Walfront B076CQJBSH

Walfront USB 8 Channel Relay Module Instruction Manual

Model: B076CQJBSH

Introduction

This manual provides detailed instructions for the safe and efficient use of your Walfront USB 8 Channel Relay Module. This programmable relay board is designed for various applications including home automation, robotics, and PC control, offering 8 independent relay channels. Please read this manual thoroughly before operation and retain it for future reference.

Safety Information

- **Voltage Polarity:** There is no protection against reversed voltage. If the VCC (+12V) and GND connections are reversed, the board will be permanently damaged. Ensure correct polarity during connection.
- **Power Supply:** The device requires a stable 12V DC power supply to function correctly. Do not use power supplies outside this specification.
- **PC Connection:** The board requires a continuous connection to a computer to operate. It cannot function as a standalone device.
- **Relay Toggling on Restart:** When the board is connected to a PC and the PC is restarted, the relays may toggle several times. This is normal behavior due to the internal structure of the FTDI chip and does not indicate a malfunction.

Product Overview

The Walfront USB 8 Channel Relay Module is a compact and versatile board featuring eight independent relays controllable via a USB Type-B interface. It is equipped with a robust PCB design for enhanced voltage isolation and high current tracks.

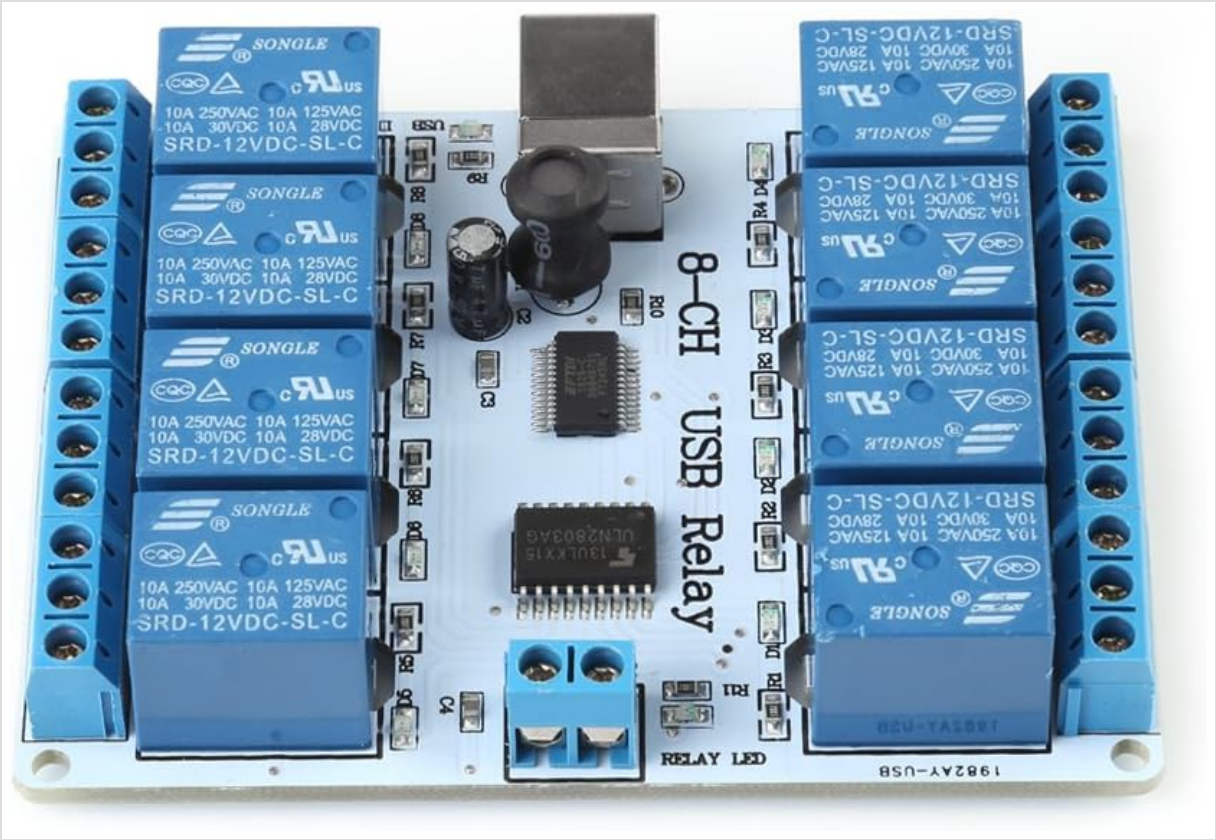

Figure 1: Top-down view of the Walfront USB 8 Channel Relay Module, illustrating the layout of the 8 relays, USB Type-B port, and power terminals.

