

SZ5090A

RS232 interface industrial grade ZIGBEE wireless acquisition module

User Manual

File Version: V25.2.4



SZ5090A using the standard ZIGBEE Wireless Communication Interface,easy access to PLC , DCS and other instruments or systems for monitoring RS232 state quantities.The internal use of high -precision sensing core and related devices to ensure high reliability and excellent long-term stability,can be

customized RS232,RS485,CAN,4-20mA,DC0~5V\10V,ZIGBEE,Lora,WIFI,GPRS and other output methods.

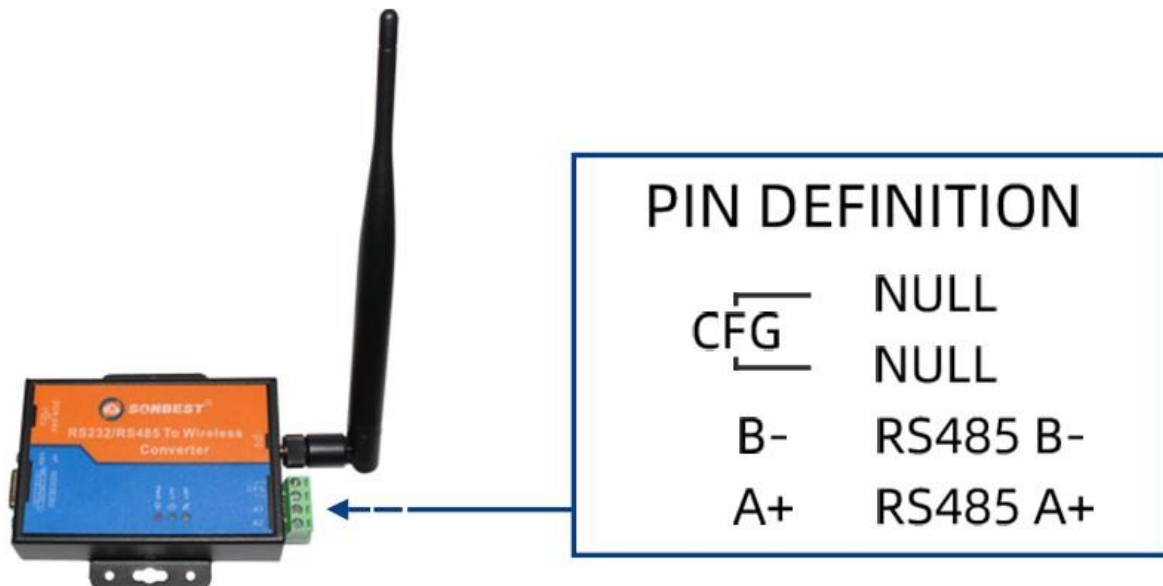
Technical Parameters

Technical parameter	Parameter value
Brand	SONBEST
RS232	DB9 2-TX 3-RX
Communication Interface	ZIGBEE
Radio frequency	2.4G ISM
Network Type	Star network
Network capacity	65535
Power	DC9~24V 1A
Running temperature	-30~85℃
Working humidity	5%RH~90%RH

Product Size



Wiring mode



Wiring instructions

In the case of broken wires, wire the wires as shown in the figure. If the product itself has no leads, the core color is for reference.

