



RUNZE SV-06 Multiport Selector Valve User Guide

[Home](#) » [RUNZE](#) » RUNZE SV-06 Multiport Selector Valve User Guide 



SV-06 Multiport Selector Valve User Guide

Nanjing Runze Fluid Control Equipment Co.,Ltd is a high-tech enterprise who devote ourselves to research and develop high precision analytical ports such as syringe pumps, multiport valves, plastic fittings, peristaltic pumps, gastight syringes, customized dispensing systems that ploy an important role in medical analysis instruments, environmental on-line analyzers, industrial production line, laboratory and biological analyzers.

SV-06 Multiport Selector Valve



RS232 Debugging Tool Description

1.1RS232 Debugging Tool: MotorTester V0.6.exe

Since there is no RS232 communication interface on the computer now, you need to use a USB serial converter to

realize the communication. Select the com port of the computer from the serial drop-down box in Figure 1-1, and you can check which serial port the current device is connected to from the Device Manager of the computer. (As shown in Figure 1-1, several com ports may be displayed, and you need to test one by one to determine which com port can communicate.)

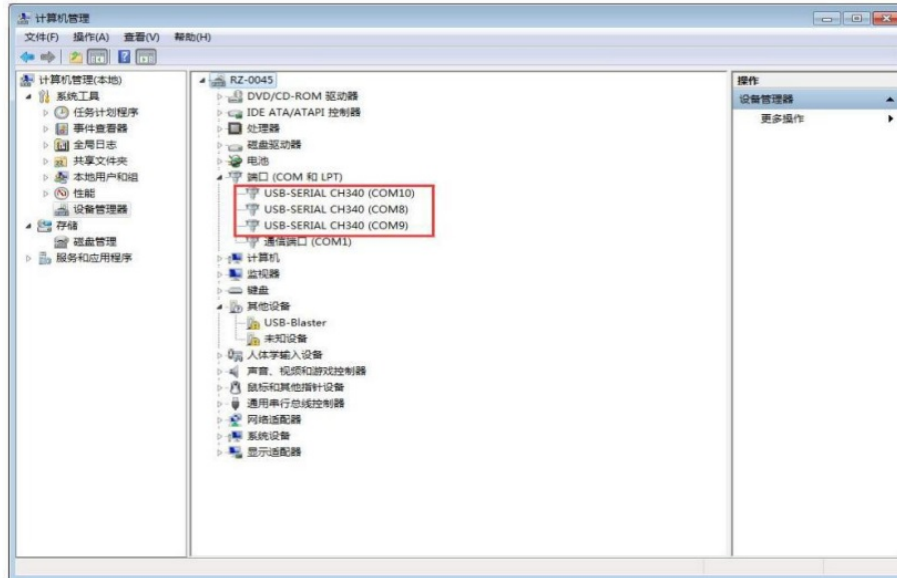


Figure 1-1

In Figure 1-2, the baud rate is the baud rate of the lower computer and the factory default value is 9600bps. After setting the serial port and baud rate, click the “Open” and input the address, command and parameter. The command corresponds to various command codes of B2, and the parameter corresponds to B3, B4. If it is a factory command, you need to tick the factory command box; if it is a common command, no need to tick it. After setting, click “Send” and the command display box on the right can display the code currently sent and the response code received.



Figure 1-2

The “Clear” button in the tool refers to clear the content of the command display box on the right, and “Restore Factory” is to restore all the settings of the injector valve to the factory default settings.

Note: The input of address, command and parameter box are all hexadecimal numbers.

1.2RS232 Communication Examples

①Send command: Set RS232 baud rate

B0	B1	B2	B3	B4	B5	B6	B7	B8	B9	B11	B12	B13
0xCC	0x00	0x01	0xFF	0xEE	0xBB	0xAA	0x04	0x00	0x00	0xDD	00	5

Response command

B0	B1	B2	B3	B4	B5	B6
0xCC	0x00	0x00	0x00	0x00	0xDD	0xA9

Because setting the RS232 baud rate is a factory command, check the “Factory Command” box, and the actual operation result is shown in Figure 1-3:



Figure 1-3

In the received command, B2=00, indicating that the switching valve is operating normally and the setting is successful.

