SM626H-A All Netcom
Data Collector User Manual

Jiaxing Songmao Electronics Co., Ltd.

Jiaxing Songmao Electronics Co., Ltd.

http://www.smmeter.com

E-mail:sales@smdznet.com

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Jiaxing Songmao Electronics Co., Ltd.

Jiaxing Songmao Electronics Co., Ltd. Address : Room 1-201, Science and Technology Entrepreneurship Service Center, No. 79 Jinsui Road, Nanhu District, Jiaxing City, Zhejiang Province China
http://www.smmeter.com Tel:86-573-82623038 Email:sales@smdznet.com

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Before using the product, please read the manual intensively.First, please confirm which type of Instruments is used with the HART protocol, and then find out the appropriate using method in the manual. Before switching on the power, please confirm all interfaces are correctly connected. The company will not be held liable for any damage caused by improper use that violates the methods specified herein unless following the instructions.

This document serves as the official product description. However, content may become outdated or invalid due to product/software upgrades. We do not guarantee consequences arising from such changes. Please monitor version updates and ensure prompt updates.

For the latest information, please refer to our website: www.smmeter.com.If you have any questions about this document or the performance description of this product, please contact your supplier or contact us directly.E-mail :sales@smdznet.com or contact tel:86-573-82623038 for advice and answers.

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1. Introduction to SM626H-A All-Netcom Data Collector

1.1 Product Introduction

SM626H-A All-Netcom Data Collector is A high-tech product integrating data acquisition, GPRS and CDMA communication. It is A micro RTU system. It is composed of high precision operational amplifier, interface chip, watchdog circuit, input and output circuit, and embedded communication module. The RTU terminal for remote data acquisition has the characteristics of stable performance and high cost performance.

As SM626H-A All-Netcom Data Collector is specially designed for industrial product integration, it adopts special design in temperature range, vibration, electromagnetic compatibility and interface diversity, which ensures stable operation in harsh environment and provides high quality assurance for your equipment.

1.2 Product Performance

- With four-way analog acquisition, 16-bit high-precision A/D simultaneous sampling function.
- It has two-channel pulse counting function and two-channel switching value sampling function.
- With a DC 24V output, 20 mA drive capability (dedicated to power supply of two-wire sensors).
- With a RS485 instrument communication interface, supporting MODBUS _ RTU protocol.
- USB interface is used to set parameters.
- The parameter type, range, starting point, upper and lower limit alarm threshold and pulse bottom of the collected data can be configured.
- Configurable station number, time, communication parameters, etc.
- Support dynamic domain name and fixed IP.
- UDP or TCP mode supporting data transmission.
- All operating parameters can be queried and set both locally and remotely.
- With power-off memory function, parameters do not need to be reset after power off.
- Equipped with large-capacity EEPROM, it can save data once a minute and can save historical data for one month.
- The communication transceiver and module status indicator can clearly indicate the working attitude of the collector.
- Support foreign communication network.

1.3 Main Parameters

- Installation dimension: length 83 mm × width 94 mm.
- Shell size: 123 mm long × 105 mm wide × 33 mm high.
- Working temperature: -20 ℃ ~ + 80 ℃.
- Storage temperature: -25 ℃ ~ + 80 ℃.
- Power input voltage: DC 9 ~ 24V.
- Analog input impedance: 250Ω, can collect 4 ~ 20mA, 0 ~ 5V DC signal.
- Protection class: IP65.

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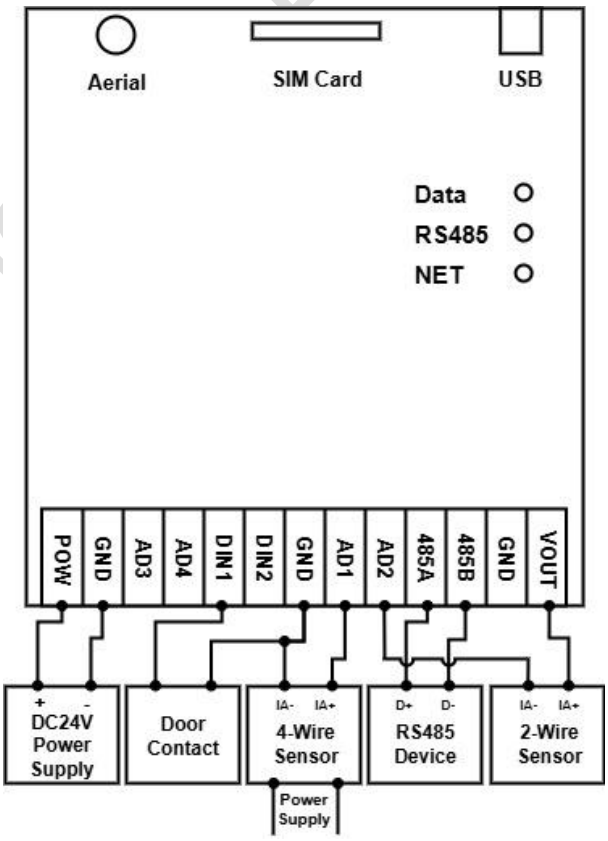
2. Hardware Description of SM626H-A All-Netcom Data Collector

2.1 Physical Drawings

2.2 Wiring Diagram



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2.3 Port Introduction

Port name	POW	GND	AD3	AD4	DIN1	DIN2	GND	AD1	AD2	485A	485B	GND	VO
Function/access device	Power source		Analog input		Switching value input			Analog input		RS485 communication		24V output	

● POW, GND: 9 ~ 24 V DC power supply, the positive and negative poles (+,-) of the power line are connected to the corresponding (POW, GND) terminals respectively.