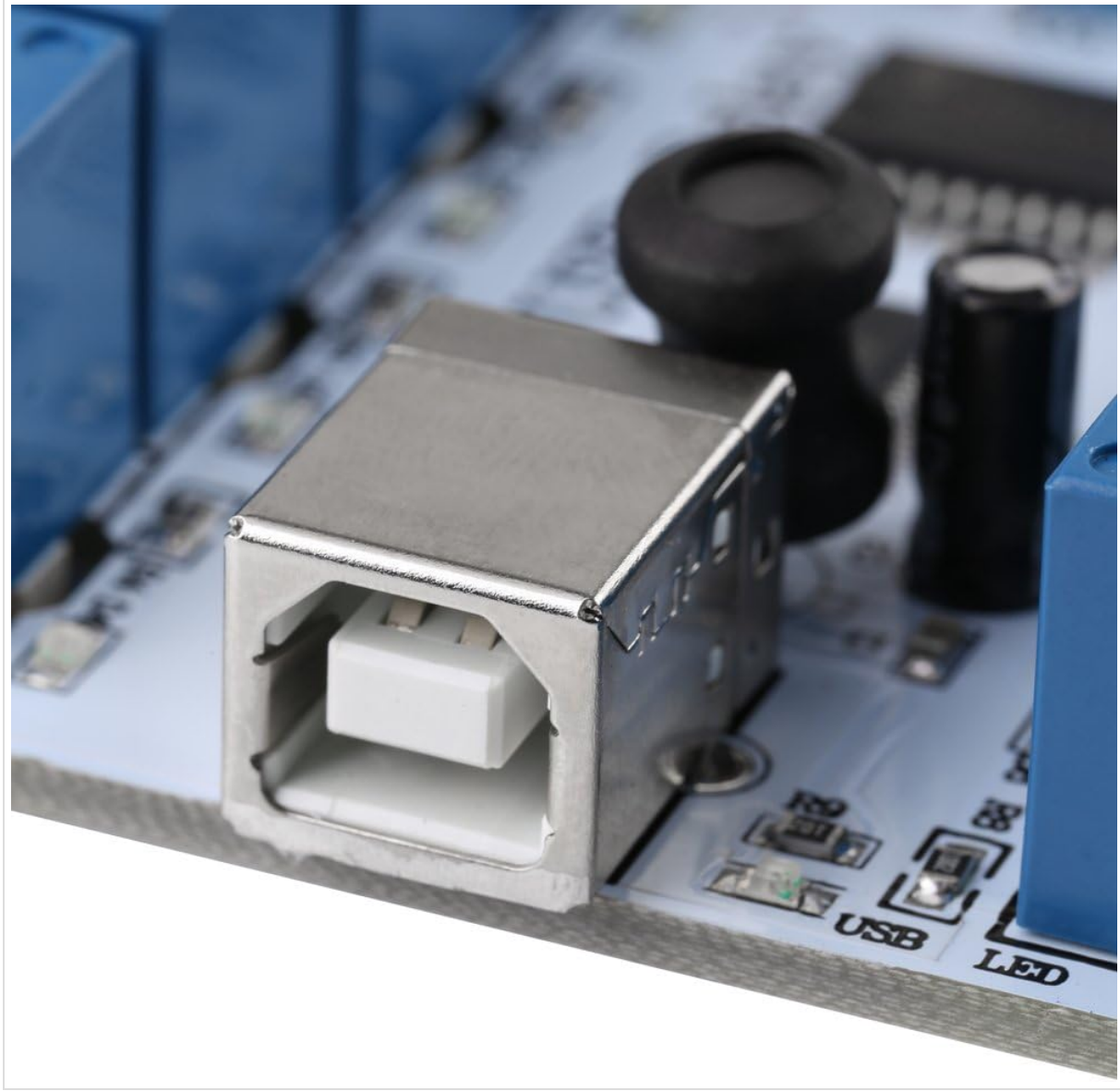

Figure 2: Close-up of the USB Type-B interface, used for connecting the module to a computer for control.