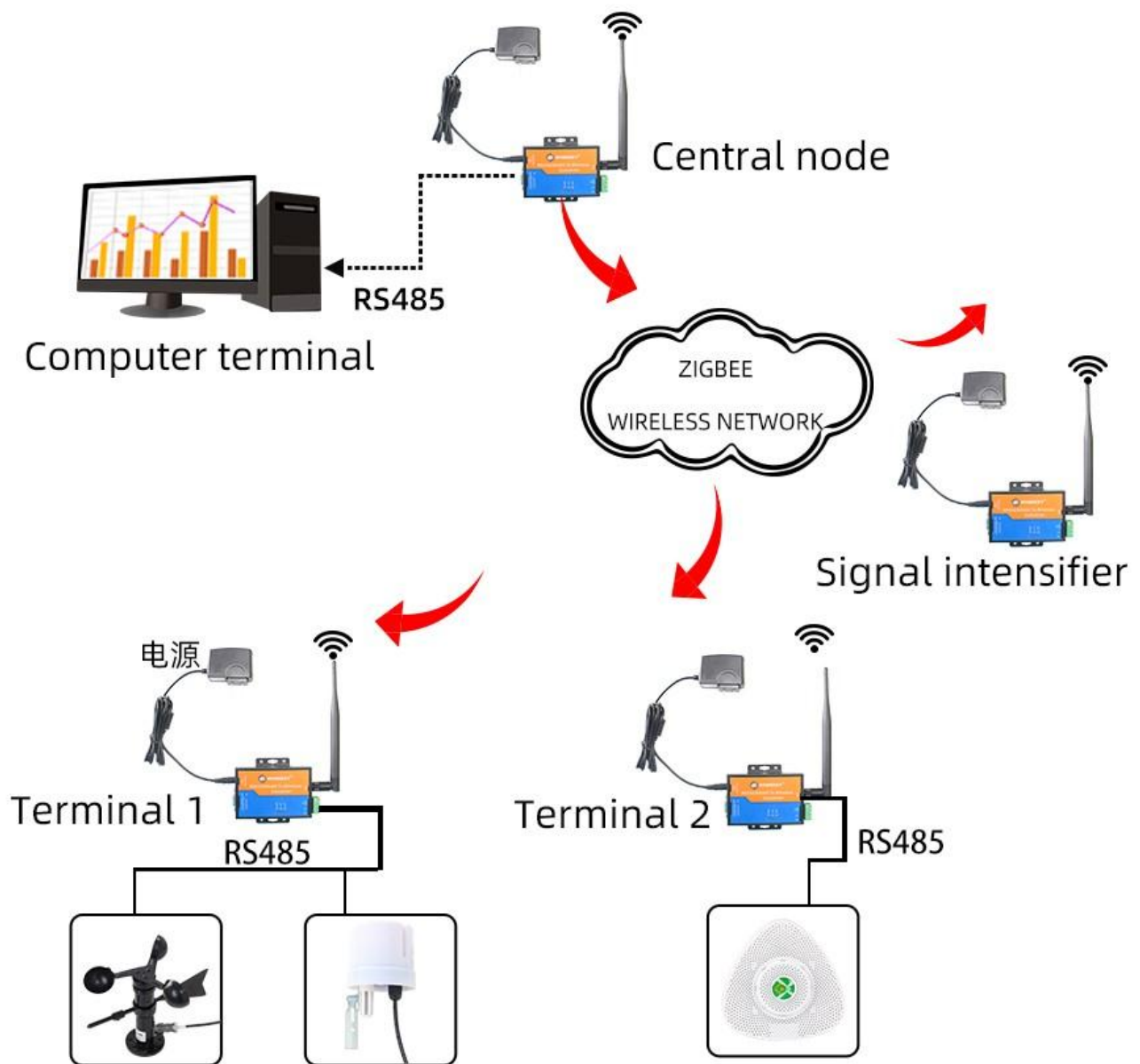
How to use?

It can be widely used for wireless data transmission in engineering machinery, railways, ports, wharves, power plants, meteorology, cableways, wind power generation, ships, tower cranes, energy conservation monitoring, agriculture, clean space and other fields



Application solution

Basic application scheme



Note:

1. The center and terminal are of the same model and transparent transmission.
2. The repeater is only used for signal enhancement. It can only be powered on. Do not connect RS485 peripheral
3. The communication distance is greatly affected by the environment, so it is recommended to conduct communication test when distributing points

Product List



certificate

One set of wireless acquisition module

Communication Protocol

Due to the fact that the device only has ZIGBEE wireless communication mode, users can only read and modify the parameters involved in this communication protocol through the ZIGBEE wireless transmission module. The product uses the MODBUS-RTU standard protocol format, and all operation or reply commands are hexadecimal data. When the device leaves the factory, the default device address is 1, and the default baud rate is 9600,8, n, 1. Due to the inability of ZIGBEE sensors to directly modify parameters, it is generally shipped according to the standard parameters (2.4G network type: star network, network ID: 0xFF). If you need to modify parameters such as networking method and network ID, please explain when ordering.

1. Read Data (Function id 0x03)

Inquiry frame (hexadecimal), sending example: Query 1# device 1 data, the host computer sends the command: 01 03 00 00 00 01 84 0A .

Device ID	Function id	Start Address	Data Length	CRC16
01	03	00 00	00 01	84 0A

For the correct query frame, the device will respond with data: 01 03 02 02 0E 38 E0 , the response format is parsed as follows:

Device ID	Function id	Data Length	data 1	Check Code
01	03	02	02 0E	38 E0

Data Description: The data in the command is hexadecimal. Take data 1 as an example. 02 24 is converted to a decimal value of 536. If the data magnification is 100, the actual value is $536/100=5.36$. Others and so on.

2. Data Address Table

3 read and modify device address

(1) Read or query device address

If you don't know the current device address and there is only one device on the bus, you can use the command FA 03 00 64 00 02 90 5F Query device address.

Device ID	Function id	Start Address	Data Length	CRC16
FA	03	00 64	00 02	90 5F

FA is 250 for the general address. When you don't know the address, you can use 250 to get the real device address, 00 64 is the device model register.