● AD1 ~ AD4: analog channel input, used to collect analog signals. Its input impedance is 250 Ω, and it can input DC current signal (DC 4 ~ 20 mA) or DC voltage signal (DC 0 ~ 5V).

● DIN1, DIN2, GND: switching value channel input, used to collect passive switching value.

● 485A, 485 B: RS485 communication, refer to the connection diagram to connect the instrument and equipment to realize the data transmission between the collector and the equipment.

● VO, GND: 24 V DC voltage output, 20 mA drive capability, designed to provide power for two-wire sensors.

2.4 Description of Indicator Light

● Data data communication indicator: Flashes when data is sent and received.

● RS485 communication indicator: it flashes when communicating with RS485 instrument.

● NET indicator light: on for 3 seconds and off for 1 second when the function is normal.

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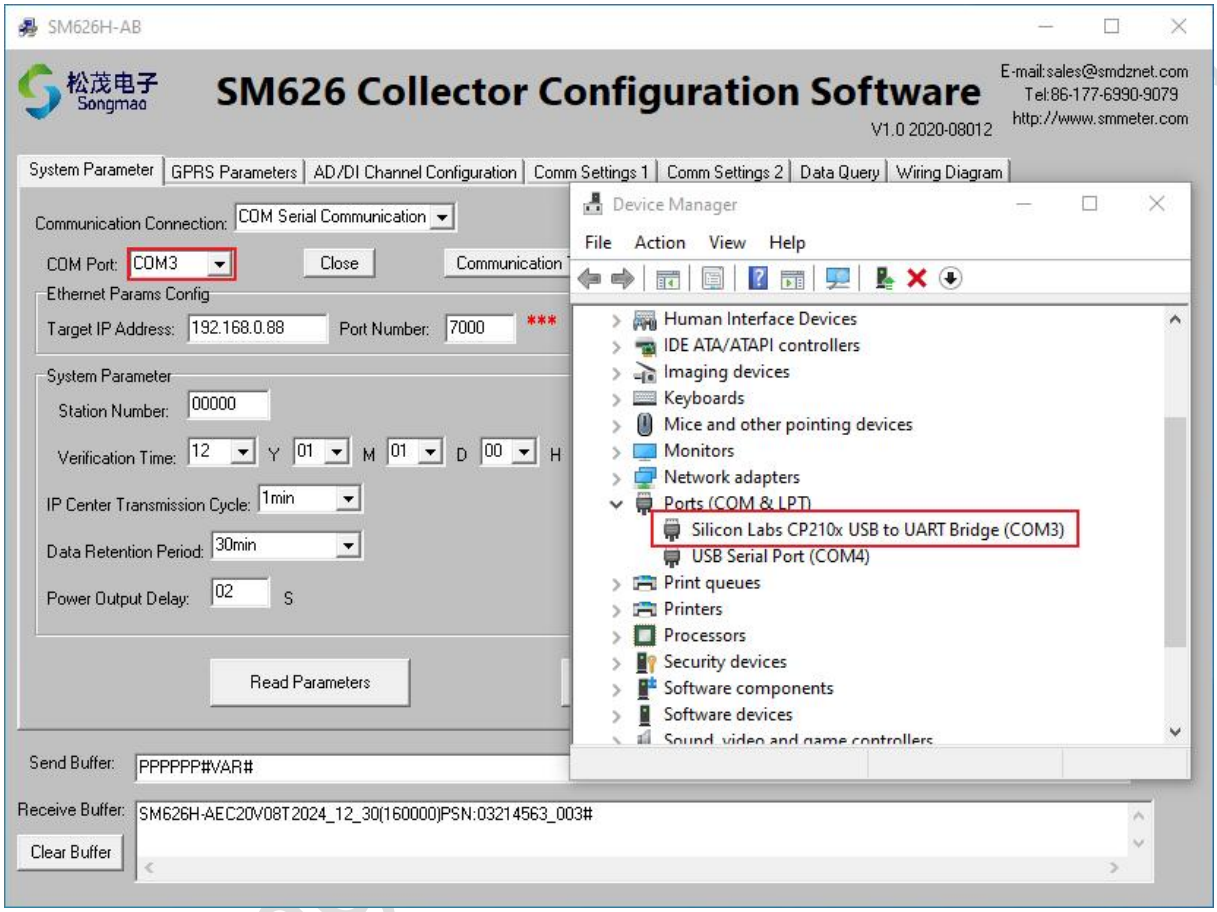
3. Function Introduction and Operation Steps of Configuration Software

3.1 Communication Connection

1) According to the introduction of the port in the above part, connect the power supply and antenna, insert the SIM card, and finally connect the USB serial port cable, and wait for the NET indicator to flash regularly to configure the parameters.

