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**SM100-C (III)**  
**HART-USB MODEM**  
**USER MANUAL**

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# 1 SM100-C (III) Introduction

## 1.1 Product Introduction

The SM100 - C is a HART intelligent communicator designed by JIAXING SONGMAO and complied with the industrial standard. It communicates with any manufacturer of HART instruments, such as Rosemount, E + H, Siemens, Cologne, Yokogawa, SIC etc. The appearance is complied with integrated design, enabling to install and carry portably. The communicator is compatible with a standard USB interface and serial bus power supply to ensure the convenience and quickness.

Since the SM100 - C intelligent communicator is specially designed for industrial product integration, its design specialized in the temperature range, vibration, electromagnetic compatibility and interface diversity etc.. The SM100 - C ensures the stable and high efficient operation in the bad environment and makes it ideal for high quality with the device.

## 1.2 Product Specifications

- Supports Operation System Windows XP, Windows7, Windows10
- Compatible with USB V1.1, USB CDC V1.1 Standard
- Compatible with USB V2.0, USB CDC V2.0 Standard
- USB Bus Power Supply (Uninsulated Cables) , DC 5V DC 30mA
- Standard HART Protocol Transmission
- Transparent Data Transfer
- Compatible with HART Protocol

## 1.3 Product Features

- Built-In Isolated DC 24V Output. Provide Power Supply and Communication to Two-Wire Channel Instrument, to Maximize the Reduction of Wiring.
- HART Signal Transfer with Isolation Transformer
- Built-In High Precision 250Ω Resistance. No need to add resistance if communication test.
- Provides Switch to Transfer with WIFI Connection
- LED Panel to Monitor the Operation Status

## 1.4 Main Parameters

- Physical Dimensions (L × W × H) : 71mm × 52 mm × 22 mm.
- Operation Ambient Temperature : -20℃~+80℃
- Relative Humidity: 10% ~ 80%

