# LCUS-8 eight-way USB relay module intelligent control switch

Overview:

The LCUS-8 USB relay module is equipped with a stable USB-to-serial chip and microcontroller. It can use the serial port debugging software to send serial commands on the computer to control the on and off of 8 relays, and send commands to query the status of the relays.

Features:

1. Onboard 8-bit high-performance microcontroller chip;

2. Onboard CH340 USB to serial control chip;

3. Onboard power LED indicator and relay status LED indicator;

4. Support relay switch status query, query command: 0xFF;

5. There are 8 5V, 10A/250VAC, 10A/30VDC relays on board, the relay has a long life and can be activated continuously for 100,000 times;

6. Power supply voltage: 5V, support USB power supply/external power supply switch;

7. Output type: relay switch signal;

8. The module has overcurrent protection and relay diode freewheeling protection functions.

9. Board size: 76.9*80.6mm
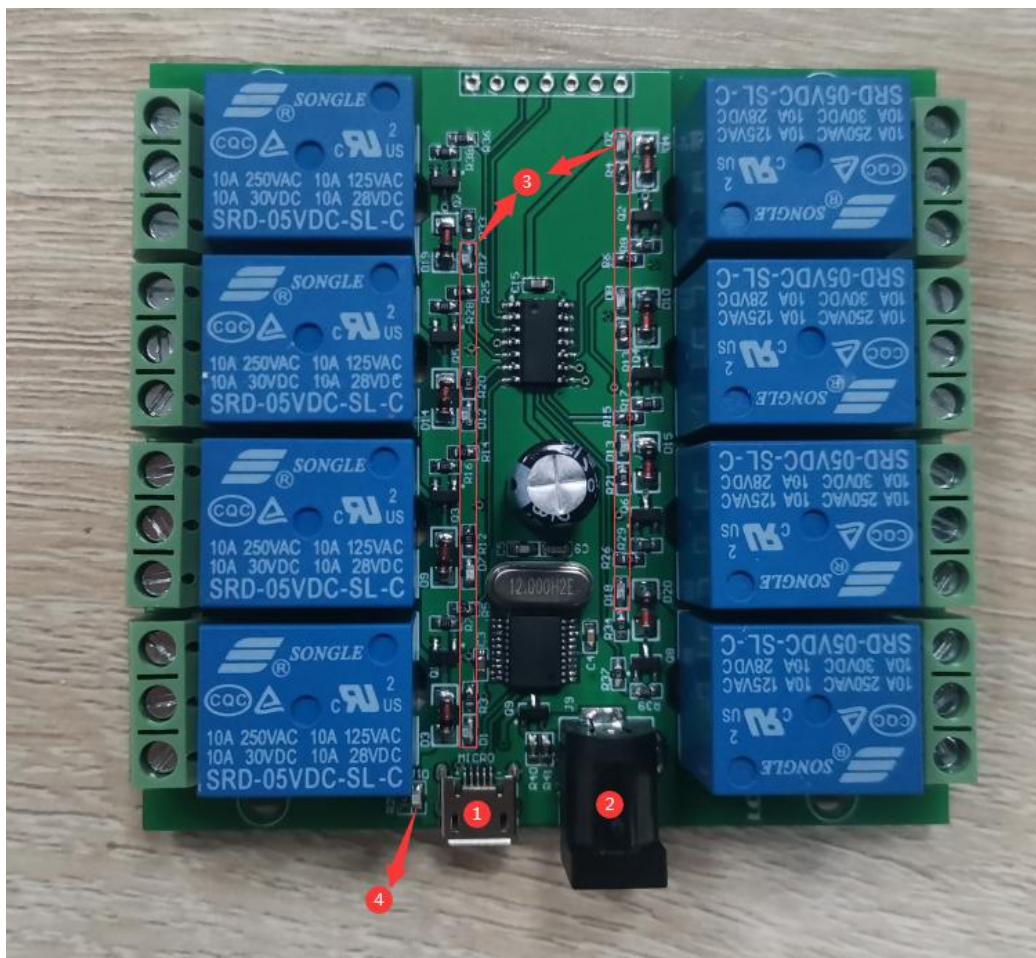
1. USB holder: USB communication/power supply;

2. External power supply port: connect to DC5V power supply. Due to the limited output current of USB, it is recommended to use external power supply when using multiple relays;

