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ADF300L-RF Recharge Management Terminal

Installation and Use Manual V1.0

Acrel Electric Co., Ltd.

Declaration

Acrel reserves the right to modify the product specifications herein without notification. Please consult the local agent about the latest specifications before placing a purchase order.

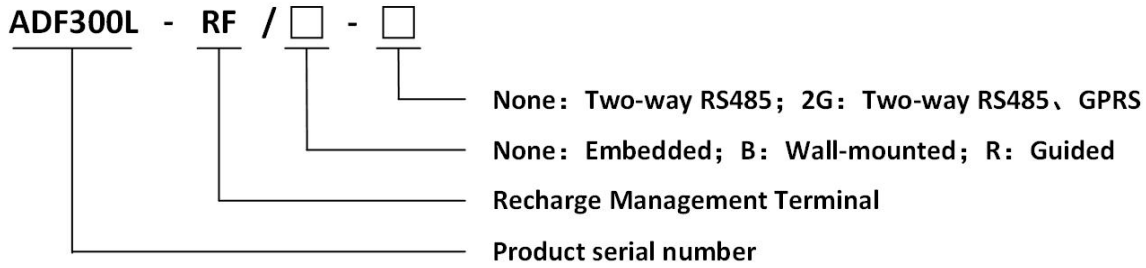
Contents

1 Overview

ADF300L-RF recharge management terminal is mainly used in commercial plazas, schools and flats where electricity meters are installed centrally. The recharge management terminal is a good solution to the problem of independent recharging after the purchase of electricity by the user, saving the operating costs of the management. The recharge management terminal is installed outside the HV room and establishes a communication with the prepaid energy meters installed inside the HV room.

2 Product model and specification

2.1 Naming Rules



PS: GPRS matched with a two-meter-long sucker antenna

3 Technical parameter

Chart 1 Technical parameter

Functions	Display mode	LCD
	Recharge Method	RF technology, matching M1 RF chip card
	Communication interface	Downlink RS485, Uplink GPRS
	Communication media	Shielded twisted pair, mobile GPRS (SIM card type: Nano)
	RS485 baud rate	1200bps、2400bps、4800bps、9600bps(default value)
Electrical performance	Rated voltage	DC24V、DC48V、AC220V(±20%)
	Power consumption	≤3W; with GPRS, ≤5W
	AC working frequency voltage	AC RMS between operating power/communication/GPRS 2kV/min
	Insulation resistance	Insulation resistance of all line ports to the housing should be ≥ 10 MΩ
environment	Operating temperature	-10℃~45℃

	Storage temperature	-25℃~70℃
	Humidity	⩽95% (No condensation)
	Elevation	≤2000m
	Pollution level	Level 3

