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> NOYITO 1-Channel 12V 30A Relay Module Instruction Manual

NOYITO NO0473

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Model: NO0473

PRODUCT OVERVIEW

The NOYITO 1-Channel 12V 30A Relay Module is designed for controlling high-power loads in various applications such as PLC automation, industrial control systems, and IoT projects. It features optocoupler isolation for enhanced anti-interference capabilities and a high-power relay capable of switching up to 30A. The module supports both high-level and low-level trigger modes.

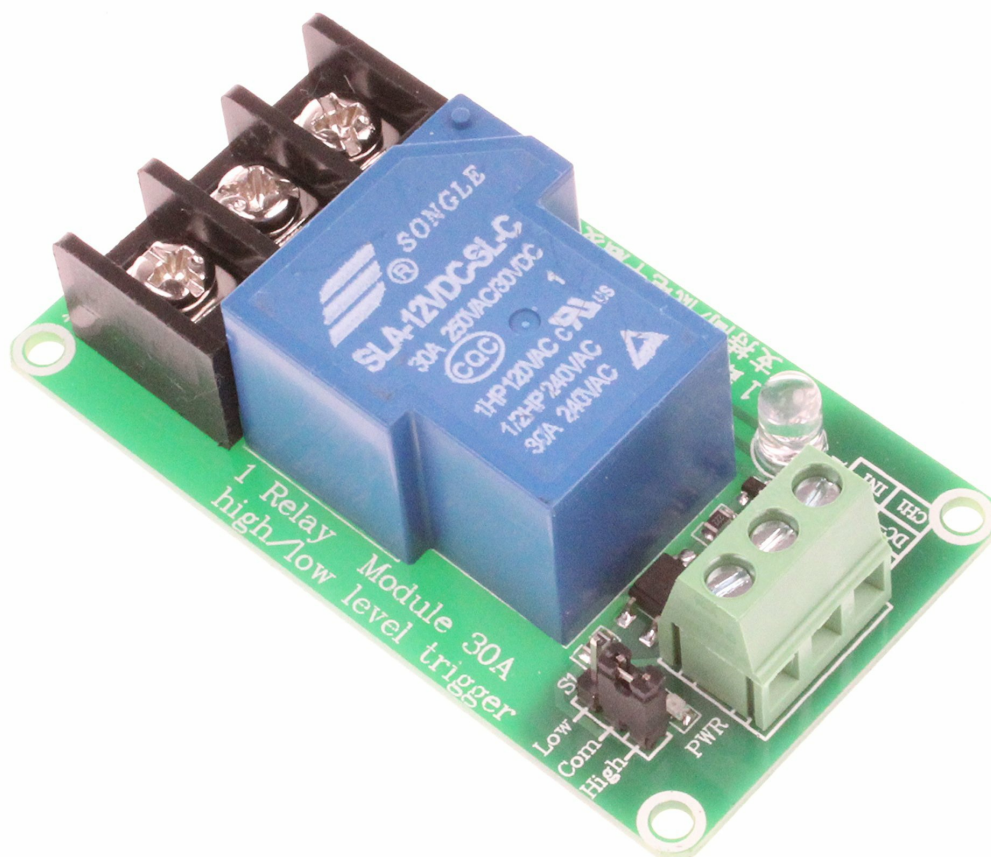


Figure 1: Top view of the NOYITO 1-Channel 12V 30A Relay Module. This image shows the main relay component, screw terminals for connections, and an LED indicator.

Key Features

- **Optocoupler Isolation:** Each channel includes optocoupler isolation to prevent interference.
- **High-Power Relay:** Capable of controlling loads up to 30A.
- **LED Indicator:** Each channel features an LED to indicate relay on/off status.
- **Trigger Modes:** Supports both high-level and low-level trigger inputs.
- **Applications:** Suitable for PLC automation, industrial control, IoT, and electronic development.

Specifications

Parameter	Value
Supply Voltage	DC 12V
Quiescent Current	5mA
Maximum Working Current	190mA
Trigger Mode	High / Low Level Trigger
Load Voltage	DC 30V / AC 250V
Load Current	30A
Module Life	10 million times
Switch Maximum Frequency	≤ 5KHz
Product Weight	46g
Dimensions (LxWxH)	72x40x24mm
Mounting Hole Size (LxW)	44.5x27.5mm
High-Level Trigger Range	DC 6-12V (relay on); DC 0-5.5V (relay off)
Low-Level Trigger Range	DC 0-5V (relay on); DC 6-12V (relay off)

Setup and Wiring

This section details the proper connection of the relay module. Ensure all power is disconnected before making any wiring changes.

Module Pinout

- **VCC:** Power supply positive (DC 12V).
- **GND:** Power supply negative.
- **IN1 (CH1):** Signal input for controlling the relay.
- **COM1:** Common terminal for the relay switch.
- **NO1:** Normally Open terminal for the relay switch.
- **NC1:** Normally Closed terminal for the relay switch.



