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› WINGONEER LCUS - Type 1 USB Relay Module Instruction Manual

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1. INTRODUCTION

The WINGONEER LCUS - Type 1 USB Relay Module is an intelligent switch control device designed for various applications requiring USB-controlled switching. This module allows for remote control of electrical circuits via a standard USB connection, providing a convenient interface for automation and control systems.

The module operates with a default communication baud rate of 9600 BPS and utilizes a specific communication protocol for sending commands to control the relay. It features an onboard high-performance microcontroller and a CH340 USB control chip for reliable operation.



Figure 1: Top-down view of the WINGONEER LCUS - Type 1 USB Relay Module.

2. FEATURES

- Onboard high-performance micro-controller chips.
- Onboard CH340 USB control chip for reliable USB communication.
- Onboard LED power lights and relay status LED lights for visual feedback.
- Equipped with 5V, 10A / 250VAC, 10A / 30VDC relays, offering a long life of over 100,000 operations.
- Module includes over-current protection and relay diode current protection functions for enhanced safety.

3. SETUP

3.1 Driver Installation

The LCUS - Type 1 USB Relay Module uses a CH340 USB-to-serial chip. Before connecting the module to your computer, ensure the appropriate CH340 drivers are installed. In most modern operating systems (Windows 10/11, macOS, Linux), these drivers may install automatically upon connection. If not, drivers can typically be found by searching for "CH340 driver" online. Once installed, the module will appear as a virtual COM port in your system's device manager.

3.2 Connecting the Module

1. Connect the USB end of the module to an available USB port on your computer.
2. Observe the onboard LED power light to confirm the module is receiving power.
3. Identify the assigned COM port number. On Windows, this can be found in Device Manager under "Ports

(COM & LPT)" (e.g., COM3, COM17). On Linux, it might appear as ``/dev/ttyUSB0``.



Figure 2: USB connector and CH340 chip on the module.

4. OPERATING INSTRUCTIONS

The module is controlled by sending specific byte sequences to its assigned serial (COM) port. The default communication baud rate is 9600 BPS.

4.1 Communication Protocol

The communication protocol consists of a 4-byte data packet:

- **Data (1) - Startup Logo:** The default value is ``0xA0``.
- **Data (2) - Switch Address Code:** The default value is ``0x01``, identifying the first switch.
- **Data (3) - Operation Data:** Use ``0x00`` to turn the relay "off", and ``0x01`` to turn the relay "on".
- **Data (4) - Check Code:** This is a checksum byte.

4.2 Example Commands

To control the relay, send the following byte sequences to the module's serial port:

- **To turn the USB switch ON:** ``A0 01 01 A2``
- **To turn the USB switch OFF:** ``A0 01 00 A1``

These commands can be sent using a serial terminal program or custom software developed in languages like Python, C#, or Java, which support serial port communication.

