

Reland Sun ZK-J04

Reland Sun ZK-J04 DC 5V-36V Timer Delay Relay Module Instruction Manual

Model: ZK-J04

INTRODUCTION

The Reland Sun ZK-J04 is a versatile DC 5V-36V Timer Delay Relay Module designed for various control applications. It features a digital tube display, high-level trigger compatibility, and a range of configurable parameters for precise timing control. This module is equipped with dual MOS output for robust performance and includes essential safety features such as reverse connection protection and an emergency stop function.

KEY FEATURES

- **Wide Operating Voltage:** Supports DC 5V-36V, suitable for most equipment.
- **High-Level Trigger:** Compatible with trigger signals from 3.0V to 24V.
- **Dual MOS Output:** Parallel active dual MOS output with lower internal resistance, higher current, and strong power. Supports up to 15A 400W at normal temperature (30A maximum with heatsink).
- **Configurable Parameters:** Set ON time (OP), OFF time (CL), and cycle count (LOP) independently.
- **Emergency Stop Function:** One-key emergency stop (STOP button) for immediate halt of operation.
- **Reverse Connection Protection:** Prevents damage from incorrect power polarity.
- **Sleep Mode:** Automatically enters sleep mode after 5 minutes of inactivity, with any button press to wake up.
- **Automatic Parameter Saving:** All set parameters are automatically saved after power-off.
- **Optocoupler Isolation:** Enhances anti-interference capability.
- **Continuously Adjustable Timing:** From 0.1 seconds to 999 minutes.
- **Unlimited Switching Times:** Enables high-frequency, rapid ON/OFF cycles without noise, electrical sparks, or electromagnetic interference.

MODULE OVERVIEW

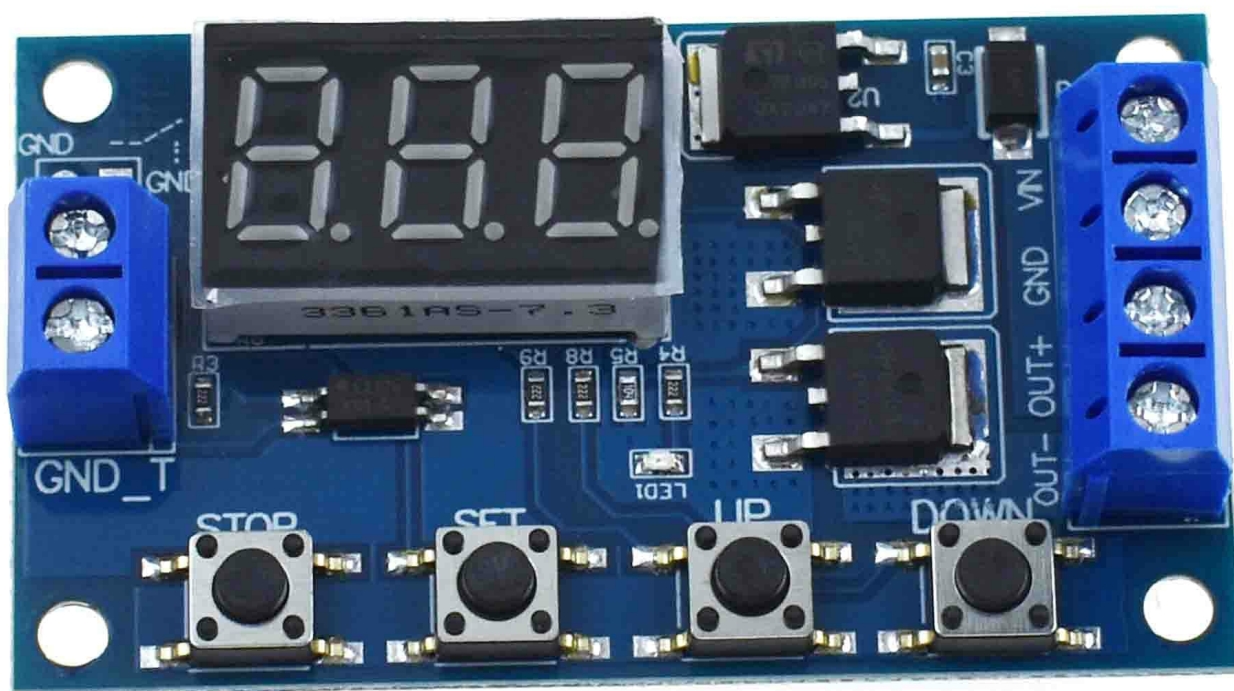


Figure 1: Top view of the ZK-J04 module, showing the digital display and control buttons.

