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LDGSUPH JK11S

LDGSUPH JK11S Cycle Timer Delay Relay Module

User Manual

1. Introduction

The LDGSUPH JK11S Cycle Timer Delay Relay Module is a versatile electronic component designed for controlling electrical circuits with precise timing. It offers adjustable delay-on and delay-off functions, making it suitable for various automation and control applications. This manual provides detailed instructions for its setup, operation, and maintenance.

2. Product Overview

2.1 Key Features

- Adjustable delay timing: 0-100 seconds, 0-15 minutes, 0-60 minutes, 0-120 minutes, 0-24 hours (depending on variant).
- Multiple voltage options: 5V, 12V, 24V DC.
- High current relay output: Up to 10A (Max 10A indicated on board).
- Compact design for easy integration.
- Visual status indicators (LEDs).

2.2 Component Identification

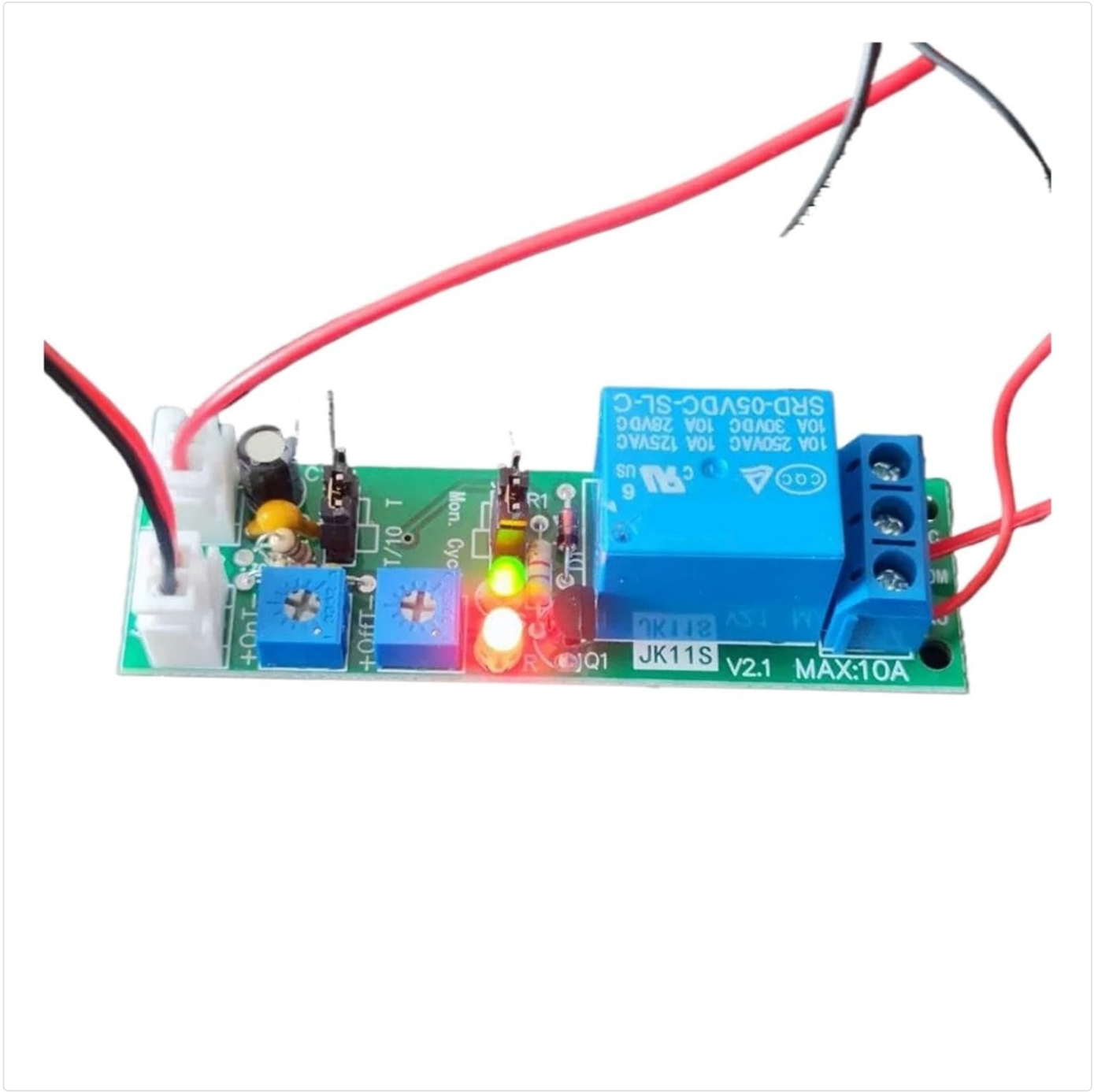


Figure 1: Top view of the JK11S Cycle Timer Delay Relay Module. This image displays the main components including the blue relay, two blue potentiometers for time adjustment, and terminal blocks for power and load connections.