# 2 SM100-C (III) Diagram and LED Functions

## 2.1 Diagram

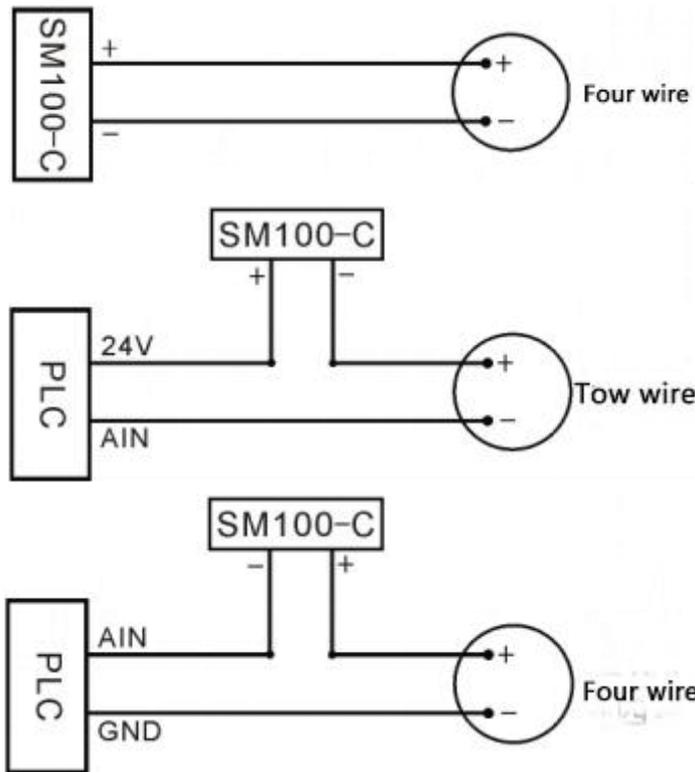


## 2.2 Connection Diagram

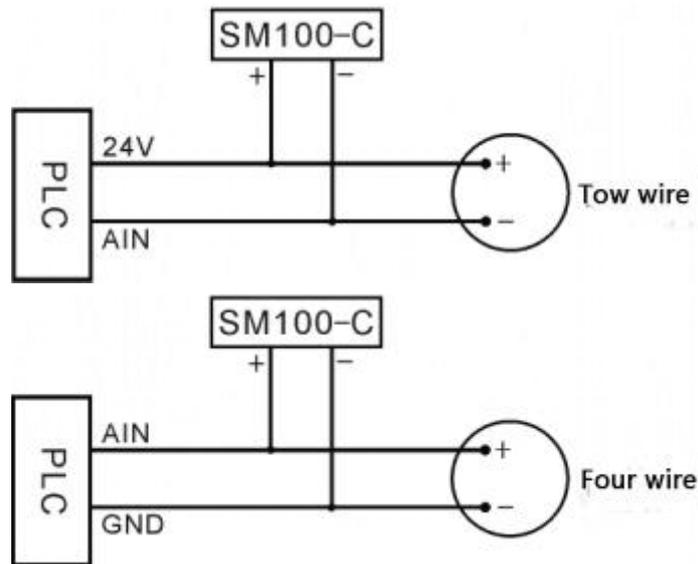
- Communication cable: Black USB cable (48cm), using for communication between SM100-C and PC, and provide power supply to SM100-C.
- Test cable: Red and black cables, using for connection between SM100-C and HART instruments.
- Serial port change-over switch: Two serial port conversion modes: USB and WIFI.
  - Switch to USB to enable the communication between communication cable and PC. The communication cable is connected with PC.
  - Switch to WIFI to enable the communication between virtual serial port and PC. The communication cable is connected with the charger.
- HART change-over switch: Three HART conversion modes: 250Ω, NO, 24V/250Ω.
  - Switch to 250Ω to instruct the working status with built-in 250Ω resistance.
  - Switch to NO to instruct the working status without built-in 24V or 250Ω resistance.
  - Switch to 24V/250Ω to instruct the working status with built-in 24V and 250Ω resistance.

You can switch the change-over switch to the proper position according to the physical condition, then start the connection.

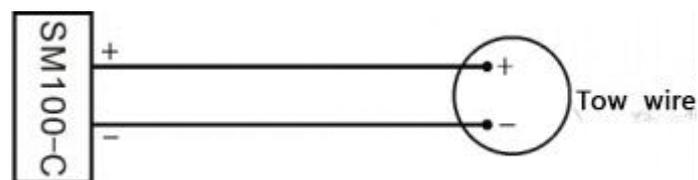
### 1. With Built-In 250Ω Resistance



2. Without Built-In 24V or 250Ω Resistance



3. With Built-In 24V and 250Ω Resistance



## 2.3 LED Indications

- POW Power LED: Constant lighting when normal communication
- TXD Communication LED: Blinking when data transfers
- RXD Communication LED: Blinking when data receives

# 3 Configuration Software Functions and Operation

## 3.1 Communicating Connection

### 1) Connecting to HART instrument

Please take the wiring diagram 2.2 for reference. According to the HART instrument, you can turn the HART change-over switch to the proper position, then connect the Test cable to the HART instrument.