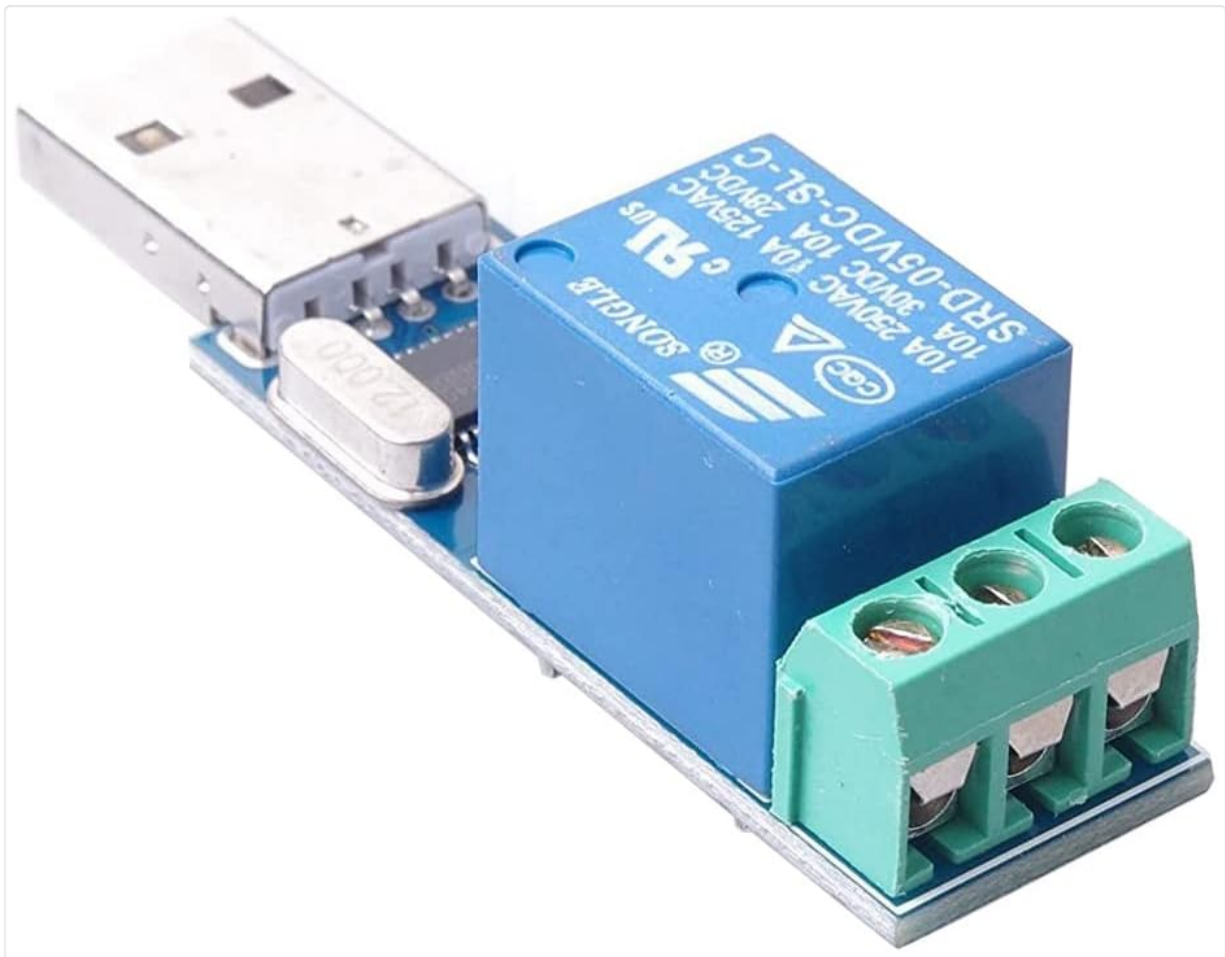


Figure 3: Relay component and terminal block for external connections.

5. MAINTENANCE

The WINGONEER LCUS - Type 1 USB Relay Module is designed for durability. To ensure its longevity and proper function, consider the following:

- **Environmental Conditions:** Operate the module in a dry environment, away from excessive moisture, dust, and extreme temperatures.
- **Physical Handling:** Avoid dropping or subjecting the module to strong impacts, which can damage internal components.
- **Cleaning:** If necessary, gently clean the module with a dry, soft cloth. Do not use liquid cleaners or solvents.
- **Power Supply:** Ensure the USB power supply is stable and within the specified voltage range (5V).

6. TROUBLESHOOTING

If you encounter issues with your WINGONEER LCUS - Type 1 USB Relay Module, refer to the following common troubleshooting steps:

- **Module Not Recognized by Computer:**
 - Verify the USB connection is secure.
 - Ensure the CH340 drivers are correctly installed. Check your operating system's Device Manager (Windows) or equivalent to see if the COM port is listed without errors.
 - Try a different USB port or a different computer to rule out port or system-specific issues.

- **Relay Not Switching:**

- Confirm the correct COM port is selected in your control software.
- Verify the baud rate is set to 9600 BPS.
- Double-check the byte sequences being sent for "on" (`A0 01 01 A2`) and "off" (`A0 01 00 A1`) commands. Ensure they are sent as raw bytes.
- Check the relay status LED on the module for any indication of activity.
- Ensure the external device connected to the relay is properly wired and within the relay's current and voltage specifications.

- **Intermittent Operation:**

- Check for loose USB connections or faulty cables.
- Ensure the power supply from the USB port is stable.
- Minimize electromagnetic interference from other devices.

7. SPECIFICATIONS

Brand:

WINGONEER

Model Number:

LCUS - Type 1

Current Rating:

10 Amps

Operation Mode:

Automatic

Wattage:

1200 watts

Coil Voltage:

250 Volts

Contact Current Rating:

10 Amps

Maximum Switching Current:

10 Amps

Maximum Switching Voltage:

250 Volts

UPC:

723466641616

Package Dimensions:

3.82 x 2.6 x 0.83 inches

Item Weight:

0.352 ounces

ASIN:

B071S7P5M9

Date First Available:

December 21, 2017

Manufacturer:

WINGONEER

8. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the official WINGONEER website or contact your retailer. Keep your purchase receipt for warranty claims.