- **Power Input Terminals:** For connecting the DC power supply (5V, 12V, or 24V depending on model).
- **Relay Output Terminals:** For connecting the load to be controlled.
- **Potentiometers (Trimmers):** Two adjustable resistors used to set the delay-on and delay-off times.
- **LED Indicators:** Typically indicate power status and relay activation.
- **Relay:** The switching component that controls the load.

3. Specifications

Parameter	Value

Parameter	Value
Model	JK11S
Brand	LDGSUPH
Operating Voltage	5V, 12V, or 24V DC (model dependent)
Time Delay Range	0-100s, 0-15m, 0-60m, 0-120m, 0-24h (model dependent)
Relay Contact Current Rating	Max 10A (as indicated on board)
Contact Type	Normally Closed (NC)
Mounting Type	Chassis Mount
Material	Aluminum (contact material)
Dimensions	Refer to product images for approximate size.

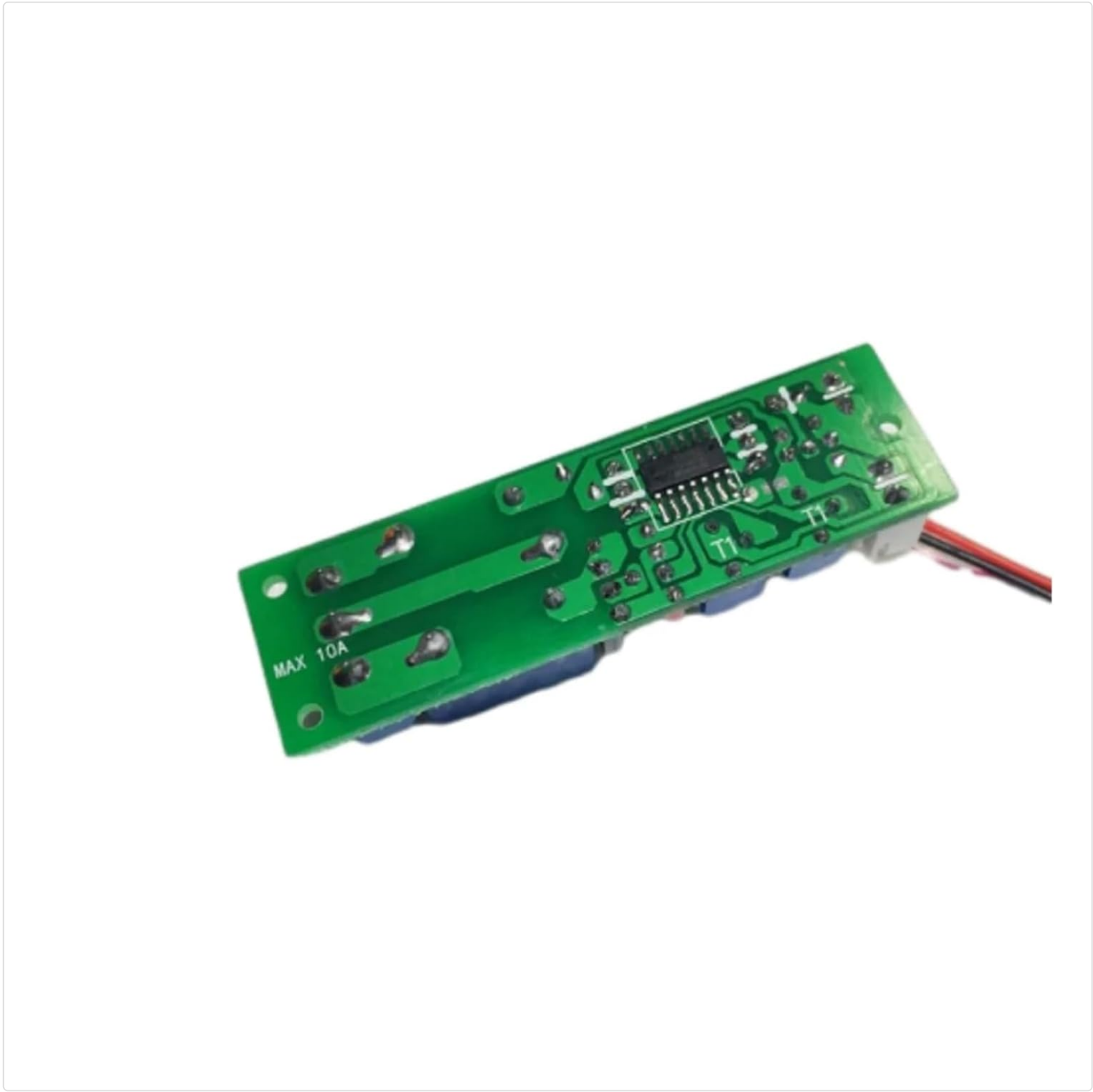


Figure 2: Bottom view of the module, highlighting the 'MAX 10A' marking, indicating the maximum current rating for the relay contacts.