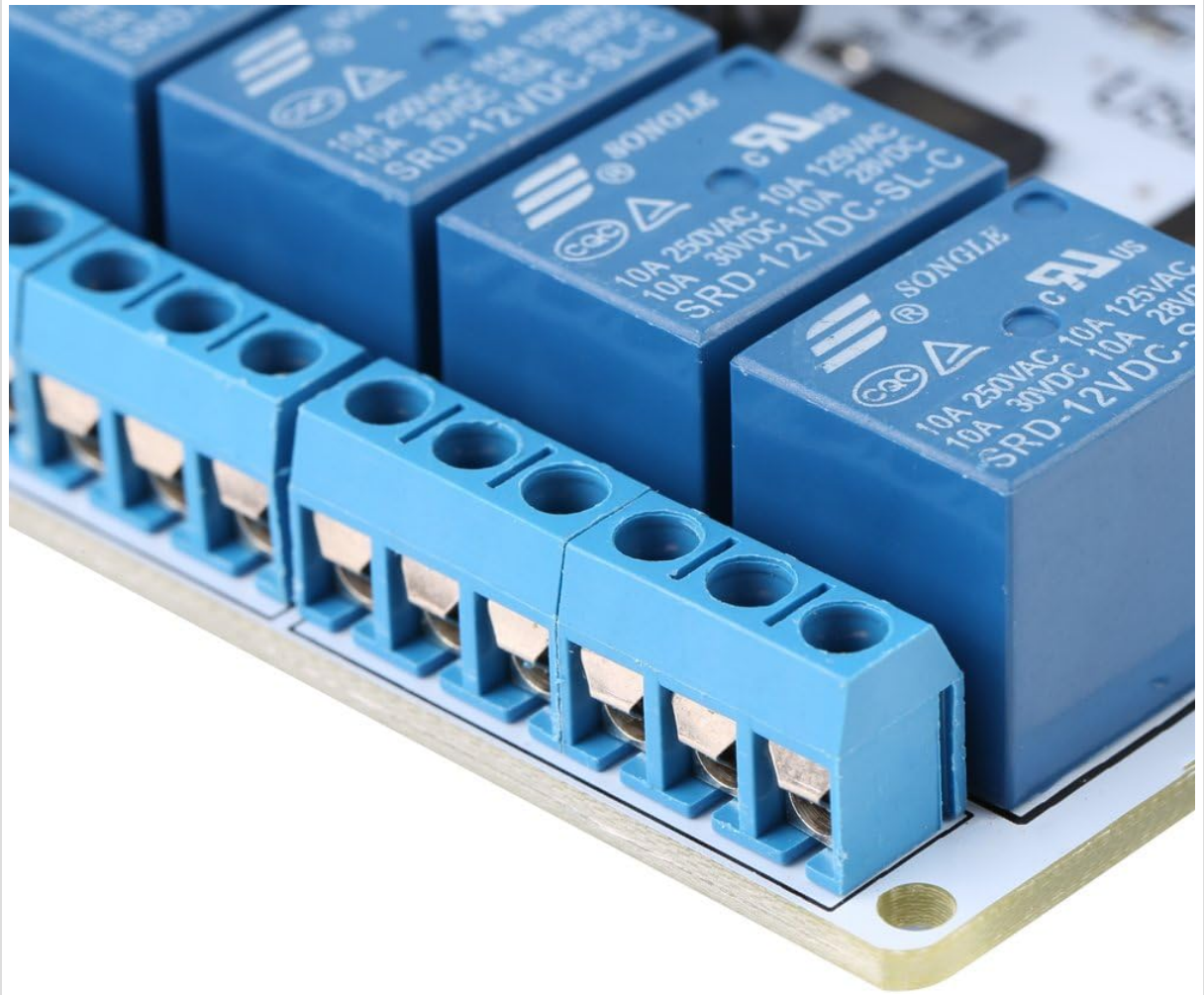

Figure 3: Detail of the screw terminals, providing secure connections for external devices controlled by the relays.

Specifications

- **Relay Capacity:** 10A 250VAC / 10A 125VAC / 10A 30VDC / 10A 28VDC
- **Power Supply:** 12V DC
- **Current Consumption:** 300mA
- **Dimensions (L x W x H):** 93mm x 70mm x 16mm (approximately 3.66" x 2.75" x 0.63")
- **Weight:** 4.2 ounces (approximately 119 grams)
- **PCB Type:** FR4/1.5mm/two layers/metalized holes/HAL/white stamp/solder mask
- **Interface:** USB Type-B

