

# **SC4 Module User Manual**

**Applicable model:  
SC4**

**JIANGSU SFERE ELECTRIC CO., LTD.**

## Safety instructions

Thank you for choosing the products developed by Jiangsu Sfero Electric Co., Ltd. In order to facilitate your purchase and help you use this product safely, correctly and efficiently, please read this manual carefully and pay attention to the following points when using it.

### CAUTION:

- ◆ Make sure only the qualified technicians perform the installation and maintenance;
- ◆ Before performing wiring operation to the meter, make sure the input signal and the power supply are switched off;
- ◆ The proper voltage detecting device should be used to guarantee no voltage in any part of the meter;
- ◆ The electrical parameters supplied should be within the rated range;

The following situations may result in damage to the device or cause mistakes in the operation of the device.

- ◆ The voltage of the auxiliary power supply goes beyond the rated range.
- ◆ The frequency of the power distribution system goes beyond the rated range.
- ◆ The input polarity of the voltage or the current is incorrect.
- ◆ Remove or connect the communication plugs without powering off.
- ◆ Connect the terminal wires against the related instructions.



**Please don't touch the terminals  
when the meter is in operation!**

The latest manual can be downloaded from the company's homepage and some corresponding test software downloads also provided. If you need an electronic user manual, you can obtain it from our technical service department.

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# 1 Product Introduction

## 1.1 Summary

SC4-GPRS module (hereinafter referred to as SC4) is a wireless transmission module based on the GPRS way, using the existing mobile network can easily let your device realize wireless connection with Internet. It has many advantages, such as wide network coverage, flexible and fast networking.



Figure 1.1 product physical figure

## 2 Technical specifications

### 2.1 Technical parameter

Project		Parameters
Wireless Interface	Frequency band	Support 4 frequency: GSM850MHz/900MHz/ 1800MHz/1900MHz
	Network type	GPRS
	SIM card voltage	3V、1.8V
	Antenna interface	50Ω/SMA(female head)
RS485 Interface	Communication	half duplex
	Communication baud rate	2400~19200bps,default 9600bps

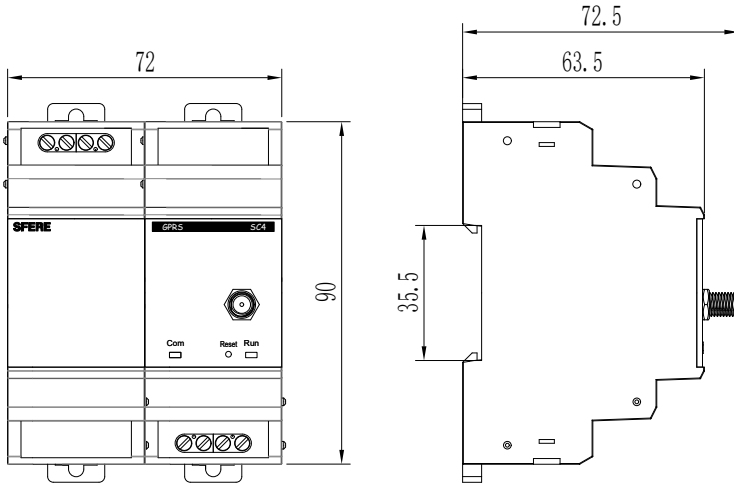
	Data format	n81/n82/o81/e81,default n81
Auxiliary power	Voltage range	AC/DC 80~270V
Working environment		-25℃~70℃, ≤93%RH
Storage environment		-40℃~85℃, ≤93%RH

## 2.2 Main function

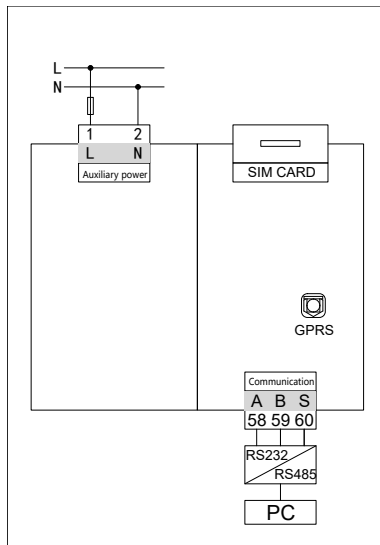
- ✧ Support dynamic domain name or IP address access.
- ✧ Support break line automatic reconnection function.
- ✧ Support local graphical interface configuration and maintenance.
- ✧ Have Reset key, can restore to factory configuration in case of system parameter configuration confusion.
- ✧ Support local firmware update capability to facilitate user to update the device.