4. Setup

4.1 Wiring Instructions

Before connecting, ensure the power supply is disconnected. Connect the module according to the following steps:

1. **Power Supply:** Connect the positive (+) terminal of your DC power supply (matching the module's voltage, e.g., 5V, 12V, or 24V) to the '+' input terminal on the module. Connect the negative (-) terminal of the power supply to the '-' input terminal.
2. **Load Connection:** The relay has Normally Closed (NC) contacts. This means the circuit is closed (current flows) when the relay is de-energized, and open (current stops) when the relay is energized. Connect your load (e.g., a motor, light) in series with the NC contact and your load's power source.

Caution: Ensure correct polarity for the DC power supply. Incorrect wiring can damage the module.

4.2 Initial Configuration

Once wired, apply power. The module will typically enter its initial state. The timing parameters are set using the two potentiometers on the board. One potentiometer controls the 'delay-on' time, and the other controls the 'delay-off' time. Refer to the operating instructions for detailed adjustment.

5. Operating Instructions

The JK11S module operates as a cycle timer, meaning it will repeatedly switch the relay on and off based on the set delay times. The specific timing range (e.g., 0-100 seconds, 0-15 minutes) depends on the model variant.

5.1 Adjusting Delay Times



Figure 3: Module illustrating the adjustable time range. The potentiometers are used to set these values.

1. **Identify Potentiometers:** The module has two blue potentiometers. One typically controls the 'ON' duration (relay energized), and the other controls the 'OFF' duration (relay de-energized). Consult the markings on your specific board if available, or test to determine which controls which.
2. **Adjusting:** Use a small screwdriver to carefully turn the potentiometers. Turning clockwise generally increases the delay time, while turning counter-clockwise decreases it.
3. **Testing:** After adjustment, observe the relay's behavior and the connected load to verify the desired timing. Repeat adjustments as necessary.

5.2 Cycle Operation

Once power is applied and times are set, the module will continuously cycle:

- **Delay-Off Period:** The relay remains de-energized (NC contacts closed) for the set 'OFF' duration.
- **Delay-On Period:** After the 'OFF' duration, the relay energizes (NC contacts open) for the set 'ON' duration.
- The cycle then repeats.

6. Maintenance

The JK11S module is designed for reliable operation with minimal maintenance. Follow these guidelines:

- **Keep Clean:** Ensure the module is free from dust, dirt, and moisture. Use a soft, dry cloth for cleaning.
- **Environmental Conditions:** Operate the module within its specified temperature and humidity ranges to prevent damage.
- **Secure Connections:** Periodically check that all wiring connections are secure and free from corrosion.
- **Avoid Overload:** Do not exceed the maximum current rating of 10A for the relay contacts.

7. Troubleshooting

If the module does not function as expected, consider the following:

- **No Power/LEDs Off:**
  - Check power supply voltage and polarity.
  - Ensure power connections are secure.
- **Relay Not Switching:**
  - Verify the load is correctly wired to the relay contacts.
  - Check the potentiometer settings; they might be set to extreme values (e.g., 0 or max delay).
  - Ensure the power supply is stable and within the module's operating voltage.
- **Incorrect Timing:**
  - Adjust the potentiometers carefully. Small turns can make significant changes.

- Confirm you have the correct module variant for your desired time range.

- **Load Not Activating:**
  - Check the load's power source and its own functionality.
  - Ensure the load's current draw does not exceed the relay's 10A rating.

8. Safety Information

- Always disconnect power before making any wiring changes or adjustments.
- Ensure all connections are properly insulated to prevent short circuits.
- Do not operate the module in wet or excessively humid environments.
- This module is intended for low-voltage DC applications. Do not connect directly to AC mains voltage unless specifically designed for it (this model is not).
- If you are unsure about any wiring or operation, consult a qualified electrician or electronics technician.

9. Warranty and Support

For warranty information or technical support, please contact the manufacturer, LDGSUPH, or your point of purchase. Keep your purchase receipt for any warranty claims.

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