Figure 2: Close-up view of the relay module showing the input and output terminals. The VCC, GND, and IN1 pins are visible on the left, while the COM1, NO1, and NC1 terminals are on the right.

Power Supply Connection

1. Connect the **DC 12V** positive power supply to the **VCC** pin.
2. Connect the **DC 12V** negative power supply (ground) to the **GND** pin.
3. Ensure the power supply voltage matches the relay's coil voltage (12V in this case).

Load Connection

1. Identify the load you wish to control (e.g., motor, light).
2. Connect one side of the load to your power source (DC 30V or AC 250V, depending on your load).
3. Connect the other side of the load to either the **NO1** (Normally Open) or **NC1** (Normally Closed) terminal of the relay.
4. Connect the **COM1** terminal of the relay to the return path of your load's power source.
5. For a normally open configuration, the load will be off when the relay is de-energized and on when energized.
6. For a normally closed configuration, the load will be on when the relay is de-energized and off when energized.

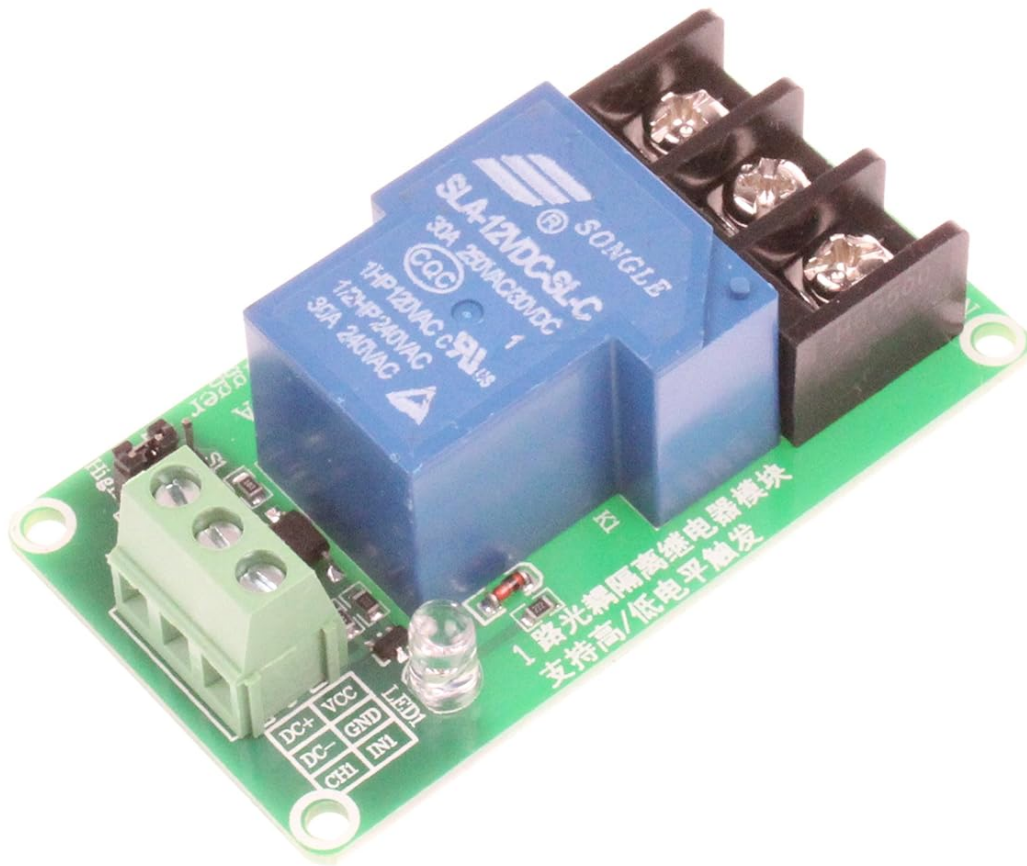


Figure 3: Angled view of the relay module, highlighting the screw terminals for both control and load connections. This perspective helps in understanding the physical layout for wiring.

Trigger Mode Selection

The module supports both high-level and low-level triggering. A jumper cap (labeled 'S1' or similar, near the IN1 pin) is used to select the trigger mode.

- **High-Level Trigger:** Connect the jumper to the 'High' position. The relay will activate when the IN1 pin receives a voltage between DC 6-12V. It will deactivate when the voltage is between DC 0-5.5V.
- **Low-Level Trigger:** Connect the jumper to the 'Low' position. The relay will activate when the IN1 pin receives a voltage between DC 0-5V. It will deactivate when the voltage is between DC 6-12V.