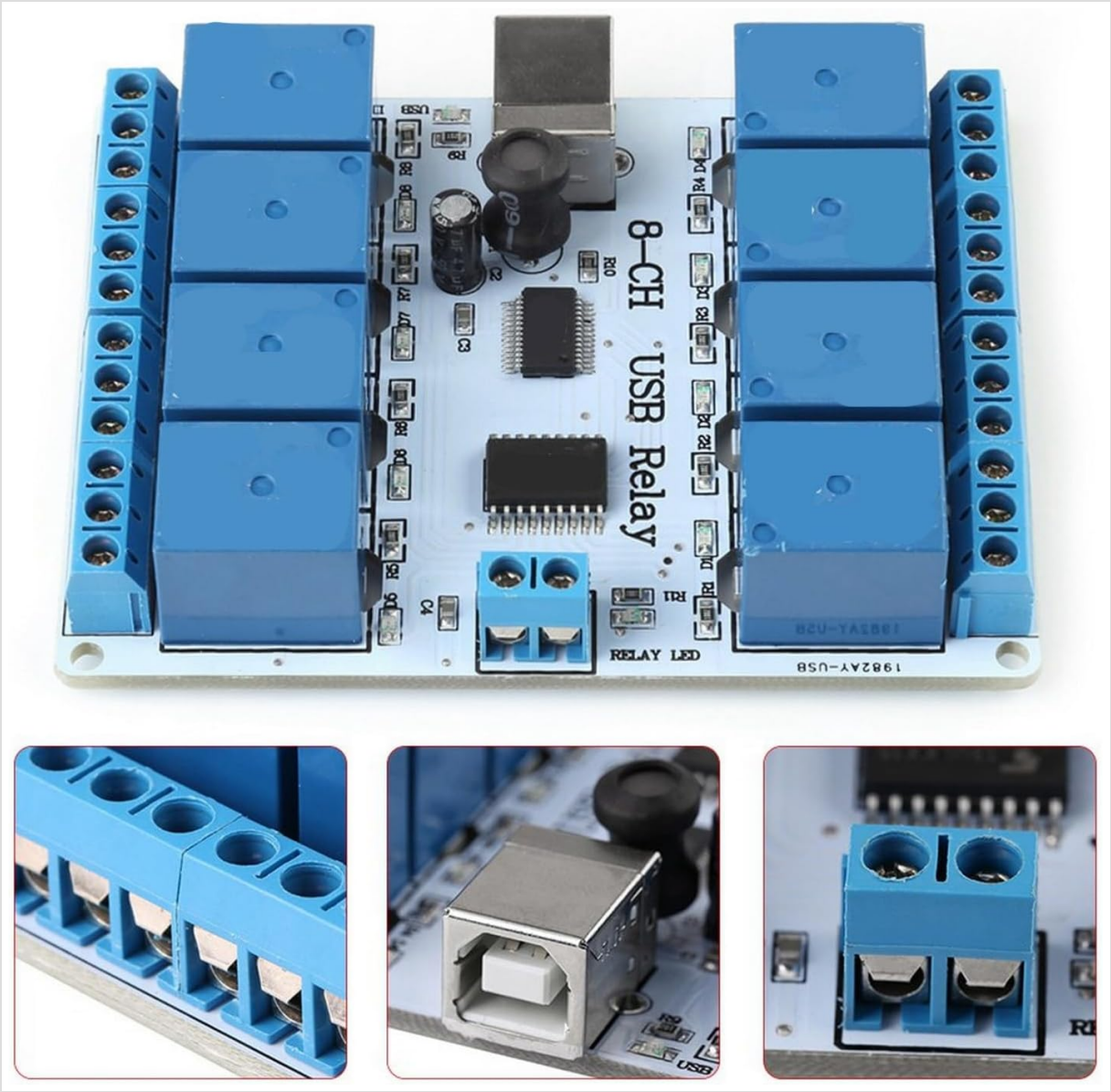

Figure 4: Product dimensions for the Walfront USB 8 Channel Relay Module.

Setup

1. **Power Connection:** Connect a stable 12V DC power supply to the VCC and GND terminals on the relay module. Ensure correct polarity to prevent damage.
2. **USB Connection:** Connect the relay module to your computer using a standard USB Type-B cable.
3. **Driver Installation:** Your operating system may automatically install necessary drivers for the FTDI chip. If not, you may need to manually install FTDI VCP (Virtual COM Port) drivers from the FTDI website.
4. **Software Setup:** Develop or utilize existing software to control the relays. The module is compatible with various programming environments, including VB6, BCB6, Java (NetBeans), VB.NET 2010 Express, and C++.NET 2010 Express.
5. **Load Connection:** Connect the devices you wish to control to the relay terminals. Each relay has normally open (NO), normally closed (NC), and common (COM) contacts. Refer to the relay's datasheet for specific wiring configurations based on your application.

Operating Instructions

Once the module is set up and connected to your computer, you can control the 8 relays through your custom software application. The relays act as switches, allowing you to turn connected devices on or off. Ensure your

control software sends the appropriate commands via the USB interface to activate or deactivate specific relays.

- **Relay Control:** Each relay can be individually controlled to switch external circuits.
- **Status Indicators:** The board may feature LED indicators to show the status of each relay (e.g., active/inactive).
- **Continuous PC Connection:** Remember that the module requires a continuous connection to a computer for operation.

Maintenance

