flashing bits in the programming interface
	Key Setting	View electrical energy in the viewing interface Long press3S to enter/exit the menu Short press OK in the programming interface to save the settings

■ Display description

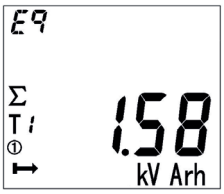
Show total energy when connected. Change information while pressing down key. Display information as following:

	U, I, F, Time, Modbus Address, Baud, Parity, Version, ALL - display;
	Total active power, total reactive power, total apparent power, total power factor;
	Total active energy, forward active total energy, reverse active total energy, total active spike energy, total active peak energy. total active flat energy,total active valley energy, total reactive energy, forward reactive total energy, reverse total reactive energy, total reactive spike energy, total reactive peak energy, total reactive flat energy, total reactive valley energy.

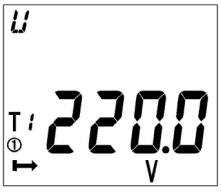
Note：
1. Listed above are the names of all display interfaces of the ADL200 meter with double rate function. Three buttons can switch different types of display content, the switching sequence is as described above；
2. For the ADL200 meter without the double rate function, it does not display the date, time and various types of time-sharing energy (the energy in the four rate periods of sharp, peak, flat and valley).



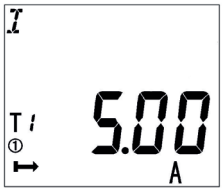
Current total active energy



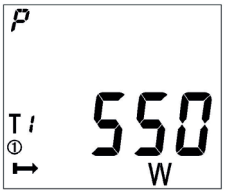
Current total reactive energy



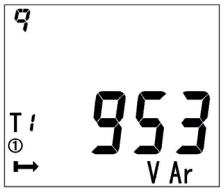
Voltage



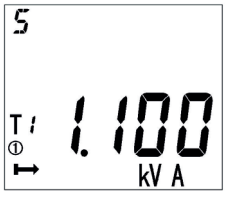
Current



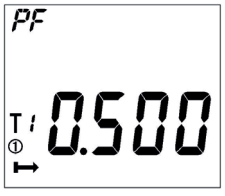
Current total active power 550W



Current total reactive power 953VAr



Current total apparent power 1.100kVA

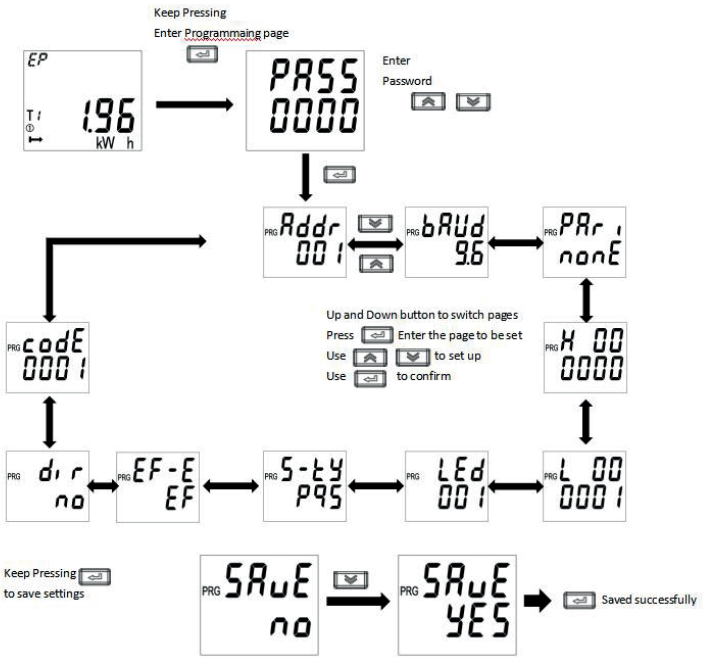


Current total power factor 0.500

Note:
The below is just a part of the display interface. The display mode of other interfaces is similar to the above figure. You can judge the display meaning according to the information displayed on the interface.

■ Programming display menu

Press at any main menu and get in PASS interface, and then press show P- 0000, and enter the code. If you enter a wrong code, it will show "0000" and enter the code again; and if you enter a right code, you can set the parameter. After setting the parameter, it will show SAuE and save the change by pressing S- YES and quit without save by pressing S- no



■ Item can be set

Setting item description

Mum	Secondly menu		
	Symbol	Meaning	Range
1	ADDR	Communication address	1-254
2	Baud	Baud setting	1200 2400 4800 9600 19200
3	Pari	Parity setting	None Odd Even
4	LED	Background light setting	0-255 minutes 0 ever bright
5	S-TY	Apparent power calculation	PQS,RMS
6	EF-E	Set multi-tariff	EF-YES E-NO
7	DIR	Current direction	no-forward yes-reverse
8	CoDE	Code setting	1-9999

Declaration

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