4 Dimension and installation description

4.1 Dimension (Unit: mm)

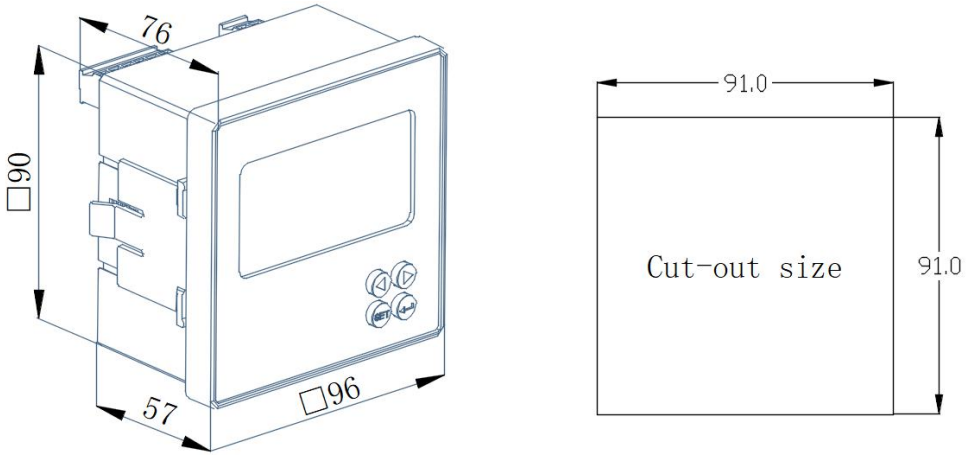


Figure 1 Dimension of ADF300L-RF

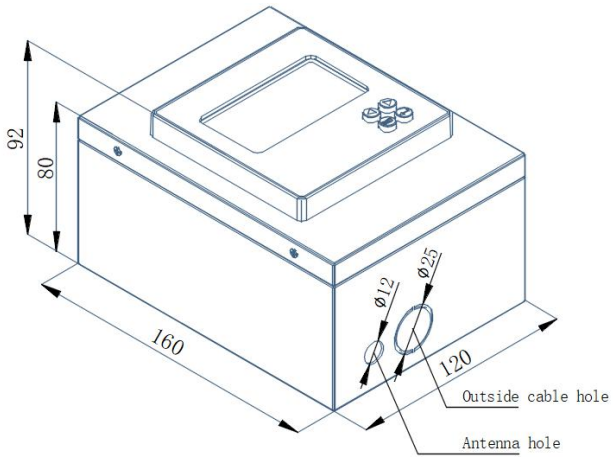


Figure 2 Dimension of ADF300L-RF/B

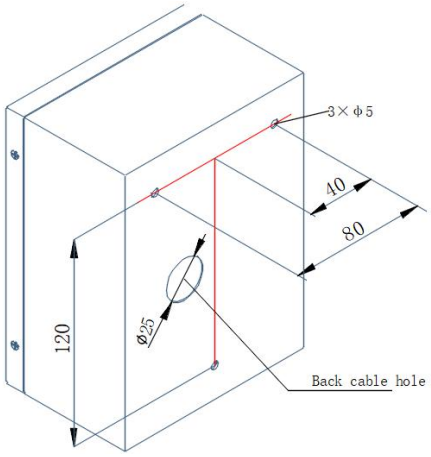
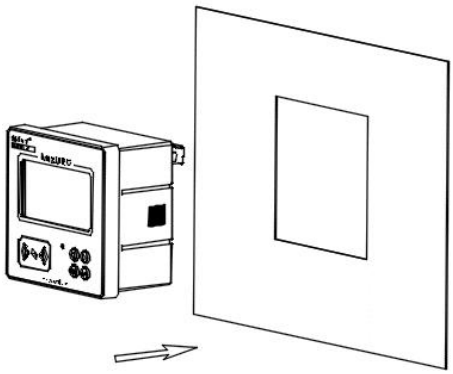


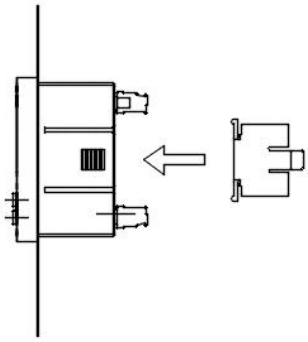
Figure 3 Dimension of installing

4.2 Installation instructions

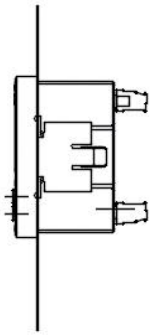
4.2.1 ADF300L-RF Installation Steps



Step 1: Place the top-up management terminal into the opening;