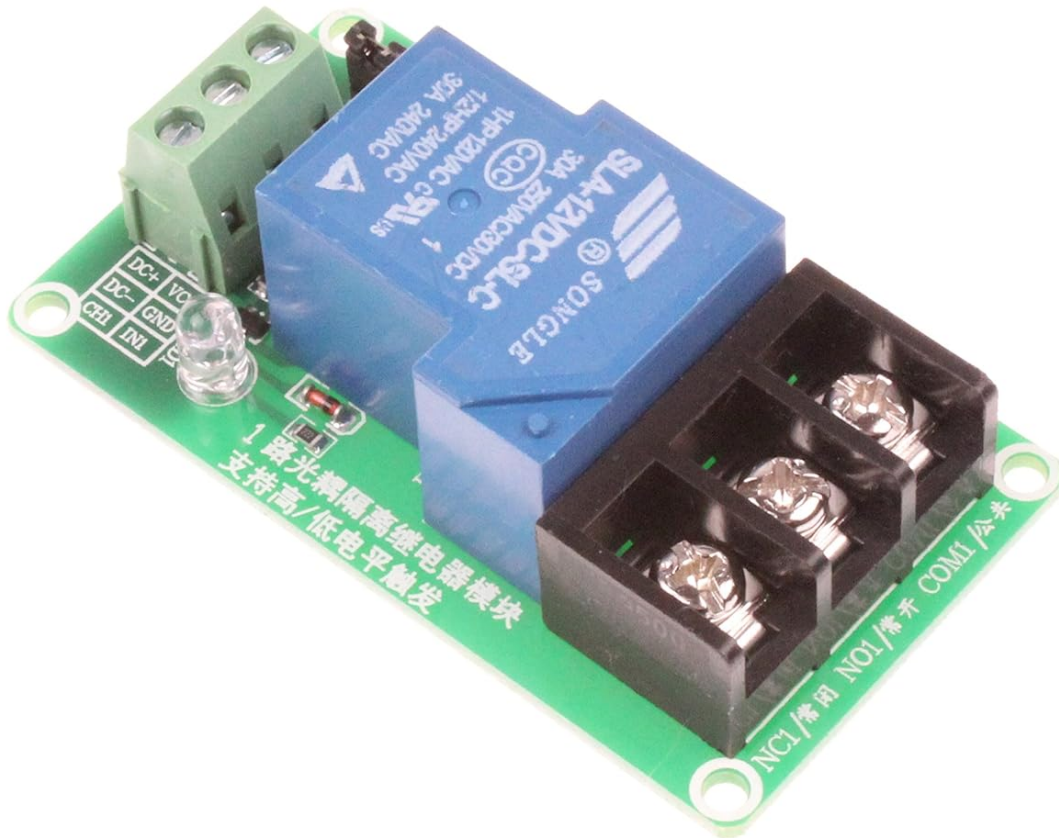


Figure 4: Image showing the trigger selection jumper on the relay module. The jumper allows switching between high-level and low-level trigger modes for the input signal.

OPERATING INSTRUCTIONS

Once the module is correctly wired and the trigger mode is selected, apply power to the VCC and GND terminals. The relay's behavior will then be controlled by the signal applied to the IN1 pin, according to the chosen trigger mode.

- When the relay is activated, the LED indicator for that channel will illuminate.
- When the relay is deactivated, the LED indicator will turn off.
- The relay contacts (COM1, NO1, NC1) will switch states accordingly, controlling the connected load.

MAINTENANCE

The NOYITO Relay Module is designed for durability and requires minimal maintenance. However, regular checks can ensure optimal performance and longevity.

- **Environmental Conditions:** Ensure the module is operated within its specified temperature and humidity ranges. Avoid exposure to excessive dust, moisture, or corrosive environments.
- **Connection Integrity:** Periodically inspect all wiring connections to ensure they are secure and free from corrosion. Loose connections can lead to intermittent operation or damage.
- **Visual Inspection:** Check for any signs of physical damage, overheating (discoloration), or component degradation.
- **Cleaning:** If necessary, gently clean the module with a soft, dry brush or compressed air to remove dust accumulation. Do not use liquids or solvents.

TROUBLESHOOTING

If you encounter issues with your NOYITO Relay Module, refer to the following troubleshooting steps:

Problem	Possible Cause	Solution
Relay does not activate/deactivate.	Incorrect power supply voltage. Incorrect trigger mode selection. Input signal voltage out of range. Loose wiring connections.	Verify the power supply is 12V DC. Check the jumper for High/Low-level trigger selection. Ensure the input signal (IN1) voltage matches the selected trigger range. Inspect and secure all VCC, GND, and IN1 connections.
Load does not switch on/off.	Relay contacts wired incorrectly. Load current/voltage exceeds module specifications. Faulty load.	Confirm load is connected to COM1 and either NO1 or NC1 correctly. Ensure load voltage is within DC 30V / AC 250V and current is $\leq 30A$. Test the load independently to confirm it is functional.
LED indicator not working.	No power to module. Faulty LED. Relay not activating.	Check VCC and GND connections and power supply. If relay functions but LED does not, the LED may be faulty (rare). Troubleshoot relay activation as above.

WARRANTY AND SUPPORT

This NOYITO product comes with a manufacturer's one-year after-sale warranty. For technical support or warranty claims, please contact your retailer or the manufacturer directly. Keep your purchase receipt as proof of purchase. For further assistance, you may refer to the official NOYITO website or contact their customer service department.

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