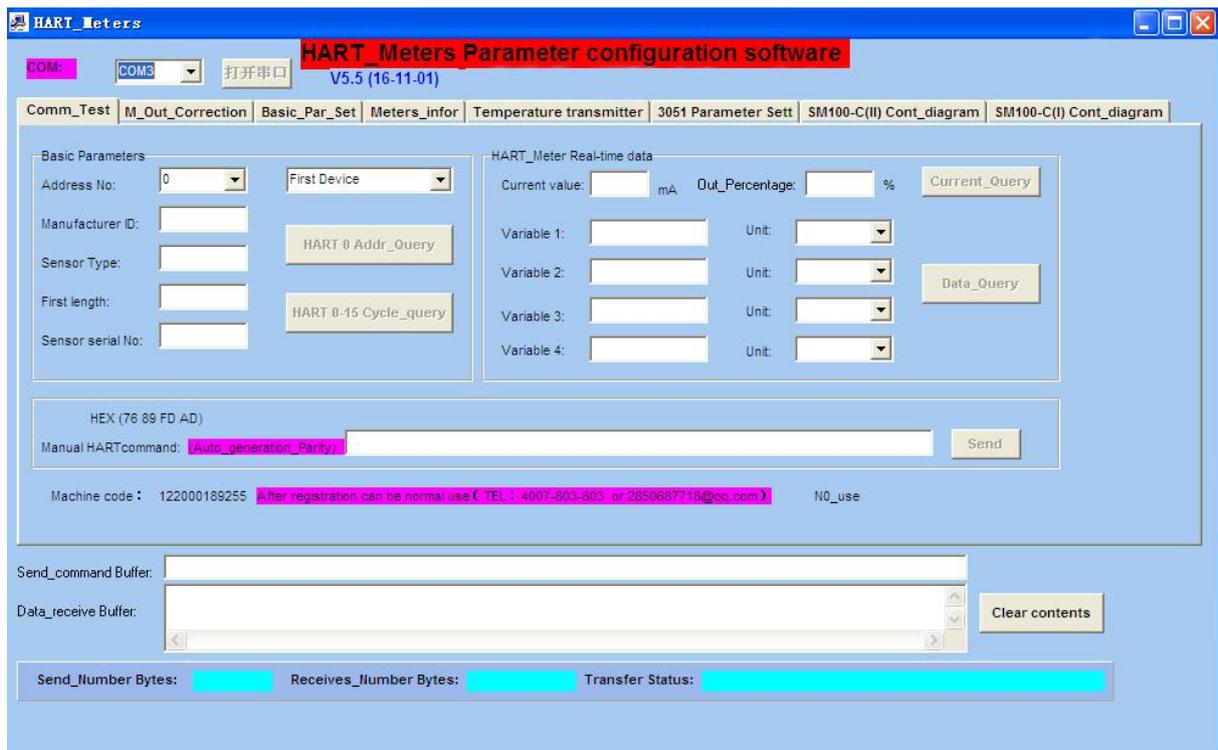
### 2) Connecting to Serial port

Please take the wiring diagram 2.2 for reference. According to the physical condition, you can turn the Serial port change-over switch to the proper position, then connect the Communication cable.

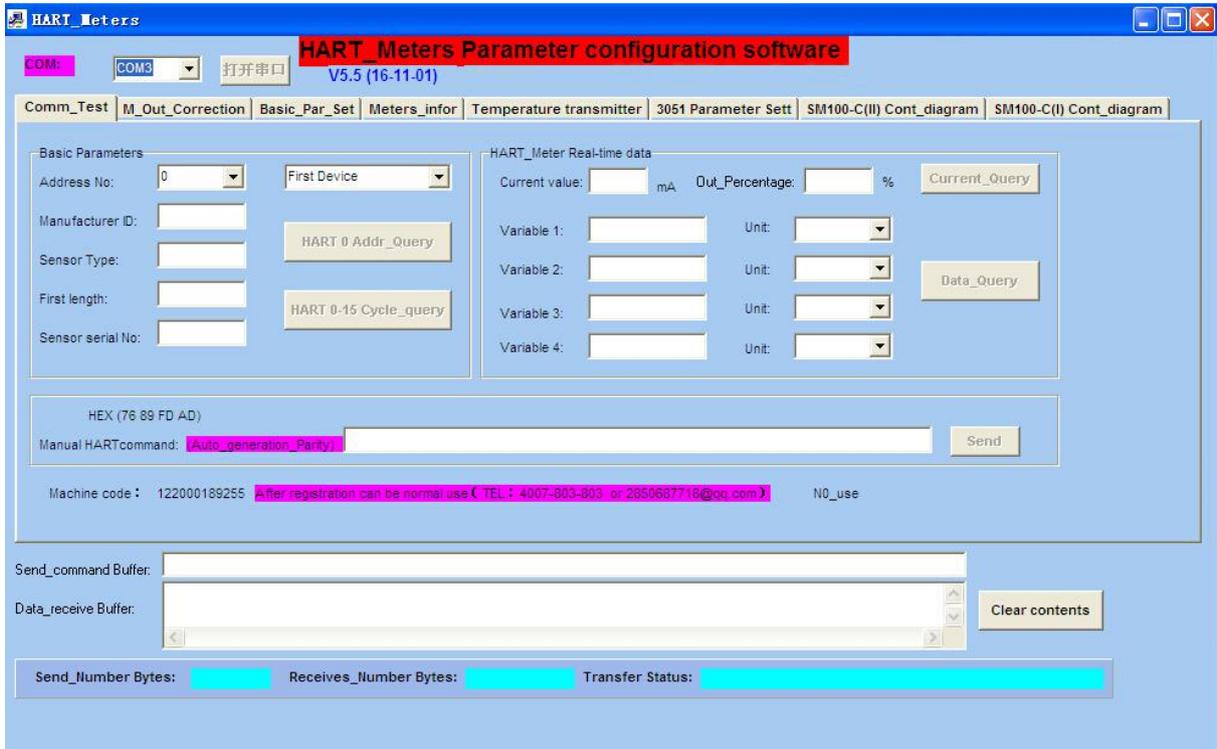
a. USB Serial Port: Connect the USB communication cable to the computer. Right-click **Computer**, then choose **Property-Device Manager** to view the **Serial Number**.

b. WIFI Virtual Serial Port: Please refer to section of 4. **WIFI Virtual Serial Port Creation** to create **Virtual Serial Number**.