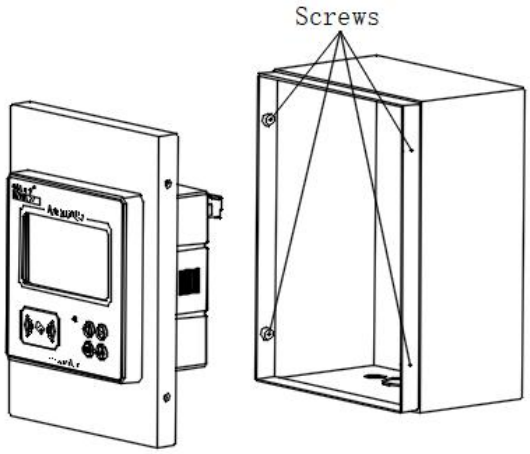


Step 2: Insert the fixing bracket;



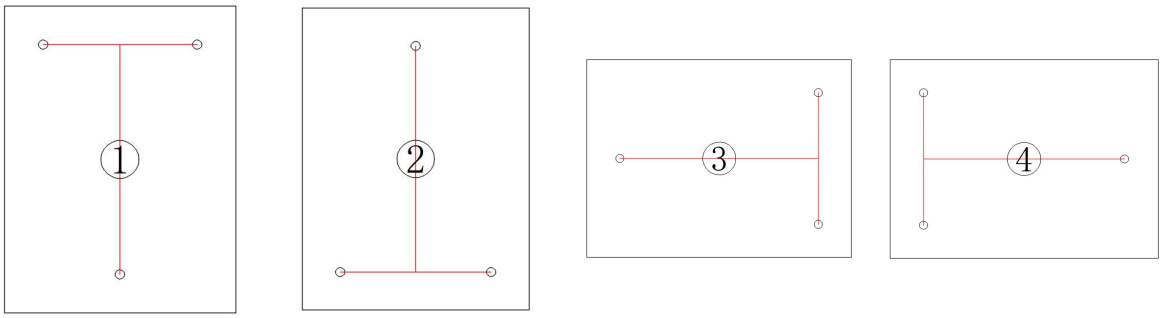
Step 3: Complete the installation

4.2.2 ADF300L-RF/B Installation Steps



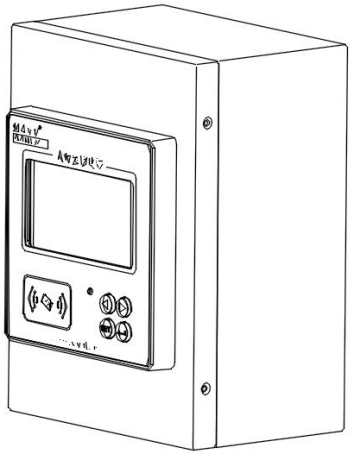
Step 1: Unscrew the 4 screws on both sides to open the iron case.

Cable hole locations:



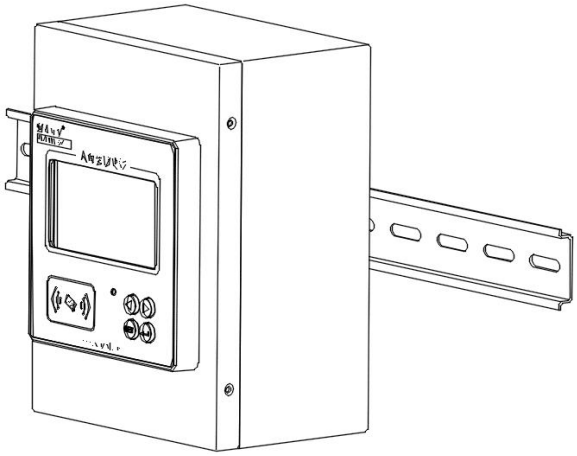
on the lower side on the upper side on the left side on the right side

Step 2: The bottom shell is mounted on the wall (according to the site, choose the mounting method, if the back cable hole is used, the default is to use ① install method);