The Walfront USB 8 Channel Relay Module is designed for durability and requires minimal maintenance. To ensure optimal performance and longevity:

- Keep the module in a clean, dry environment, away from dust and moisture.
- Avoid exposing the module to extreme temperatures or direct sunlight.
- Do not attempt to modify the board or its components, as this may void any implied warranty and could cause damage.
- Periodically check all connections for security and ensure no loose wires are present.

Troubleshooting

- **Module Not Powering On:**
  - Verify that the 12V DC power supply is correctly connected and providing power.
  - Check the polarity of the 12V DC connection (VCC and GND). Reversed polarity will damage the board.
- **Relays Toggling Randomly on PC Restart:**
  - This is expected behavior due to the FTDI chip's structure. It does not indicate a fault.
- **Module Not Responding to PC Commands:**
  - Ensure the USB cable is securely connected to both the module and the PC.
  - Verify that the necessary FTDI drivers are correctly installed on your computer.
  - Check your control software for errors or incorrect communication settings (e.g., COM port selection).
  - Confirm that the module is receiving 12V DC power.
- **Board Not Working Without Computer:**
  - This module is designed to be controlled by a computer and cannot operate independently. A PC connection is always required.

Warranty and Support

Specific warranty details are not provided in this manual. For information regarding warranty coverage, technical support, or further assistance, please refer to the retailer where the product was purchased or visit the official Walfront store online. Keep your purchase receipt as proof of purchase.
For additional resources and product information, you may visit the Walfront Store.