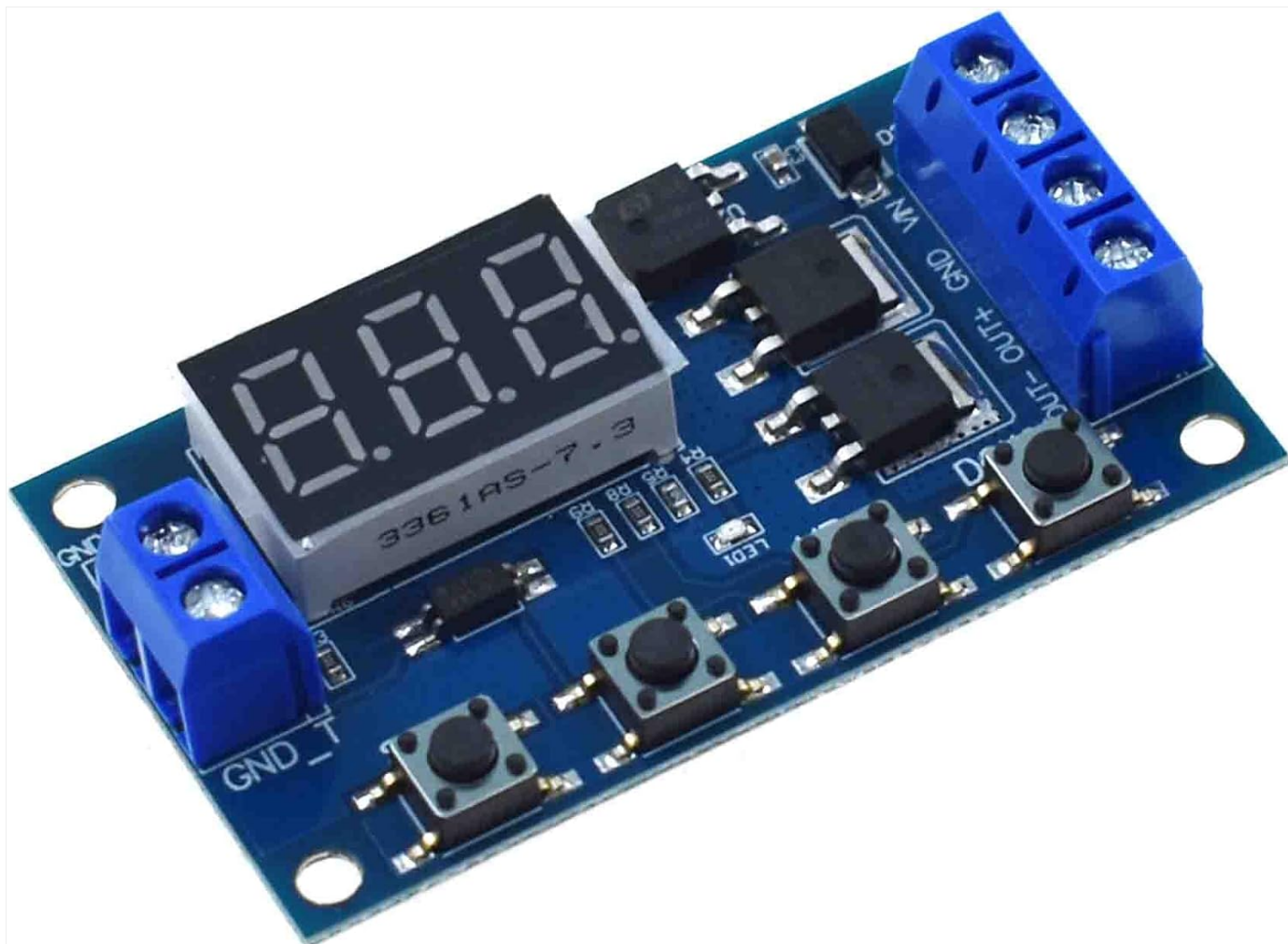


Figure 2: Angled view of the ZK-J04 module, illustrating the power input, output terminals, and user interface buttons.