2) Open the configuration debugging software, and select the communication connection mode as "COM serial communication".

3) Connect the USB serial port cable, select the correct serial port number and open the serial port, click "Communication Test", query the version number of the collector in the "Receiving Buffer" below, and the connection is successful.



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3.2 System Parameter

This interface is used to set and query basic parameters such as site number, verification time, data sending cycle and data saving cycle.

1) Enter the "System Parameter" interface, click "Read Parameters", and read the station number, verification time, GPRS transmission cycle, data storage cycle and other information in the "Receiving Buffer" below.

2) Click "Parameter initialization" to restore the parameters of the collector to the factory initialization state.

3) System parameter setting

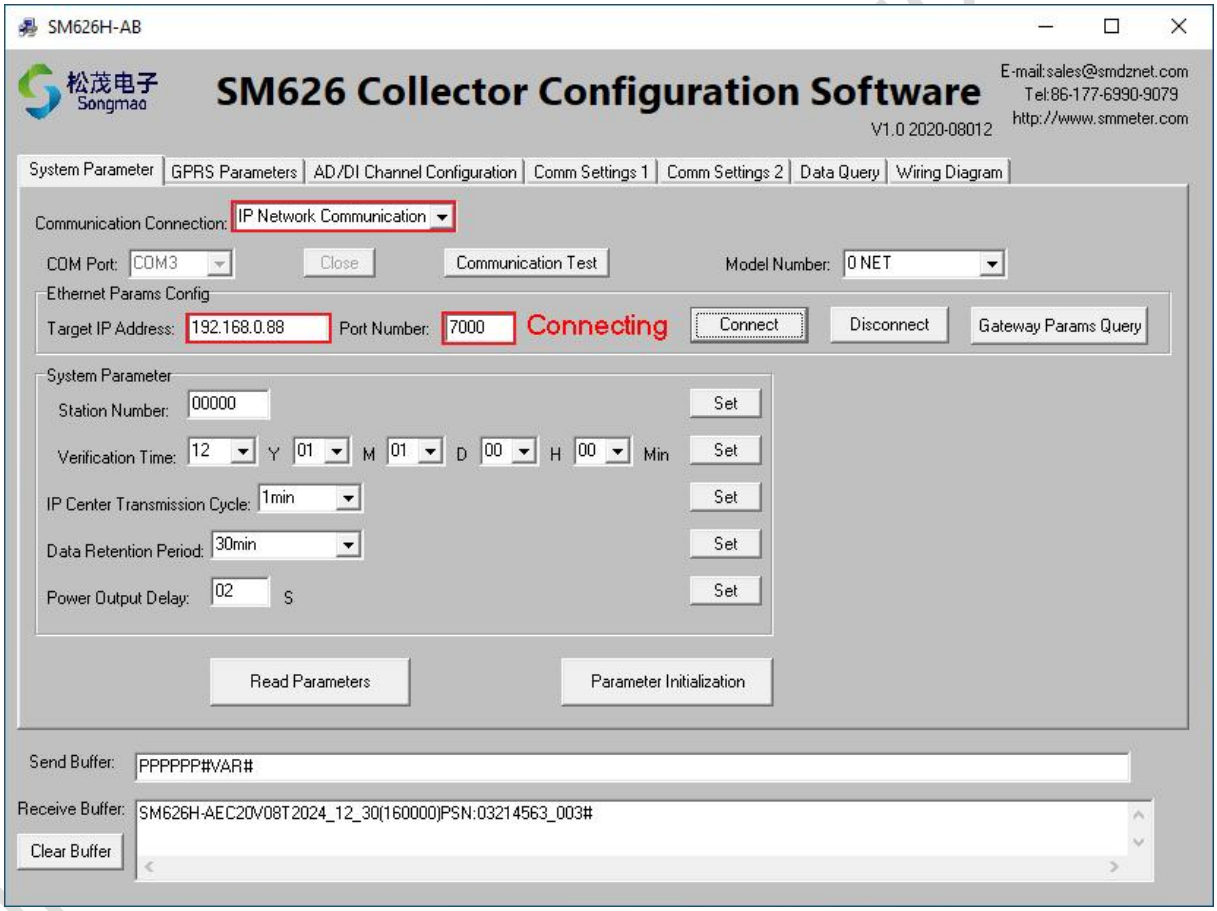
① Station number: Enter the 5-digit site number and click "Set".

② Verification time: input the time and click "Set".

③ IP center transmission cycle: the cycle for GPRS to send data to the center SEVER data server. Select the cycle time and click "Set".

④ Data retention period: it is the time period for saving data. Select the period time and click "Set".

⑤ Power output delay: set the delay time, and the power will be supplied in advance according to the time before the collector sends data.



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3.3 GPRS Parameters

1) Enter the "GPRS Parameters" interface, click "Read Parameters", and read the IP address, module status, signal strength and other information in the "Receive Buffer" below.