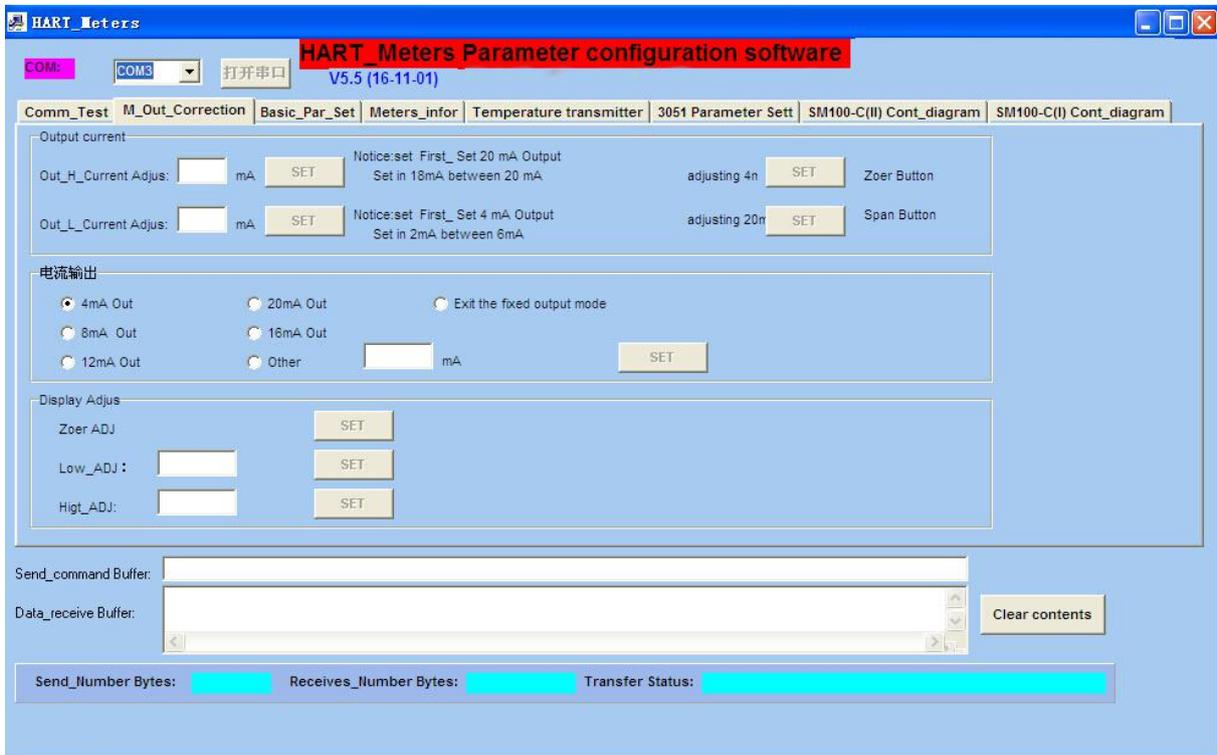
### 3) Turn on the configuration and debugging software. According to the serial number, select the correct serial number and open the serial port.