### 3 Dimensions and wiring diagrams

#### 3.1 Size

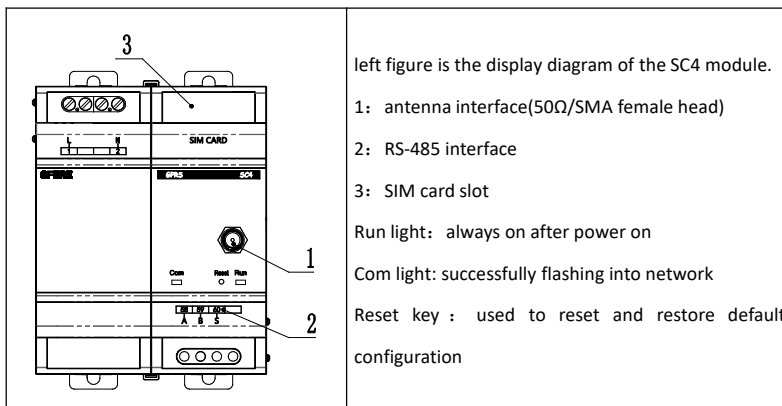


#### 3.2 Wiring



## 4 Operation

### 4.1 Panel



### 4.2 Use Preparation and Function Description

#### 4.2.1 hardware preparation

Connect the RS-485 interface of the SC4 module to the computer, insert the SIM card, connect the antenna to the antenna interface, and then power up.

#### 4.2.2 Light Function Description

There are two small lights on the panel: Run and Com.. The function of each lamp is described in detail below.

1. All small lights flash once after power on, then the Run light is always on.
2. Connect server successfully, Com light flash slowly.
3. Data interaction with the server, Com lights flash quickly.

#### 4.2.3 Key function description

Reset key have the following functions:

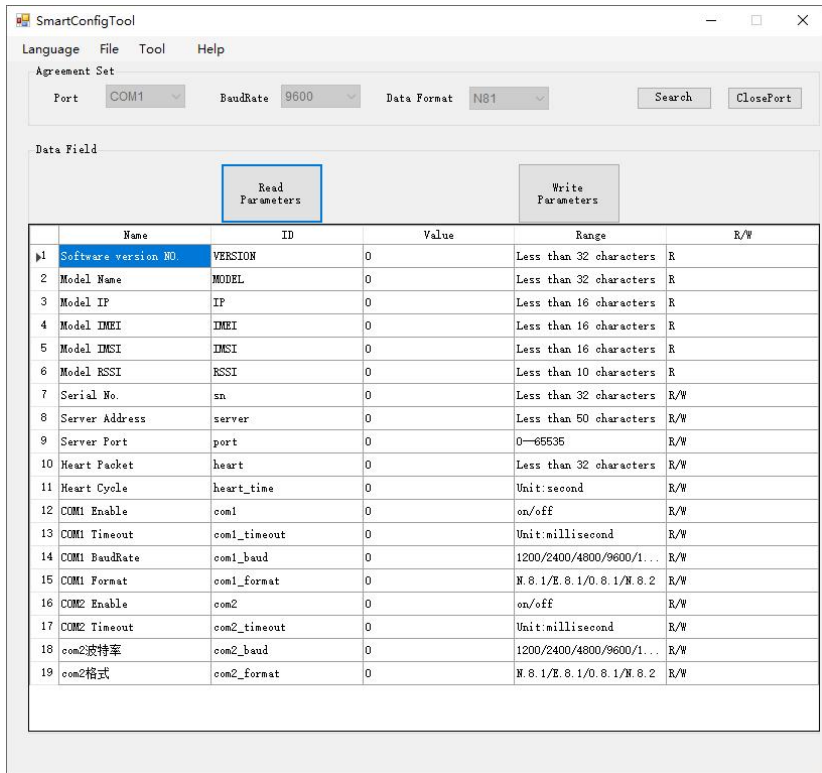
1. The Run indicator is always on. Press the Reset button to enter the configuration mode,Run the indicator light flashes.
2. The Run indicator flashes. Press the Reset button to launch the configuration mode. The Run indicator is always on.
3. Press and hold the Reset button for 3-4 seconds to release, all indicators flash quickly, SC4 module resets.
4. Press and hold the Reset button for more than 10 seconds to release, all