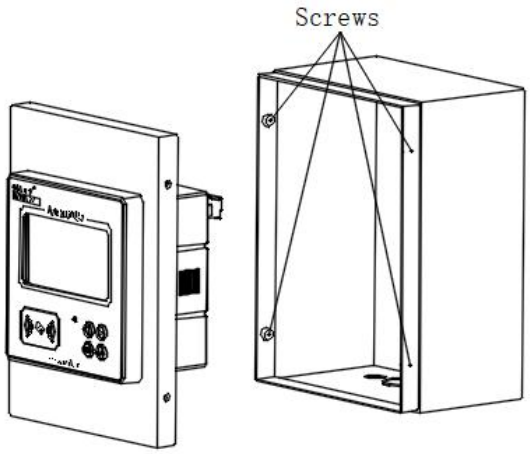


Step 3: Connect the wires according to the wiring diagram, cover the iron case, screw in the screws and the installation is complete.

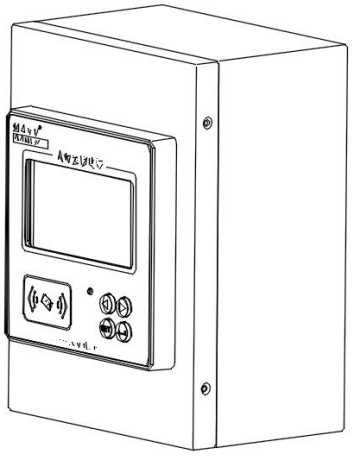
4.2.3 ADF300L-RF/R Installation Steps



Step 1: Install the charge management terminal on the guide rail;

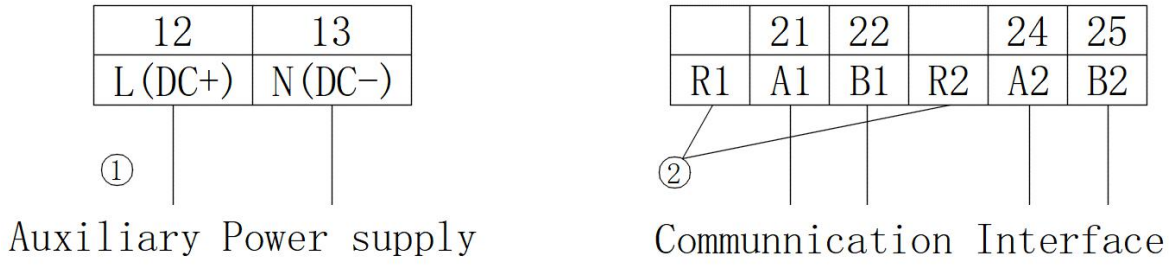


Step 2: Unscrew the 4 screws on both sides to open the iron case.



Step 3: Connect the wires according to the wiring diagram, cover the iron case, screw in the screws and the installation is complete.

4.3 Interfaces of Auxiliary power supply and ommunication

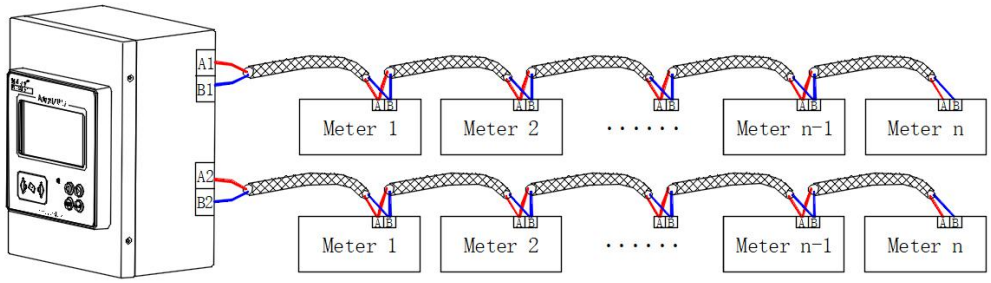


Note:

① According to the wiring diagram to correctly access the voltage, when using DC24V, DC48V, port 12 must be connected to the positive voltage, and port 13 to the negative voltage.

② Communication matching resistor (120 Ω), not connected by default, when communication packet is lost, R1 and B1 (or R2 and B2) are connected together to test the communication effect.