For the correct query command, the device will respond, for example the response data is: 01 03 02 07 12 3A 79, the format of which is as shown in the following table:

Device ID	Function id	Start Address	Model Code	CRC16
01	03	02	55 3C 00 01	3A 79

Response should be in the data, the first byte 01 indicates that the real address of the current device is, 55 3C converted to decimal 20182 indicates that the current device main model is 21820, the last two bytes 00 01 Indicates that the device has a status quantity.

(2)Change device address

For example, if the current device address is 1, we want to change to 02, the command is:01 06 00 66 00 02 E8 14 .

Device ID	Function id	Start Address	Destination	CRC16
01	06	00 66	00 02	E8 14

After the change is successful, the device will return information: 02 06 00 66 00 02 E8 27 , its format is parsed as shown in the following table:

Device ID	Function id	Start Address	Destination	CRC16
01	06	00 66	00 02	E8 27

Response should be in the data, after the modification is successful, the first byte is the new device address. After the general device address is changed, it will take effect immediately. At this time, the user needs to change the query command of the software at the same time.

4 Read and Modify Baud Rate

(1) Read baud rate

The device default factory baud rate is 9600. If you need to change it, you can change it according to the following table and the corresponding communication protocol. For example, read the current device's baud rate ID, the command is:01 03 00 67 00 01 35 D5 , its format is parsed as follows.

Device ID	Function id	Start Address	Data Length	CRC16
01	03	00 67	00 01	35 D5

Read the baud rate encoding of the current device. Baud rate encoding: 1 is 2400; 2 is 4800; 3 is 9600; 4 is 19200; 5 is 38400; 6 is 115200.

For the correct query command, the device will respond, for example the response data is: 01 03 02 00 03 F8 45, the format of which is as shown in the following table:

Device ID	Function id	Data Length	Rate ID	CRC16
01	03	02	00 03	F8 45

coded according to baud rate, 03 is 9600, ie the current device has a baud rate of 9600.

(2)Change the baud rate

For example, changing the baud rate from 9600 to 38400, ie changing the code from 3 to 5, the command is: 01 06 00 67 00 05 F8 1601 03 00 66 00 01 64 15 .

Device ID	Function id	Start Address	Target Baud Rate	CRC16
01	03	00 66	00 01	64 15

Change the baud rate from 9600 to 38400, changing the code from 3 to 5. The new baud rate will take effect immediately, at which point the device will lose its response and the baud rate of the device should be queried accordingly. Modified.

5 Read Correction Value

(1) Read Correction Value

When there is an error between the data and the reference standard, we can reduce the display error by adjusting the correction value. The correction difference can be modified to be plus or minus 1000, that is, the value range is 0-1000 or 64535 -65535. For example, when the display value is too small, we can correct it by adding 100. The command is: 01 03 00 6B 00 01 F5 D6 . In the command 100 is hex 0x64 If you need to reduce, you can set a negative value, such as -100, corresponding to the hexadecimal value of FF 9C, which is calculated as 100-65535=65435, and then converted to hexadecimal to 0x FF 9C. The correction value starts from 00 6B. We take the first parameter as an example. The correction value is read and modified in the same way for multiple parameters.

Device ID	Function id	Start Address	Data Length	CRC16
01	03	00 6B	00 01	F5 D6

For the correct query command, the device will respond, for example the response data is: 01 03 02 00 64 B9 AF, the format of which is as shown in the following table:

Device ID	Function id	Data Length	Data value	CRC16
01	03	02	00 64	B9 AF

In the response data, the first byte 01 indicates the real address of the current device, and 00 6B is the first state quantity correction value register. If the device has multiple parameters, other parameters operate in this way. The same, the general temperature, humidity have this parameter, the light generally does not have this item.

(2)Change correction value

For example, the current state quantity is too small, we want to add 1 to its true value, and the current value plus 100 correction operation command is:01 06 00 6B 00 64 F9 FD .

Device ID	Function id	Start Address	Destination	CRC16
01	06	00 6B	00 64	F9 FD

After the operation is successful, the device will return information: 01 06 00 6B 00 64 F9 FD, the parameters take effect immediately after successful change.

Disclaimer

This document provides all information about the product, does not grant any license to intellectual property, does not express or imply, and prohibits any other means of granting any intellectual property rights, such as the statement of sales terms and conditions of this product, other issues. No liability is assumed. Furthermore, our company makes no warranties, express or implied, regarding the sale and use of this product, including the suitability for the specific use of the product, the marketability or the infringement liability for any patent, copyright or other intellectual property rights, etc. Product specifications and product descriptions may be modified at any time without notice.

Contact Us

Company: Shanghai Sonbest Industrial Co., Ltd

Address: Building 8, No.215 North east road, Baoshan District, Shanghai, China

Web: <http://www.sonbest.com>

Web: <http://www.sonbus.com>

SKYPE: soobuu

Email: sale@sonbest.com

Tel: 86-021-51083595 / 66862055 / 66862075 / 66861077