2) GPRS parameter setting: input the IP address of the host to be used and the correct port number, select TCP or UDP as the data transmission mode of the collector, enable GPRS, and finally save the set parameters one by one.

(Note: The parameters must be saved in the following order: transmission mode TCP/UDP → port number → IP address or domain name)

Note: GSM module operating state ER: 11111.

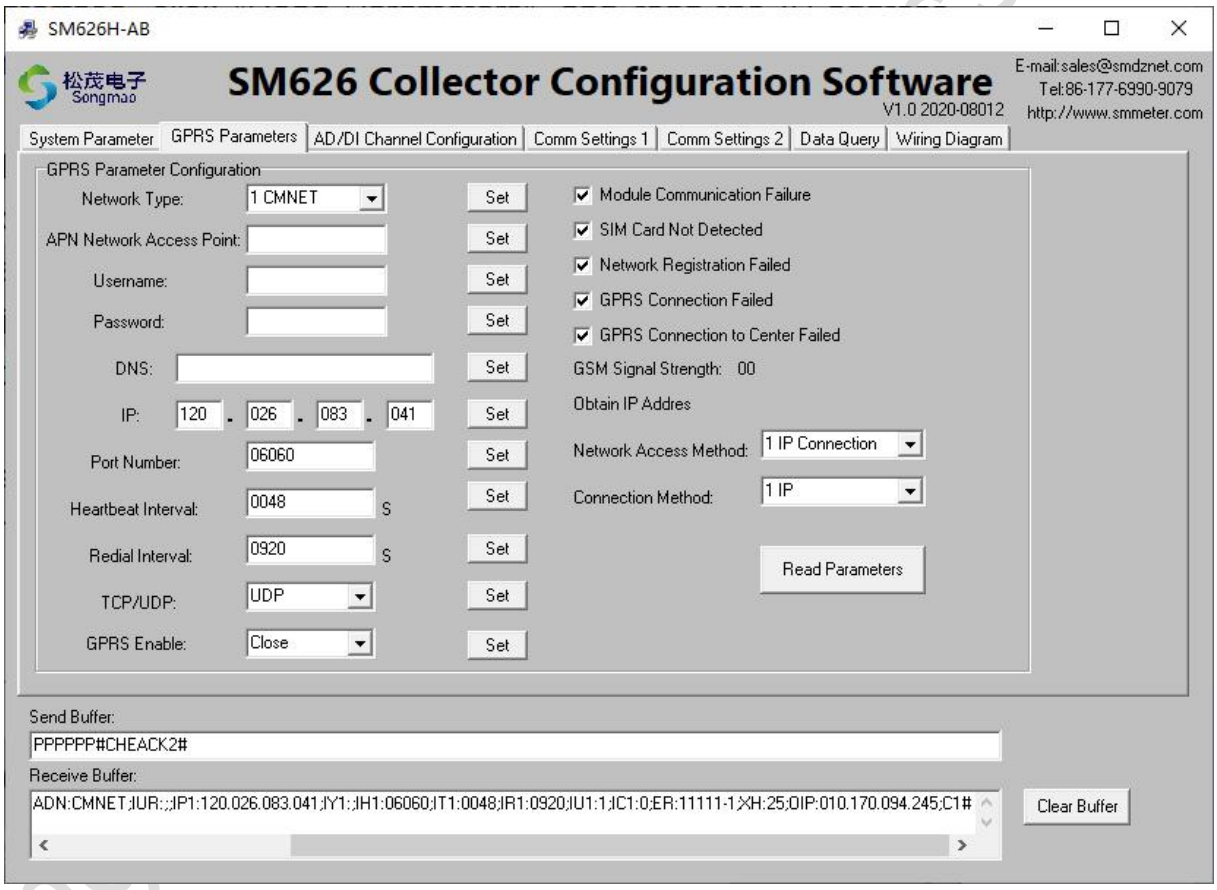
The first 1 indicates that the module cannot communicate

The second 1 indicates that the module cannot find the SIM card

The third 1 indicates that the module cannot register with the network

The fourth 1 indicates that the module cannot connect to the Internet

The fifth 1 indicates that the module fails to connect to the IP center



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3.4 AD/DI Channel Configuration

1) Enter the "AD/DI channel configuration" interface and click "Read parameters" to read the parameter information on this interface.

2) AD channel configuration: the user selects the corresponding acquisition channel according to the mode and type of data analog display. The options of acquisition channel "Analog AD acquisition AIN1 ~ AIN4" respectively correspond to the signals acquired by the collector port AD1 ~ AD4, and "Direct read RS485 channel MAD3 ~ MAD6" respectively correspond to MAD3 ~ MAD6 in the "Communication interface setting" interface.

3) PU channel display configuration: the user selects the corresponding cumulative channel as required. "IN1 ~ IN3 Channel Pulse totailzer" of the selectable acquisition channels respectively correspond to the signals acquired by the collector ports IN1 ~ IN3, and "RS485 Direct Read totailzer 1 (MPU3) ~ MPU7" respectively correspond to MPU3 ~ MPU7 in the "Communication Interface Settings" interface.