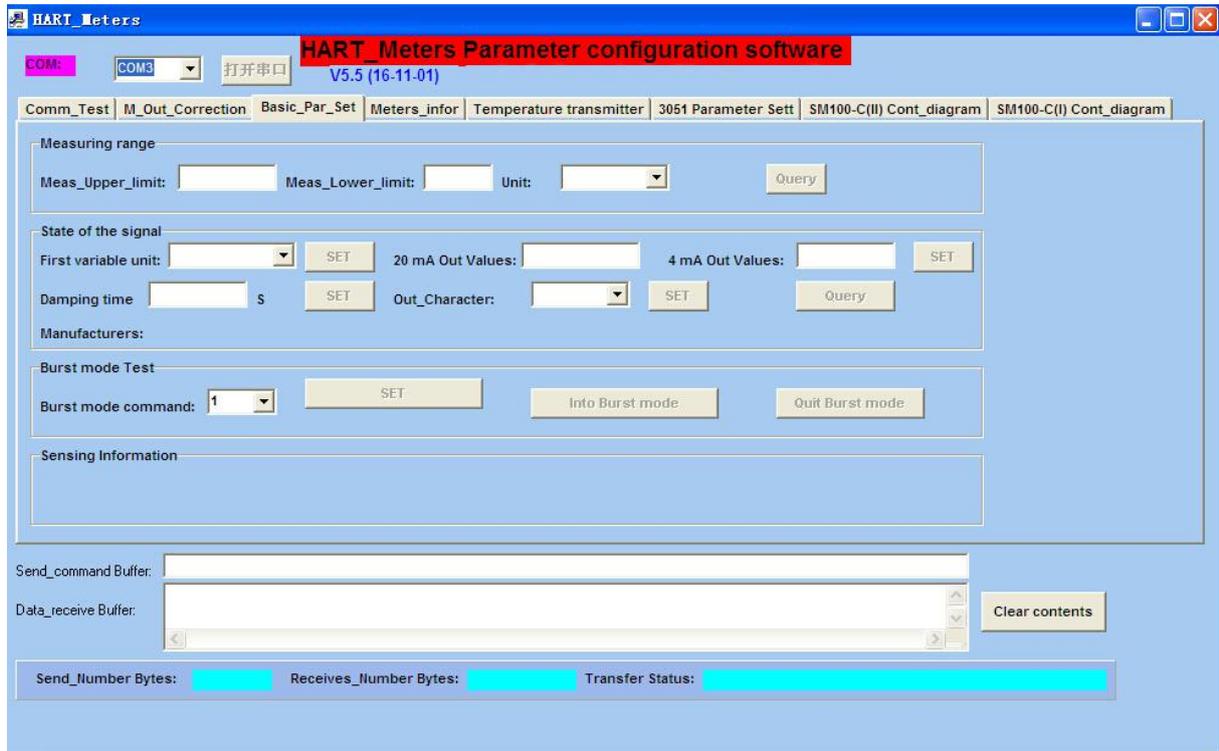
### 3.2 Online Test



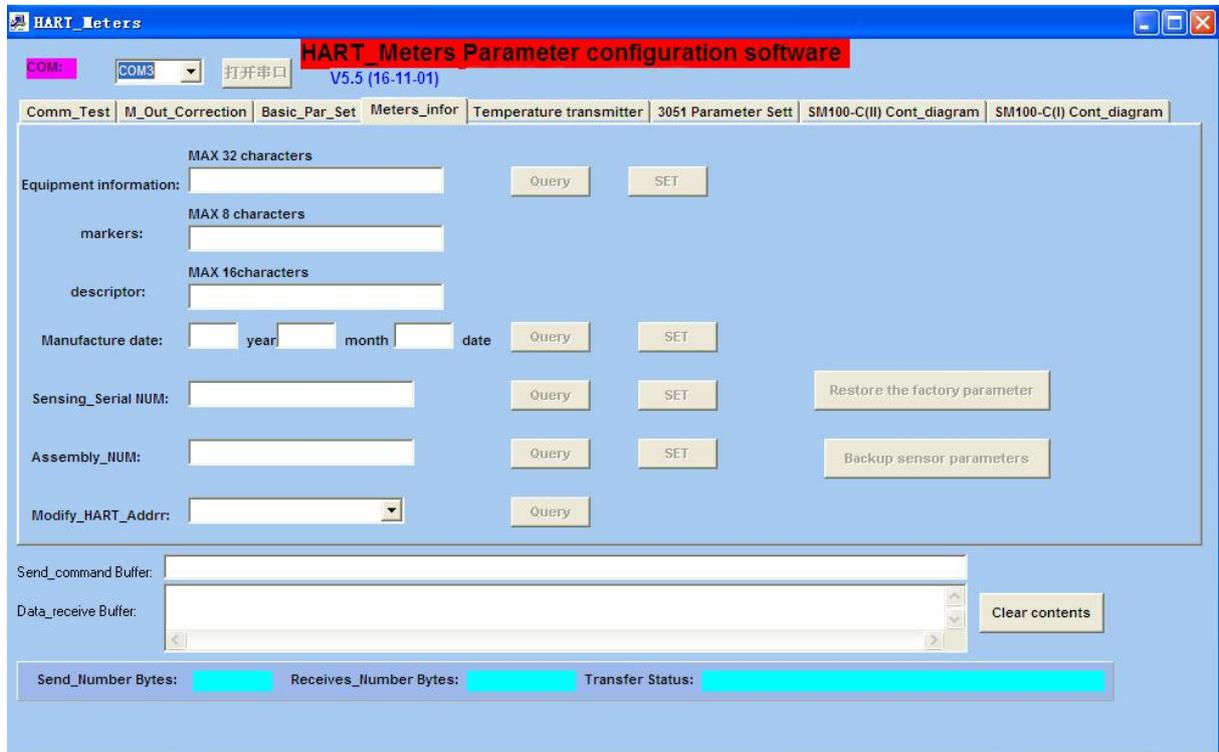