②Send command: Query reset speed

B0	B1	B2	B3	B4	B5
0xCC	0x00	0x2b	0x00	0x00	0xDD

Response command:

B0	B1	B2	B3	B4	B5
0xCC	0x00	0x00	0XC8	0x00	0xDD

The query command is a common command, and the actual operation result is shown in Figure 1-4:



Figure 1-4

Note: The parameter bit in the response command is C8 00, because it is stored in little-endian mode, the low bit of data is stored in the low bit of the address, The hexadecimal 0x00C8 is converted into a decimal number as 200, so the reset speed is 200 revolutions per minute.

RS485 Debugging Tools Description

2.1RS485 Debugging Tool MotorTester V0.6.exe

S485 and RS232 communication share the same debugging tool, and the usage methods are the same, here no longer say. You can refer to the introduction of RS232 debugging tool. Here are a few examples.

①Send command: Query the current state of the motor

B0	B1	B2	B3	B4	B5
0xCC	0x00	0x4a	0x00	0x00	0xDD

Response command:

B0	B1	B2	B3	B4	B5
0xCC	0x00	0x00	0x00	0x00	0xDD

The actual operation result is shown in the Figure 2-1:



Figure 2-1

In the received command, B2=00, indicating that the switching valve is in normal state. ②Send command: 0x45

Reset

B0	B1	B2	B3	B4	B5
0xCC	0x00	0x4a	0x00	0x00	0xDD

Response command:

B0	B1	B2	B3	B4	B5
0xCC	0x00	0xFE	0x00	0x00	0xDD

The debugging result is shown in the Figure 2-2



Figure 2-2

③Send command: Multi-port valve to No.1 port position

B0	B1	B2	B3	B4	B5
0xCC	0x00	0x44	0x00	0x00	0xDD

Response command

B0	B1	B2	B3	B4	B5
0xCC	0x00	0xFE	0x00	0x00	0xDD

The debugging result is shown in the Figure 2-3



Figure 2-3

Note: B2=0xFE in the response command is normal, which means to execute the command

④Send command: 0x49 Stop forcibly

B0	B1	B2	B3	B4	B5
0xCC	0x00	0x49	0x00	0x00	0xDD

Response command:

B0	B1	B2	B3	B4	B5
0xCC	0x00	0x00	0x00	0x00	0xDD



Figure 2-4

Note: Send the reset operation command "0x45" after sending the "force stop" command

Contents

1 CAN Debugging Tools

Description

2 Documents / Resources

2.1 References

3 Related Posts

CAN Debugging Tools Description

3.1 CAN Debugging Tool: CANTest

The start interface is shown in Figure 3-1 and this manual uses the CANTest V2.23.exe version.

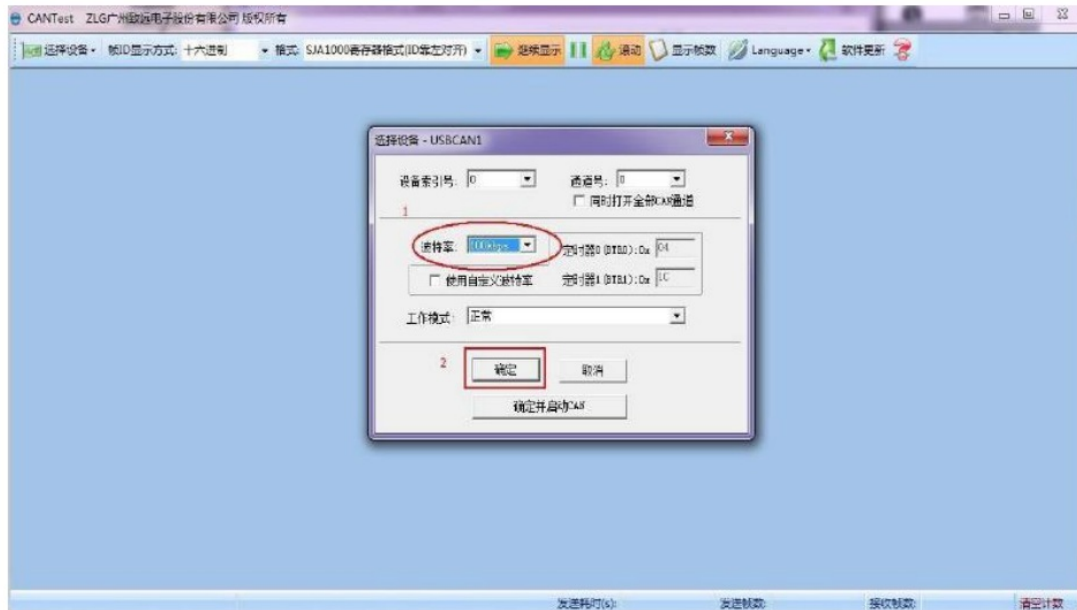


Figure 3-1

After opening the CAN debugging tool, there will be an interface as shown in Figure 3-1 above. Step 1, select the baud rate, and then click “OK” to enter the interface as shown in Figure 3-2 below.