4) Analog range configuration: configure the upper range limit, lower range limit and starting point respectively according to the analog quantity accessed by the collector. Wherein, the analog quantities AIN1 to AIN4 correspond to the signals collected by the collector ports AD1 to AD4 in turn.

5) Digital input configuration: configure the switch type for the switching value. The switch type includes switching value and pulse count. Wherein the switching values DIN1 and DIN2 correspond to the signals acquired by the collector ports IN1 and IN2 in turn.

6) Pulse base value configuration: The counting floor can be configured for the accumulative amount, in which the accumulative amount PIN1 and PIN2 respectively correspond to the pulse signals collected by the collector ports IN1 and IN2.

7) Pulse equivalent: select the pulse equivalent value according to the parameters represented by a single pulse signal, and click "Set".

8) Click the corresponding "Set" button in turn. If there is Set success! In the data received in the data receiving buffer, it means that the setting is successful.

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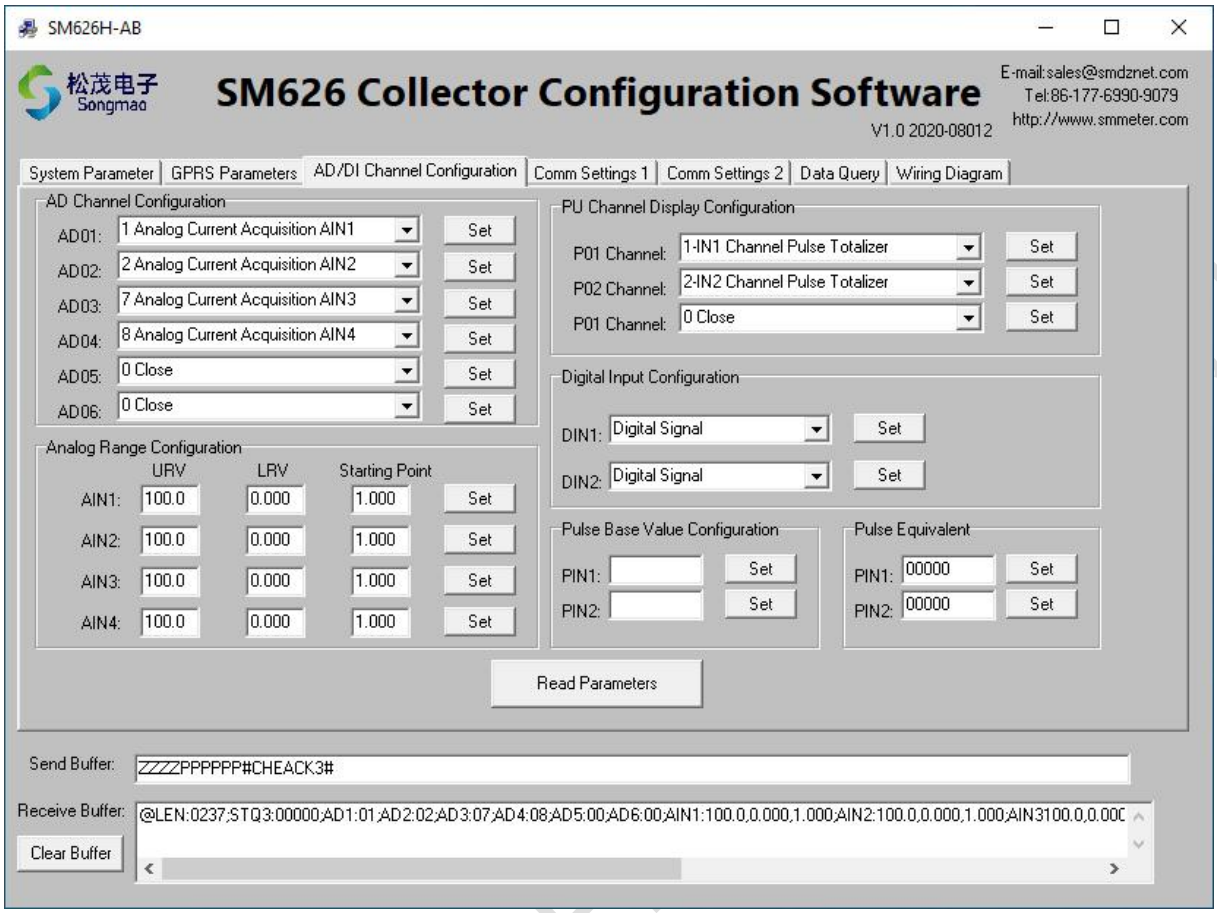

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3.5 Communication Setting 1

1) Enter the "Communication Settings" interface and click "Read Parameters" to read the parameter information on this interface.

2) Command 1 ~ 2

① Enable: Close-the collector does not send the instruction;

Enable-the collector sends the instruction;

Trigger mode-the collector sends the command twice in succession.

② Command: View the instrument protocol, and input the command code sent when reading the instrument data according to the instrument data to be read.

③ Response data parsing: Byte1 ~ 3 of the header are judgment bytes. When the first 3 bytes of the returned data information are consistent with Byte1 ~ 3 of the header respectively, the data information is considered to be valid, and the collector will further analyze the data. When Byte1 to Byte3 of the packet header are 00, it indicates that the returned data information is not judged, and all the data information is correct by default.