### 3.3 Instrument IO Correction



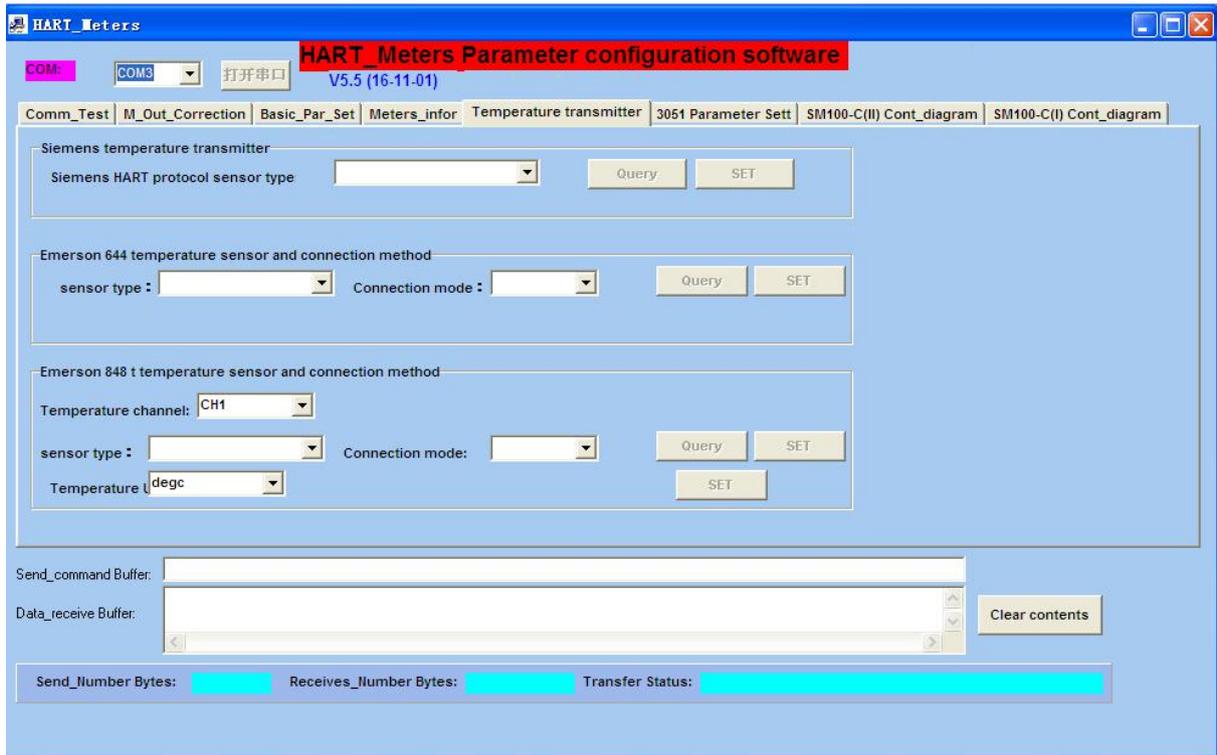
### 3.4 Basic Parameters Configuration of Instrument