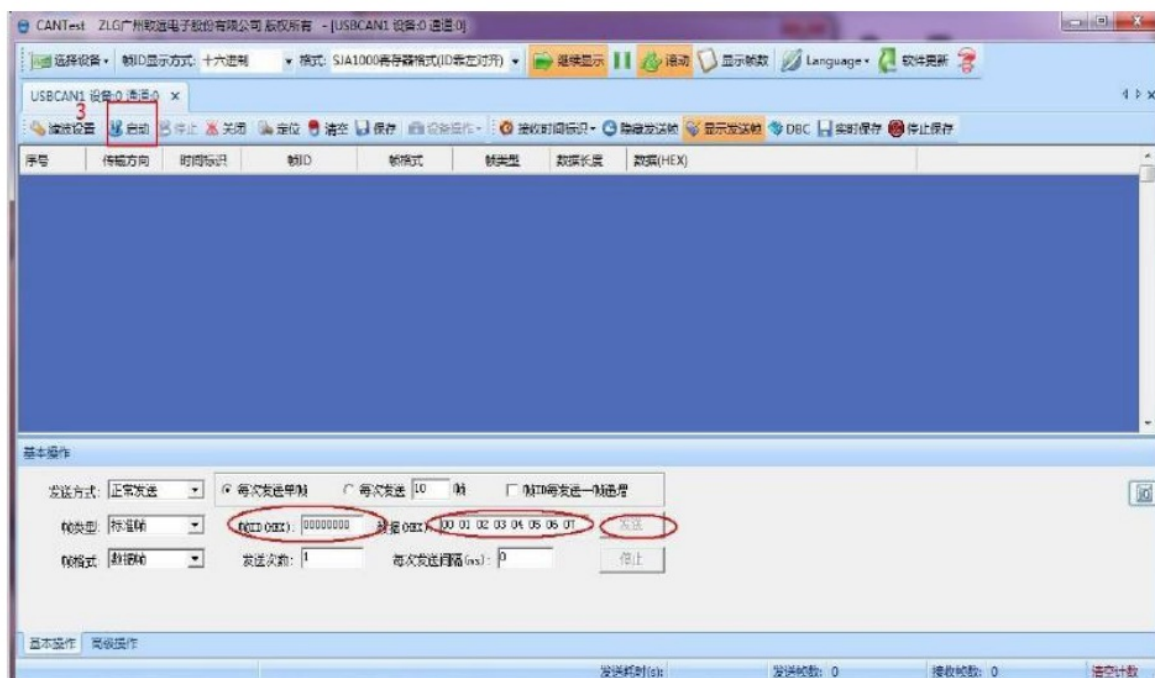


Figure 3-2

Step 3, after clicking “Start”, you can input the command to run, or you can click “Confirm and Start CAN” in the step 2 in Figure 3-1, so you don’t need to click “Start” again and you can directly input the command to run. Input the “Frame ID” (address) and “Data”, and then click “Send”. For example, input the command 0x4A to query the

motor status, as shown in Figure 3-3.



Figure 3-3

Figure 3-3 shows the commands sent and received in the middle. Other options when inputting the command, such as: sending mode, frame type, frame format, the number of transmissions, etc. generally use the default options and no need to be changed.

3.2CAN Communication Example

①Send command: 0x45 Reset

B0	B1	B2	B3	B4	B5
0xCC	0x00	0x45	0x00	0x00	0xDD

Response command:

B0	B1	B2	B3	B4	B5
0xCC	0x00	0x00	0x00	0x00	0xDD

The debugging result is shown in the Figure 3-4

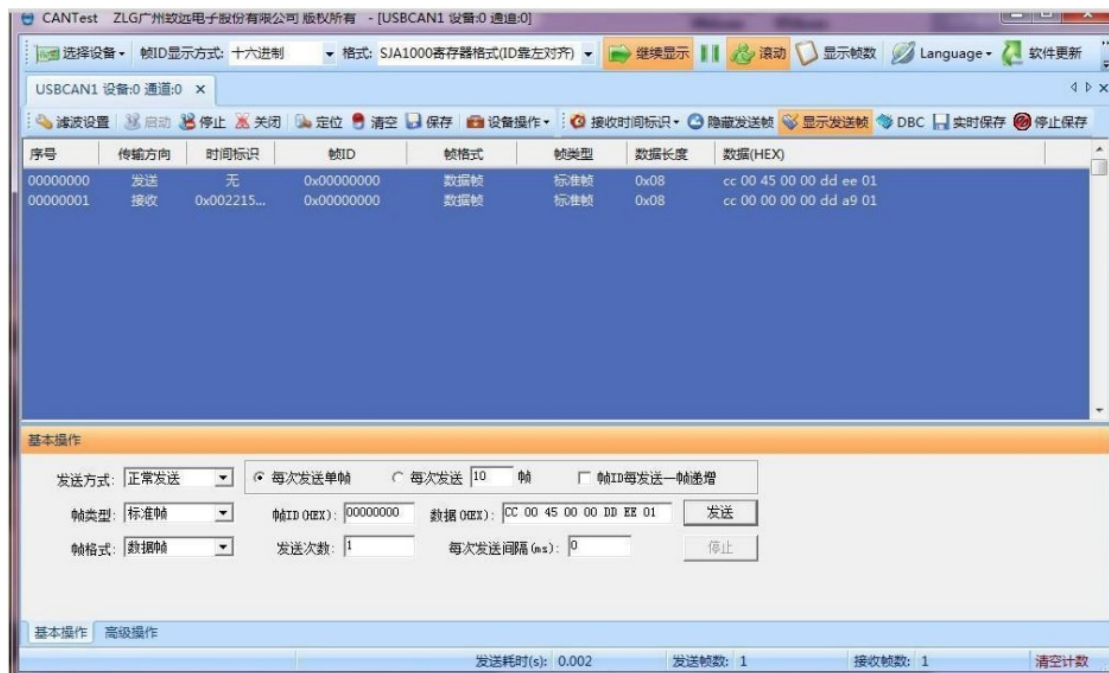


Figure 3-4

In the received commands, B2=00 indicates that the selector valve is operating normally and the reset is successful.

Examples of Operation Steps (Take RS232 as an example)

Setting operating steps:

1. Start the device and power on
2. If you need to restore the factory settings, click the factory reset; if not, set the items that you want to change directly.
3. After the setting is completed, the device needs to be restarted (when restarting the device, the 24V power supply needs to be cut off) to make the setting item effective

Example 1: Set the RS232 baud rate:

1. Click the factory command (see Figure 4-1)



Figure 4-1

2. Input the address in the address bar as 00 (the default value is 00, if the address has been modified, enter the modified address) Input the code 01 for the setting speed in the command line, then input the code 01 for the required speed in the parameter line and click to send. At this time, the response command shown in the figure above (Figure 4-1) is correct.
3. Cancel the checked factory command (Figure 4-2)



Figure 4-2

4. Query the setting speed, input the setting speed code 21 in the command line, input the parameter 00 in the parameter line, click to send, and the response command as shown in the figure above is correct, that the data B3 is 01 which means the setting is correct.
5. Query the baud rate, if correct, restart the device (when restarting, the 24V power supply needs to be cut off), and the RS232 baud rate setting takes effect.
6. After restarting the device, connect the device and select the set baud rate (as shown in Figure 4-3)



Figure 4-3

Example 2: Query motor status (as shown in Figure 4-4)



Figure 4-4

1. Input 00 in the address bar (if the address is changed, input the changed address)
2. Input the 4A command I (inquiry motor status) in the command bar
3. Input 00 in the parameter bar (if the input is not 00, the return result is 02 means parameter error)
4. After the input is completed, click the send button, and then the motor status data will be returned

Example 3: Control the device to switch to Port 4

1. Use the reset command 45, input 00 in the address bar (if the address is changed, input the changed address), input 45 (reset command) in the command bar, input 00 in the parameter bar, click to send, and the switching valve will go to the reset position. The reset position is between port No. 1 and port No. 10, at this time the common port is not connected with any port.
2. (If the input value of the parameter bit is not 00, the receiving code will report 02 means parameter error)



- Use command 44, input 00 in the address bar (if the address is changed, input the changed address), input 44 in the command bar (The motor rotates through the code disc, and the optimal path is automatically selected), input 04 in the parameter bar and click to send. The switching valve will rotate to port 4 which is connected to the common port now. The received command after turning to the port 4 is as shown in Figure 4-6

Note: The parameter here cannot be 00, otherwise 02 (parameter error) will be returned.





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References

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