3) Communication parameters: select the corresponding instruction number according to the instrument data to be read, and then input the start address, data length and coefficient of the read data respectively, and select the data analysis type at the same time.

① Command: the collector sends instructions to the connected RS485 instrument according to the selected instruction number. Check the instrument protocol, and select the command number corresponding to the command code according to the instrument data to be analyzed.

② Address: get the start address of the data. When the collector communicates with the RS485 instrument, the collector sends the instruction corresponding to the instruction number to the instrument, and the instrument returns the data information code after receiving the instruction request. The client intercepts a valid data code for the returned data information code. The data information code starts counting from 0 byte, and the valid data to be intercepted is the Nth byte, so the start address is set to N. For example:

Send Command: 01 03 00 00 00 02 C4 0B

Return command: 01 03 04 7A E1 42 B3 C2 08

7A E1 42 B3 is the valid data code to be intercepted, counting from 0. The code starts from the third byte, so the starting address should be set to 003.

③ Length: take the data length of the data. For example, 7A E1 42 B3 is the valid data code to be intercepted. This code is 4 bytes in total, so the data length should be set to 4.

④ Data format: the resolution format of the read data. The data format includes floating point, integer, BCD code, character string, double floating point number and other data formats. The user selects the corresponding analytical format according to the data format in the MODBUS protocol of RS485 instrument.

⑤ Coefficient: When the coefficient processing is to be performed on the parsed data, it can be completed by setting the coefficient.

4) RS485A instrument: configure the baud rate, stop bit, parity and RTS pin delay time during communication according to the connected instrument, and select the corresponding direct reading meter type.

5) Click the corresponding "Set" button in turn. If there is Set success! In the data received in the receiving buffer, it means that the setting is successful.

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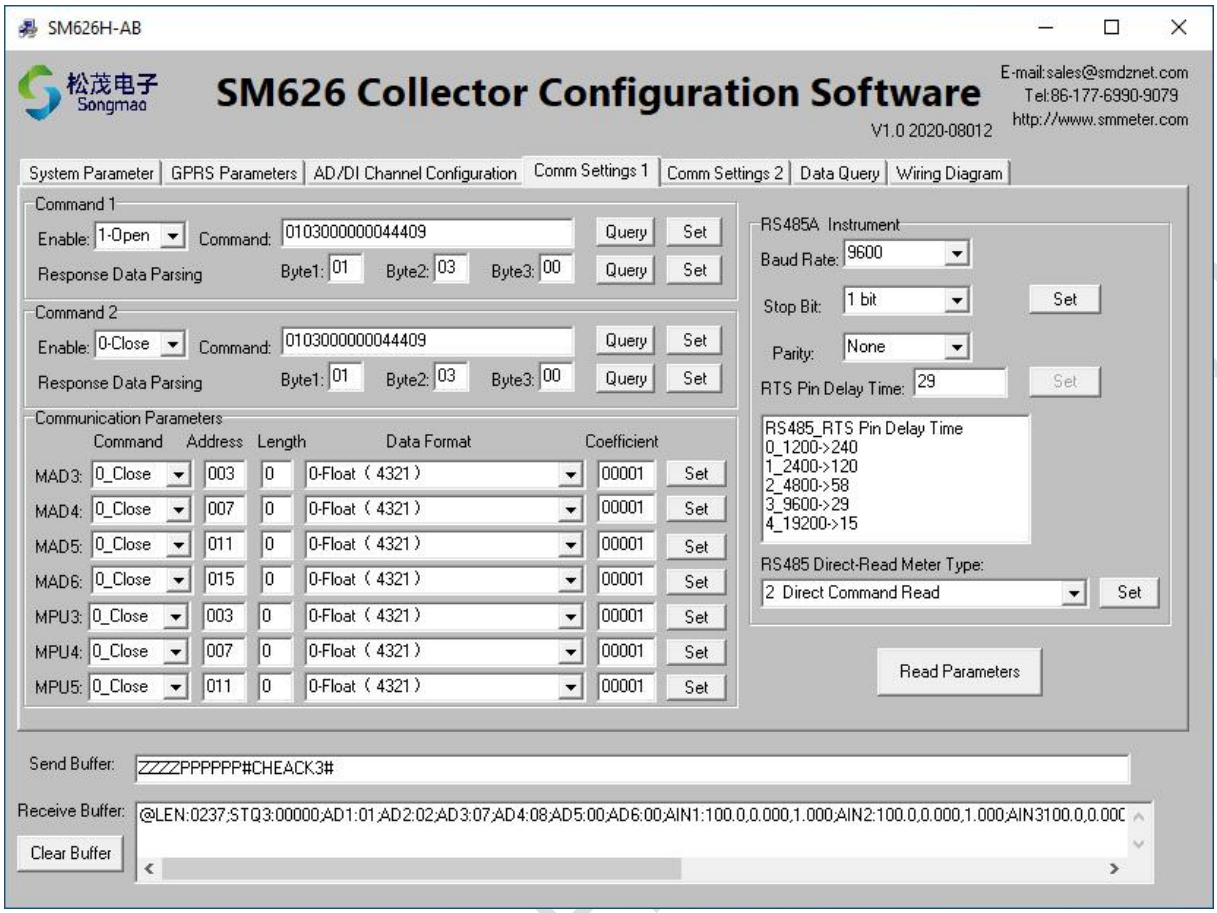

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3.6 Communication Setting 2

1) Enter the "Communication setting 2" interface and click "Query" to read the parameter information on this interface.