4.4 Instruction of communication wiring



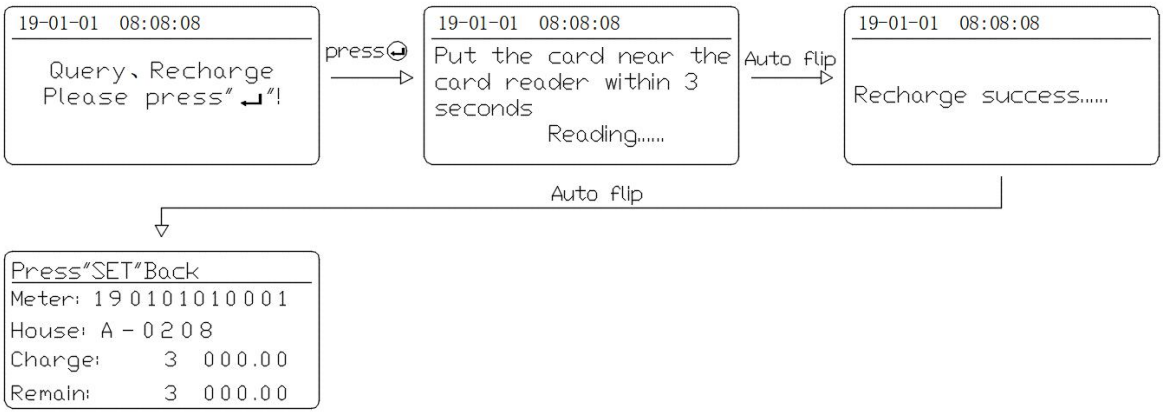
Description:

1. The communication lines between the recharge management terminal and the energy meter and among the energy meters must be hand-held connections.

2、The amount of meters connected on each RS485 bus line, has to less than 32, and the bus line length between the recharge management terminal and the end meter has less than 200 meters.