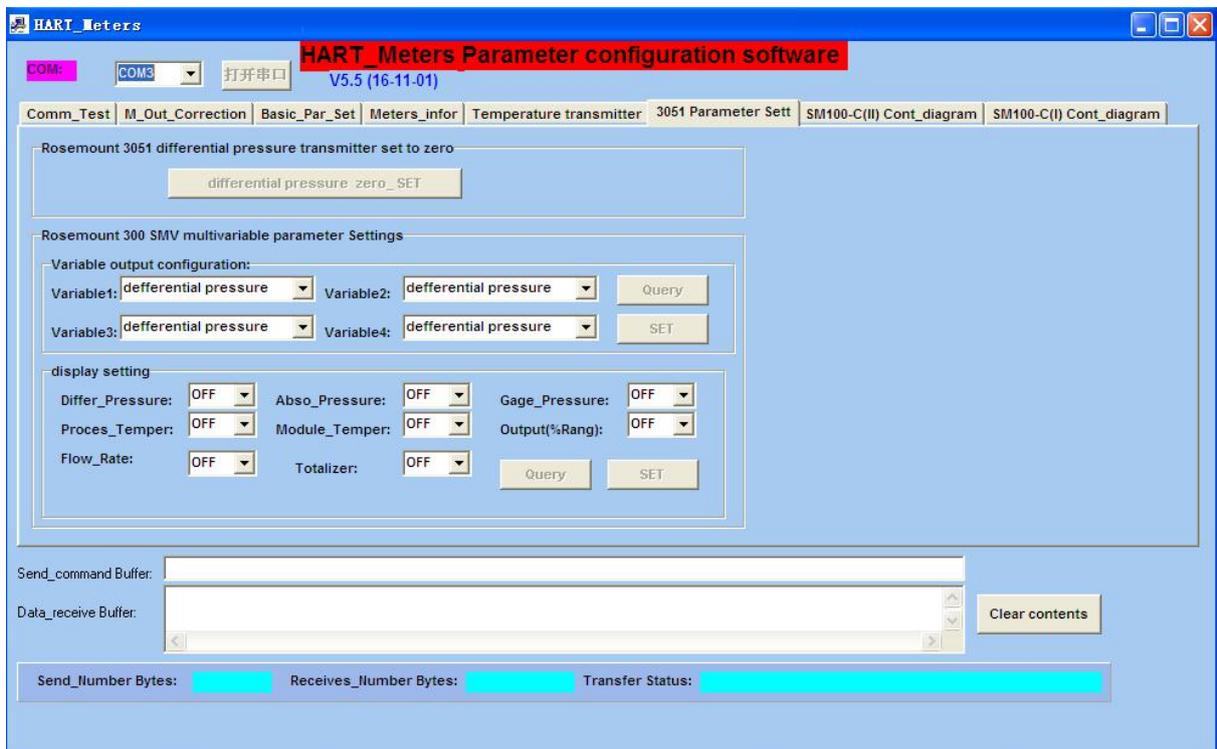
### 3.5 Basic Information of Instrument



### 3.6 Parameters Configuration of Temperature Transmitter



### 3.7 Differential Pressure and Multivariable Transmitter



# 4 WIFI Virtual Serial Port Creation

## 4.1 Cable Connection

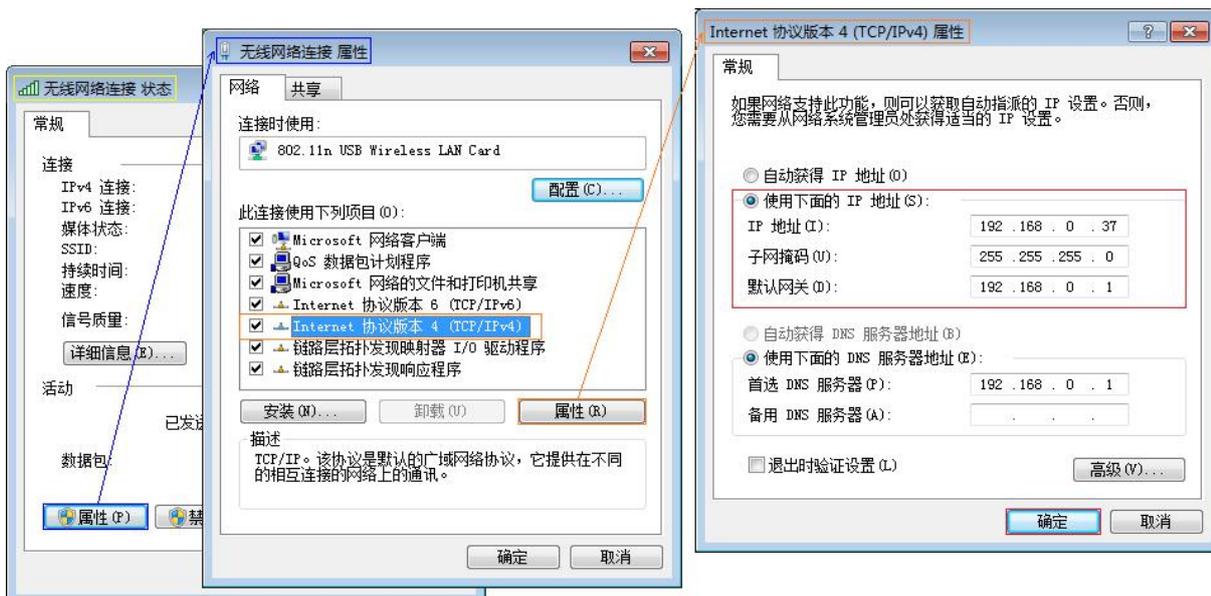
You can switch the serial port to WIFI virtual serial port connector, and then connect USB cable with the charger to supply power.