indicators flash slowly, and the SC4 module returns to factory configuration.

### 4.3 Parameter configuration and reading

Connect the RS-485 interface of the SC4 module with the PC, open the SmartConfigTool software and configurate the serial port parameters (baud rate :9600, data format: N81), press the Reset button to enter the configuration mode.

Click on SmartConfigTool file menu to import configuration options, select TGate.xlsx profile to import the configuration parameters.



#### 4.3.1 Parameter reading

Click the Parameter Reading button to read the configuration parameters within the module.



SmartConfigTool

Language File Tool Help

Agreement Set

Port COM21 BaudRate 9600 Data Format N81 Search ClosePort

Data Field

Read Parameters Write Parameters

	Name	ID	Value	Range	R/W
1	Software version NO.	VERSION	SC4.2001.191216	Less than 32 characters	R
2	Model Name	MODEL	SC4	Less than 32 characters	R
3	Model IP	IP	10.72.41.2	Less than 16 characters	R
4	Model IMEI		865429043843866	Less than 16 characters	R
5	Model IMSI		460043197802399	Less than 16 characters	R
6	Model RSSI		-51 dBm	Less than 10 characters	R
7	Serial No.		123	Less than 32 characters	R/W
8	Server Address		119.23.105.150	Less than 50 characters	R/W
9	Server Port		8004	0-65535	R/W
10	Heart Packet	heart	heart	Less than 32 characters	R/W
11	Heart Cycle	heart_time	60	Unit:second	R/W
12	COM1 Enable	com1	on	on/off	R/W
13	COM1 Timeout	com1_timeout	1000	Unit:millisecond	R/W
14	COM1 BaudRate	com1_baud	9600	1200/2400/4800/9600/1...	R/W
15	COM1 Format	com1_format	N. 8. 1	N. 8. 1/E. 8. 1/O. 8. 1/N. 8. 2	R/W
16	COM2 Enable	com2	on	on/off	R/W
17	COM2 Timeout	com2_timeout	1000	Unit:millisecond	R/W
18	com2波特率	com2_baud	9600	1200/2400/4800/9600/1...	R/W
19	com2格式	com2_format	N. 8. 1	N. 8. 1/E. 8. 1/O. 8. 1/N. 8. 2	R/W

Read Succeed

确定

### 4.3.2 Parameter configuration

Modify the value of the parameter in the value column according to the requirements. after the parameter is set, click the parameter configuration button to write the parameter to the SC4 module and save it.

The screenshot shows the SmartConfigTool interface. At the top, there is a menu bar with 'Language', 'File', 'Tool', and 'Help'. Below the menu bar is the 'Agreement Set' section, which includes dropdown menus for 'Port' (COM21), 'BaudRate' (9600), and 'Data Format' (N81), along with 'Search' and 'ClosePort' buttons. The main area is titled 'Data Field' and contains two buttons: 'Read Parameters' and 'Write Parameters'. Below these buttons is a table with the following data:

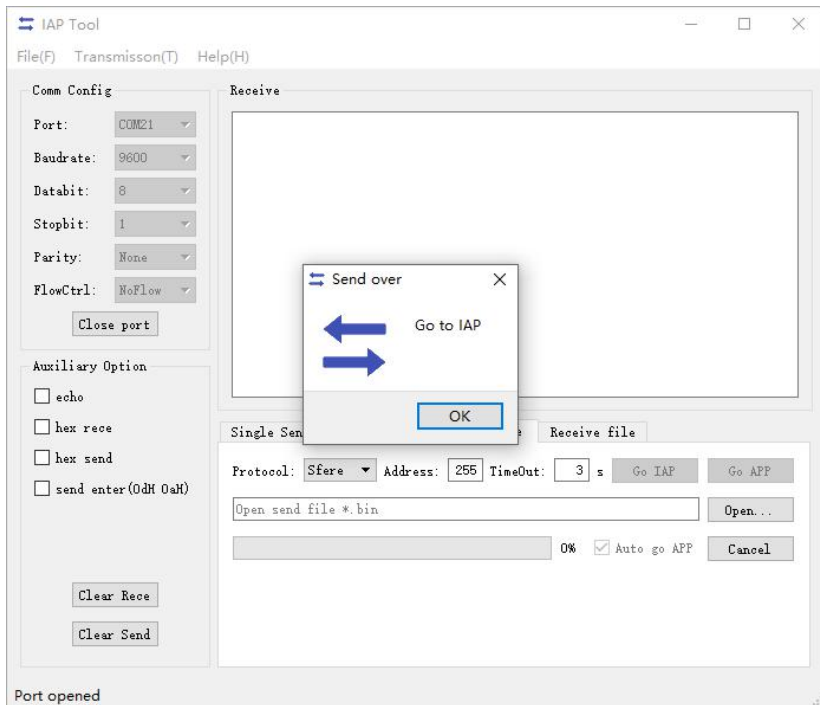
	Name	ID	Value	Range	R/W
1	Software version NO.	VERSION	SC4.2001.191216	Less than 32 characters	R
2	Model Name	MODEL	SC4	Less than 32 characters	R
3	Model IP	IP	10.72.41.2	Less than 16 characters	R
4	Model IMEI		865429043843866	Less than 16 characters	R
5	Model IMSI		460043197802399	Less than 16 characters	R
6	Model RSSI		-51 dBm	Less than 10 characters	R
7	Serial No.		123	Less than 32 characters	R/W
8	Server Address		119.23.105.150	Less than 50 characters	R/W
9	Server Port		8004	0—65535	R/W
10	Heart Packet	heart	heart	Less than 32 characters	R/W
11	Heart Cycle	heart_time	60	Unit:second	R/W
12	COM1 Enable	com1	on	on/off	R/W
13	COM1 Timeout	com1_timeout	1000	Unit:millisecond	R/W
14	COM1 BaudRate	com1_baud	9600	1200/2400/4800/9600/1...	R/W
15	COM1 Format	com1_format	N.8.1	N.8.1/E.8.1/O.8.1/N.8.2	R/W
16	COM2 Enable	com2	on	on/off	R/W
17	COM2 Timeout	com2_timeout	1000	Unit:millisecond	R/W
18	com2波特率	com2_baud	9600	1200/2400/4800/9600/1...	R/W
19	com2格式	com2_format	N.8.1	N.8.1/E.8.1/O.8.1/N.8.2	R/W

A dialog box titled 'Write Succeed' is overlaid on the table, containing a close button (X), the text 'Write Succeed', and a '确定' (Confirm) button.

## 4.4 Firmware upgrade

### 4.4.1 Access IAP

Under configuration mode, click the firmware upgrade option under the SmartConfigTool software tools menu, pop up the upper computer, set the serial port parameters (baud rate :9600, data format: N81). Select Protocol Sferre, Click Enter IAP. Enter successfully, Run light flashes quickly.



#### 4.4.2 Firmware update

Open the firmware file and click send, waiting for the firmware update to complete. pop up the send finish prompt box. If checked complete enter APP, close prompt box and enter application execution.