3. Relay indicator;

4. Power indicator.

●Relay interface introduction:

COM1: public terminal;

NC1: Normally closed, the relay is short-connected with COM1 before it is closed, and it is suspended after it is closed;

NO1: Normally open terminal, the relay is suspended before the pull-in, and short-circuited with COM1 after the pull-in.

COM2: public end;

NC2: Normally closed terminal, the relay is short-connected with COM2 before it is closed, and it is suspended after it is closed;

NO2: Normally open end, the relay is suspended before being closed, and shorted to COM2 after being closed.

COM3: public terminal;

NC3: Normally closed, the relay is short-connected with COM3 before it is closed, and it is suspended after it is closed;

NO3: Normally open end, the relay is suspended before the pull-in, and short-circuited with COM3 after the pull-in.

COM4: public terminal;

NC4: Normally closed, the relay is short-connected with COM4 before it is closed, and it is suspended after it is closed;

NO4: Normally open end, the relay is suspended before being closed, and shorted to COM4 after being closed.

COM5: public terminal;

NC5: Normally closed, the relay is short-connected with COM5 before it is switched on, and it is suspended after it is switched on;

NO5: Normally open end, the relay is suspended before the pull-in, and short-circuited with COM5 after the pull-in.

COM6: public terminal;

NC6: Normally closed, the relay is short-connected with COM6 before it is switched on, and it is suspended after it is switched on;

NO6: Normally open terminal, the relay is suspended before the pull-in, and short-circuited with COM6 after pull-in.

COM7: public terminal;

NC7: Normally closed, the relay is short-connected with COM7 before it is closed, and it is suspended after it is closed;

NO7: Normally open end, the relay is suspended before the pull-in, and short-circuited with COM7 after the pull-in.

COM8: public terminal;

NC8: Normally closed, the relay is short-connected with COM8 before it is closed, and it is

suspended after it is closed;

NO8: Normally open terminal, the relay is suspended before the pull-in, and short-circuited with COM8 after pull-in.

2. Instructions for use:

2.1, Communication protocol description:

●Serial port baud rate: 9600BPS

●The switch and status query instructions are as follows (HEX format):