2) Instruction 3/4

① Enable: Close-the collector does not send the instruction;

Enable-the collector sends the instruction;

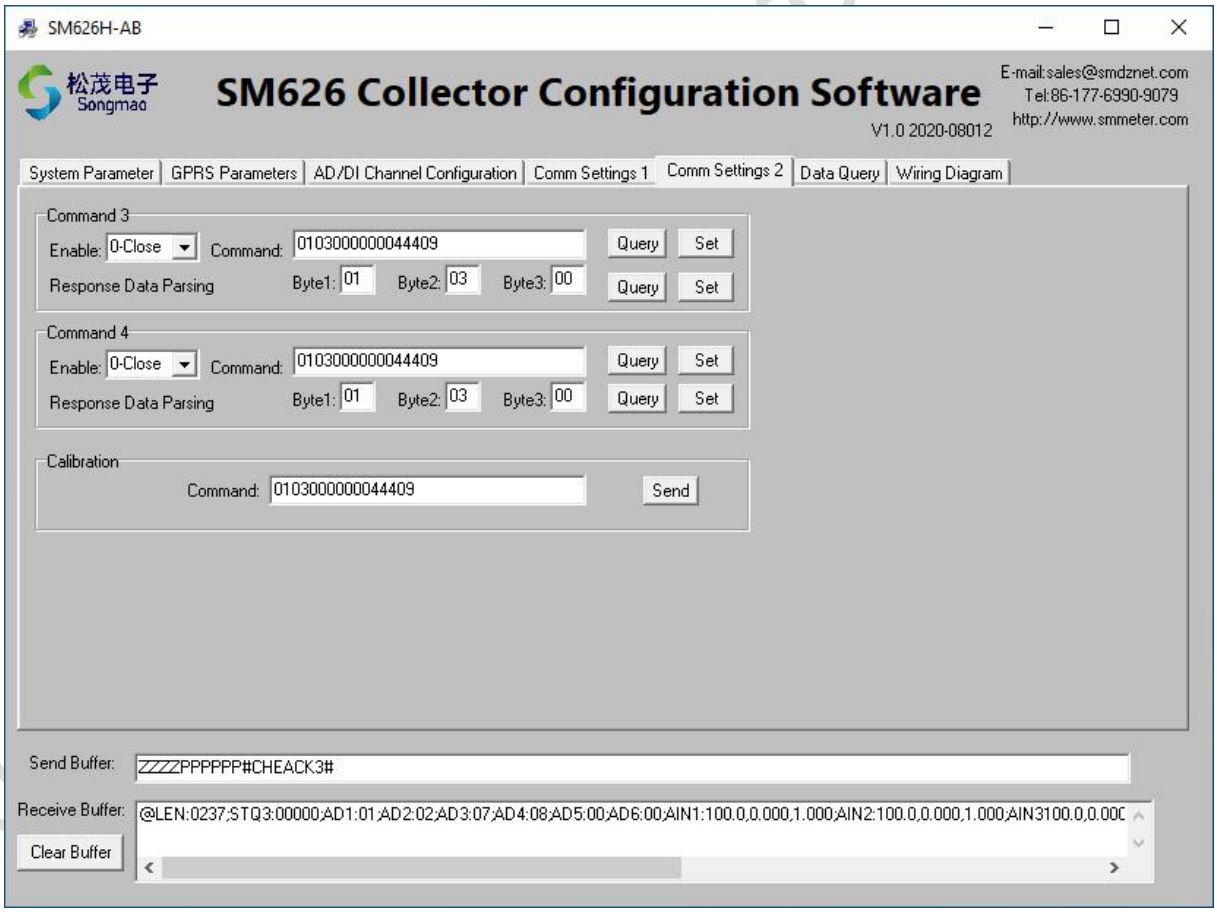
Trigger mode-the collector sends the command twice in succession.

② Command: View the instrument protocol, and input the command code sent when reading the instrument data according to the instrument data to be read.

③ Response data parsing: Byte1 ~ 3 of the header are judgment bytes. When the first 3 bytes of the returned data information are consistent with Byte1 ~ 3 of the header respectively, the data information is considered to be valid, and the collector will further analyze the data. When Byte1 to Byte3 of the packet header are 00, it indicates that the returned data information is not judged, and all the data information is correct by default.

3) Calibration: When the internal parameters of the RS485 instrument to be accessed are to be modified, the command code for modifying the parameters can be input, and then click "Send" to send the command to the RS485 instrument to modify the internal parameters.

4) Click the corresponding "Set" button in turn. If there is Set success! In the data received in the receiving buffer, it means that the setting is successful.