## 4.2 Wireless Hotspot Connection

1) Search for the wireless network, and choose the wireless hotspot SM100 - C, then click **Connect**.

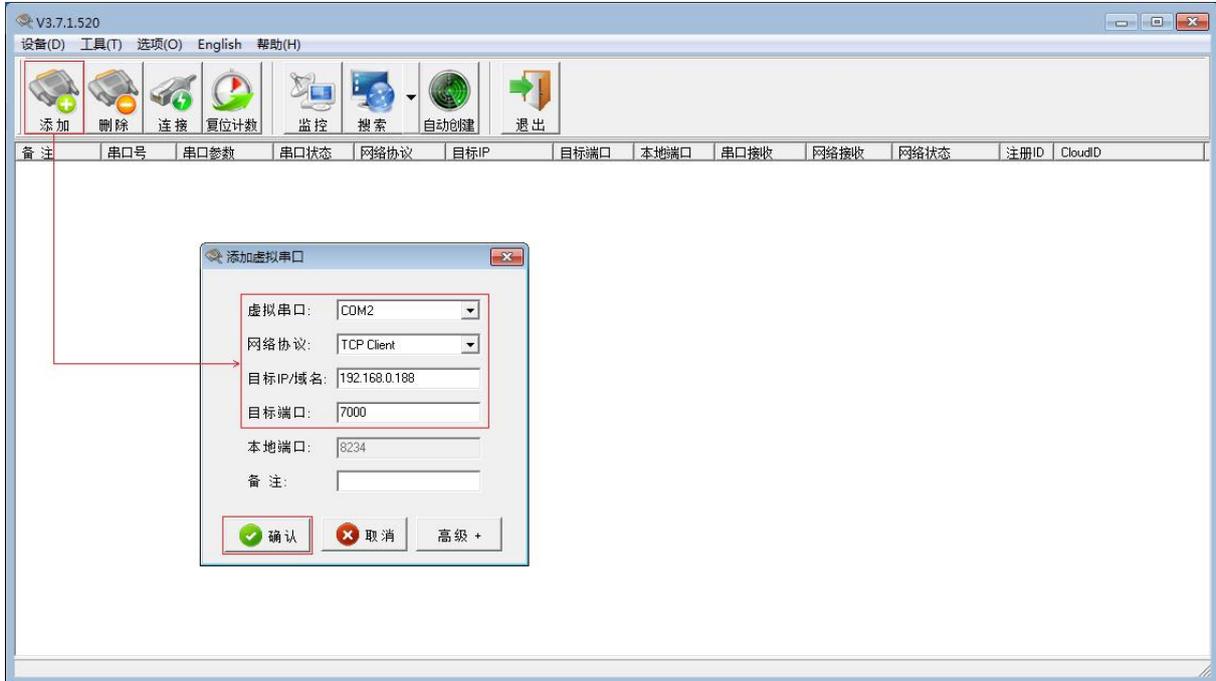


2) Configure the IP address for the wireless hotspot and modify it to the same network segment 192.168.0.#.



## 4.3 Virtual Serial Port Creation

You can start the virtual serial port configuration software, and click **Add**, and tap in the information of virtual serial port configuration in the pop-up window, then click **OK** to accomplish the creation for the virtual serial port. The serial port information would be displayed in the main window.



# 5 Service and Warranty Information

1. The warranty period for the product is 36 months with normal operation conditions from the date of purchase by end-customers.
2. The company warrants the Product to be free from defects in workmanship and technology for the Warranty Period.
3. This Free Warranty does not include such as but not limited to:
  - a. The Product has been tampered with, repaired and/or modified without the permission from the company;
  - b. Damage to the Product caused by external force and other natural disaster.
4. When the warranty service is needed, please contact us with calling the service hotline. We would maintain the warranty service and deliver the product back as soon as possible.
5. This warranty liability limits to the warranty period for the breakdown maintenance of the product, and do not assume other responsibilities.