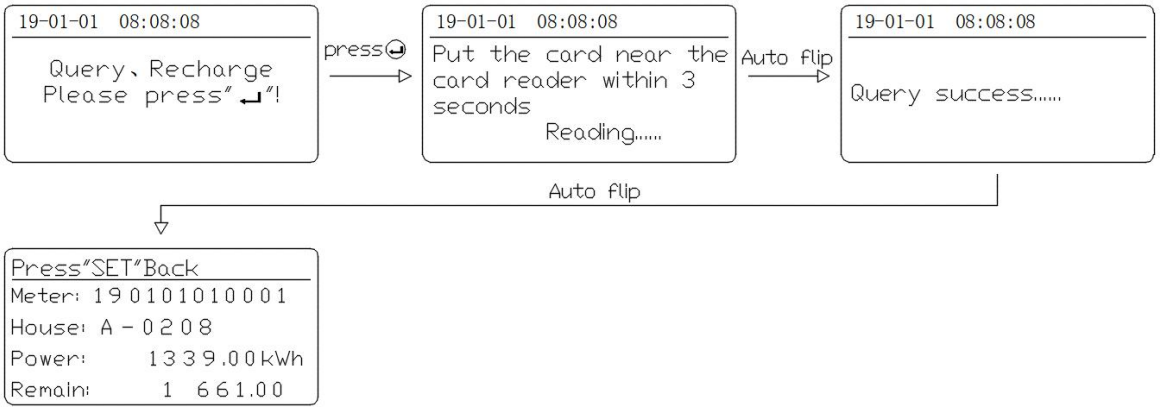
5 Operating Instructions

5.1 Recharge processes



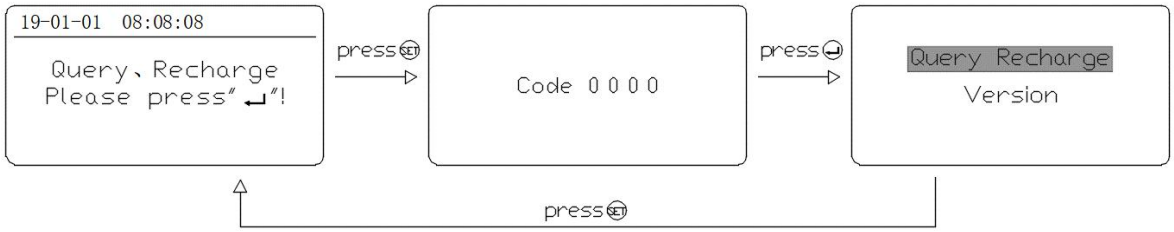
Following the above to complete your recharge; The screen displays the amount of this recharge and the remaining amount, and returns to the initial screen after 30 seconds or pressing the (SET).

5.2 Query processes

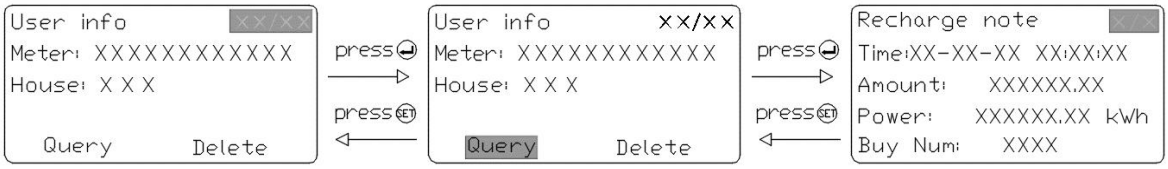


Following the above to complete your query; The screen displays the current electricity consumption and the remaining amount, and returns to the initial screen after 30 seconds or pressing the (SET).

5.3 Payment check processes

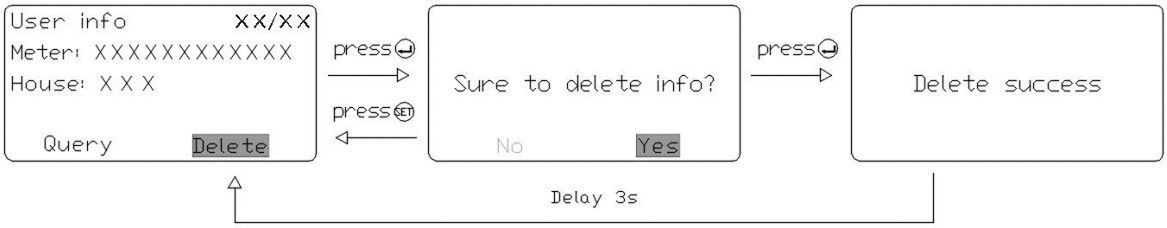


Following the above to enter the menu of Recharge and Query, and input user code. The default code is 0000.



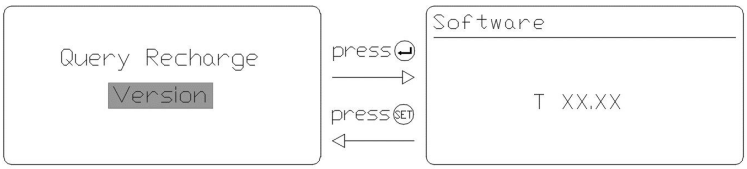
Pressing (↵) to enter user information menu; use (◀) (▶) to select correct information, press (↵), choose 'Query' and then press (↵) again, enter payment check interface, press (◀) (▶) to quire about recharge messages of last three times.