Turn on the first USB switch: A0 01 01 A2
Turn off the first USB switch: A0 01 00 A1
Turn on the second USB switch: A0 02 01 A3
Turn off the second USB switch: A0 02 00 A2
Turn on the third USB switch: A0 03 01 A4
Turn off the third USB switch: A0 03 00 A3
Turn on the fourth USB switch: A0 04 01 A5
Turn off the fourth USB switch: A0 04 00 A4
Turn on the fifth USB switch: A0 05 01 A6
Turn off the fifth USB switch: A0 05 00 A5
Turn on the sixth USB switch: A0 06 01 A7
Turn off the sixth USB switch: A0 06 00 A6
Turn on the seventh USB switch: A0 07 01 A8
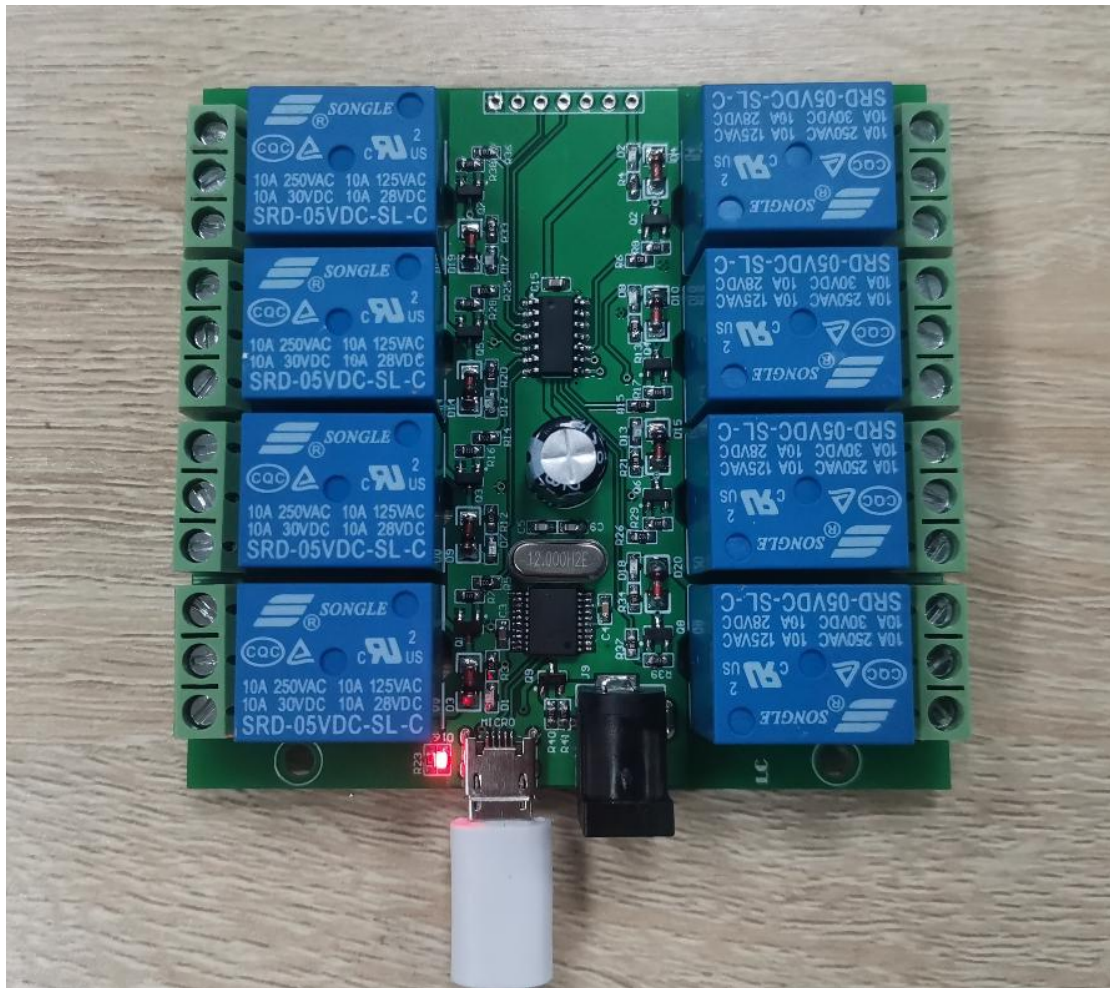Turn off the seventh USB switch: A0 07 00 A7
Turn on the eighth USB switch: A0 08 01 A9
Turn off the eighth USB switch: A0 08 00 A8

Query switch status: FF

2.2. Instructions for use:
(1) USB connected to the computer,

● Install the serial port driver: install the CH340 USB to serial chip driver when using it for the first time

● Open the serial port debugging software such as STC-ISP and SSCOM32, select the baud rate of 9600, and send the relay switch command in hexadecimal (hex) format to open or close the corresponding relay. You can choose to send manually or automatically. The following is an example of SSCOM32 serial debugging software:

● Manual transmission: Take the first channel as an example, select the baud rate 9600, and enter the command A0 01 01 A2 or

A0 01 00 A1, click "send" to open or close the first relay.