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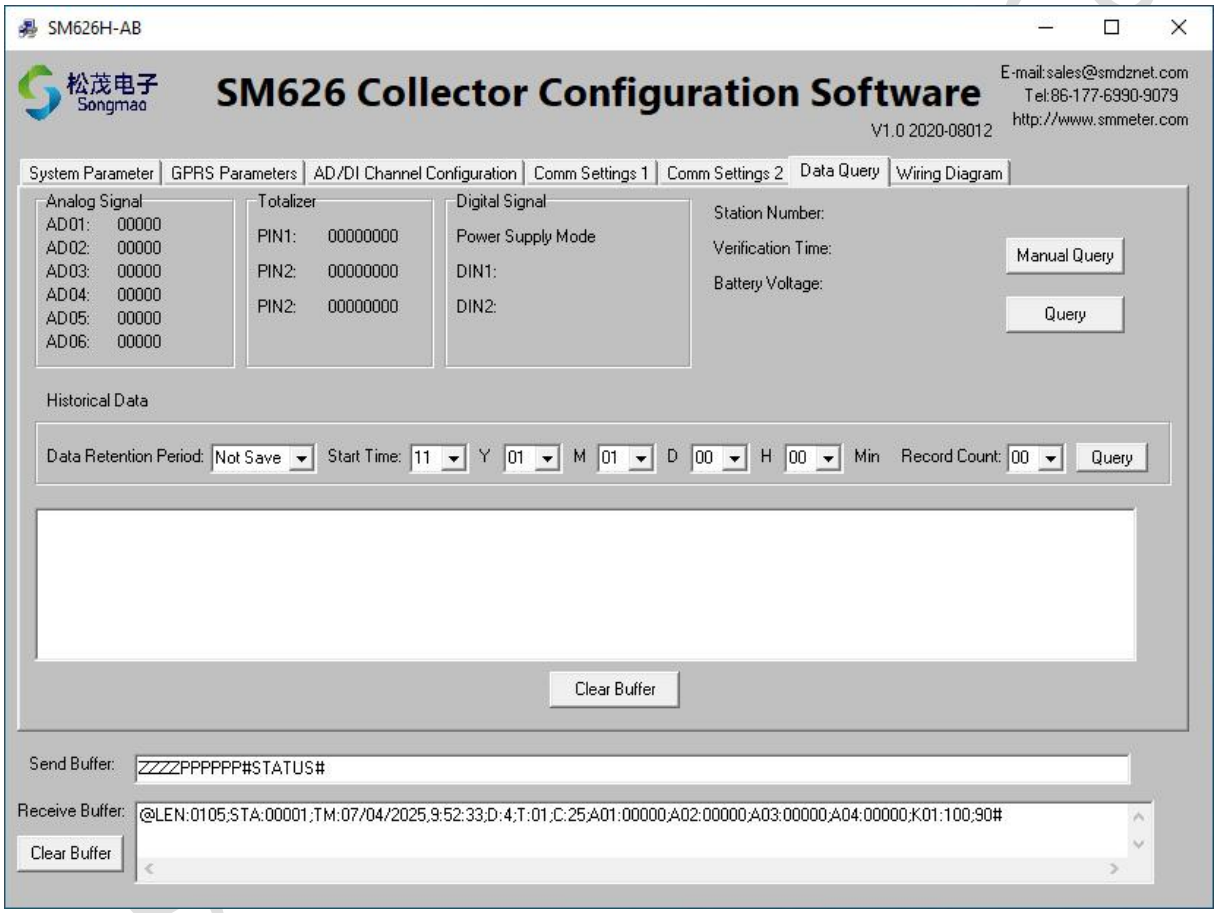
3.7 Data Query

1) Manually query: the collected data information can be read. The current analog quantity AD01 ~ AD06 corresponds to the acquisition channel configuration of AD01 ~ AD06 in the "AD/DI Channel Configuration" interface. The accumulative amount PIN1 ~ PIN5 respectively corresponds to the channel configuration of P01 ~ P05 in the "AD/DI Channel Configuration" interface. Switch input status DIN1 ~ DIN2 respectively corresponds to port DIN1 ~ DIN2 of the collector.

2) Query: it can query the mobile equipment identification code (IMEI), international mobile subscriber identification code (IMSI) and card identification code (CCID) of the equipment.

3) Historical data: Set the verification time and data storage period in the "System Parameter " interface, and then fill in the data storage period, starting time and number of entries in the "Data Query" interface, and click "Query" to query the historical data from the starting time to the current time.



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4. Service and Warranty

1. This product is guaranteed for three years under normal use conditions.
2. During the warranty period, our company will provide you with warranty service for any failure caused by product technology.
3. The following circumstances are not within the scope of free warranty:
   ① Products that are disassembled and repaired without the consent of the Company;
   ② Damage caused by external force and other natural disasters.
4. If the user thinks that the product of our company needs to be repaired, please call our company to contact us in time, and we will repair and send it back as soon as possible.
5. The warranty liability is limited to the fault maintenance of the product during the warranty period, and does not assume other responsibilities.

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