5.4 Deletion processes



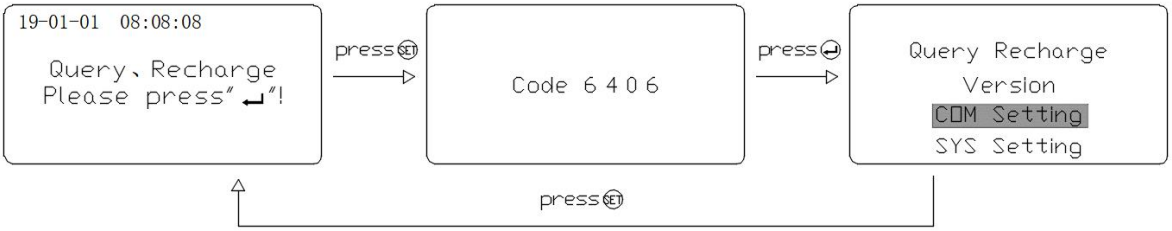
Press ↵ to enter user information menu, press ◀ ▶ to select correct information, press ↵, choose 'Delete', press ↵ to confirm and press ↵ again to finish deletion. The system will automatically return to the user information interface after 3 seconds.

5.5 Software version check

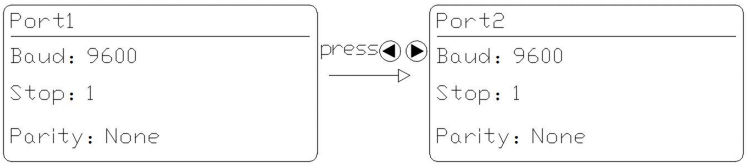


Press ◀ ▶ to select 'Version', and then press ↵, there will show the software version number.

5.6 Communication setting



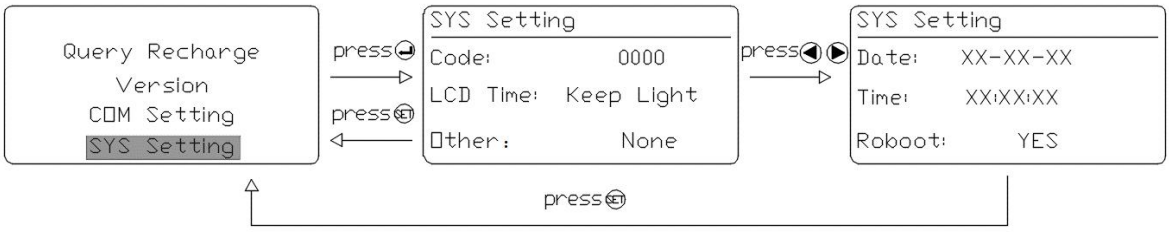
Following the above to enter the menu of Recharge and Inquiry, and input the administrator code 6406.



Choose 'COM Setting', Press ↵ to enter communication setting interface, and press ◀ ▶ to change Port1、Port 2. Users can choose appropriate baud rate which contains 1200, 2400, 4800, 9600(default baud), 19200, 38400, and press ↵ to confirm. By the

same way, users can choose stop bits from 1(default value), 2, 1.5, and set parity to None (default value), Odd or Even. After settings, press SET to return to previous menu.

5.7 System setting



Choose 'SYS Setting', Press ↵ to enter system setting interface. Press ◀ ▶ to choose the parameters you want to modify. Press ↵ to set, and after setting, press ↵ to confirm and exit the previous menu.

6 Common troubleshooting

6.1 The recharge management terminal does not light up after installation.

Suggestion: Check whether the voltage of the auxiliary power supply connected to the top-up management terminal is correct. If the DC power supply is used, it needs to be wired in accordance with 4.3 Remark 1.

6.2 When the recharge management terminal is working, the reading of the card fails when the user recharges or queries, resulting in the inability to recharge and query.

Suggestion: Confirm that the purchase card is compatible with the energy meter. Check whether the card is matched with user information.

6.3 When the charge management terminal is operating, the communication connection is lost with the downstream part of the meter.

Suggestion: Firstly, check that the communication lines between the top-up management terminal and the downstream energy meter are connected in accordance with the standard requirements of 4.4 of this manual. Secondly, if they are correctly wired, check the connection at the terminals and whether the A/B terminal lines are reversed.

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