● Auto send: Take the first channel as an example, click "Extension" in the SSCOM32 interface, and enter the command

A0 01 01 A2 and A0 01 00 A1, check "HEX transmission", enter the interval time of automatic cycle transmission, and check "automatic cycle transmission" to automatically cycle on and off the first relay.
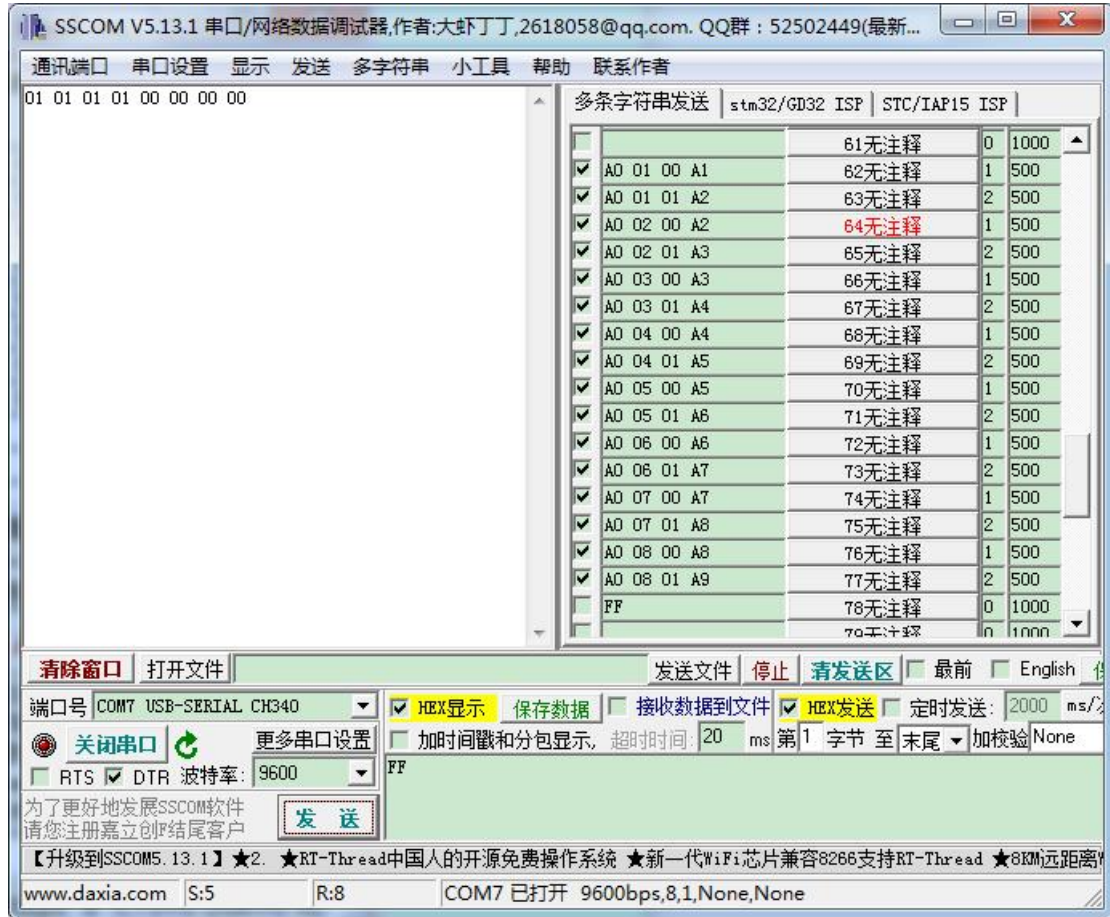
● Relay status query: send FF in hexadecimal (hex) format to query. For example, when channels 1, 2, 3, and 4 are open, and channels 5, 6, 7, and 8 are closed, the query relay status will return: "01 01 01 01 00 00 00 00" 01 means open, 00 means closed