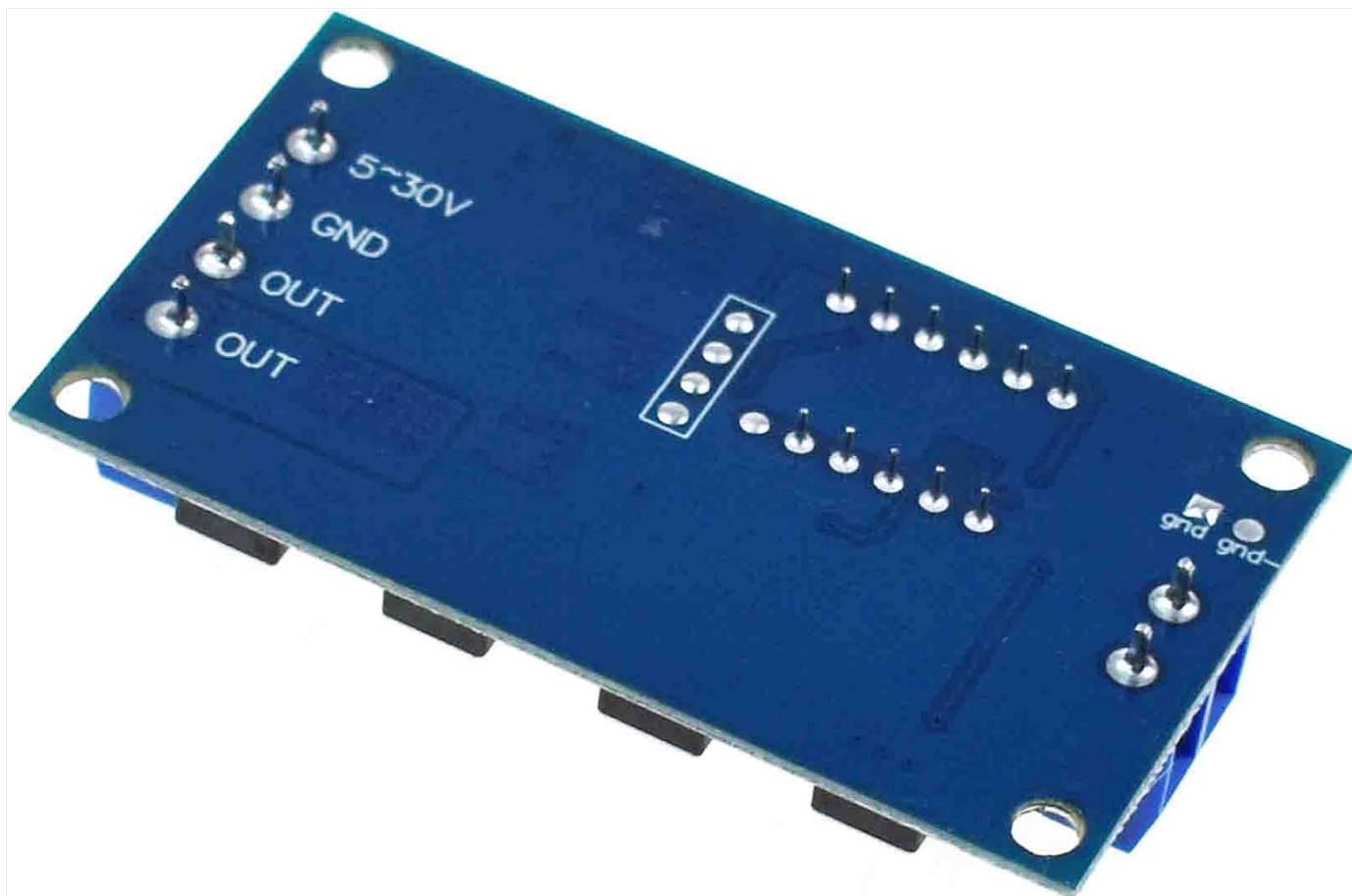


Figure 3: Bottom view of the ZK-J04 module, revealing the circuit board layout.

SETUP AND WIRING

Before connecting the module, ensure all power sources are disconnected. Refer to the diagram below for proper wiring.

- **Power Input (DC 5V-36V):** Connect your DC power supply to the **V+** (positive) and **GND** (negative) terminals on the input side. Ensure the voltage is within the specified range.
- **Load Output:** Connect your load (e.g., motor, light) to the **OUT+** and **OUT-** terminals. The module acts as a switch for the load.
- **Trigger Signal Input:** Connect your high-level trigger signal (3.0V-24V) to the **SIG** terminal. The trigger signal's ground should be connected to the **GND** terminal on the input side.

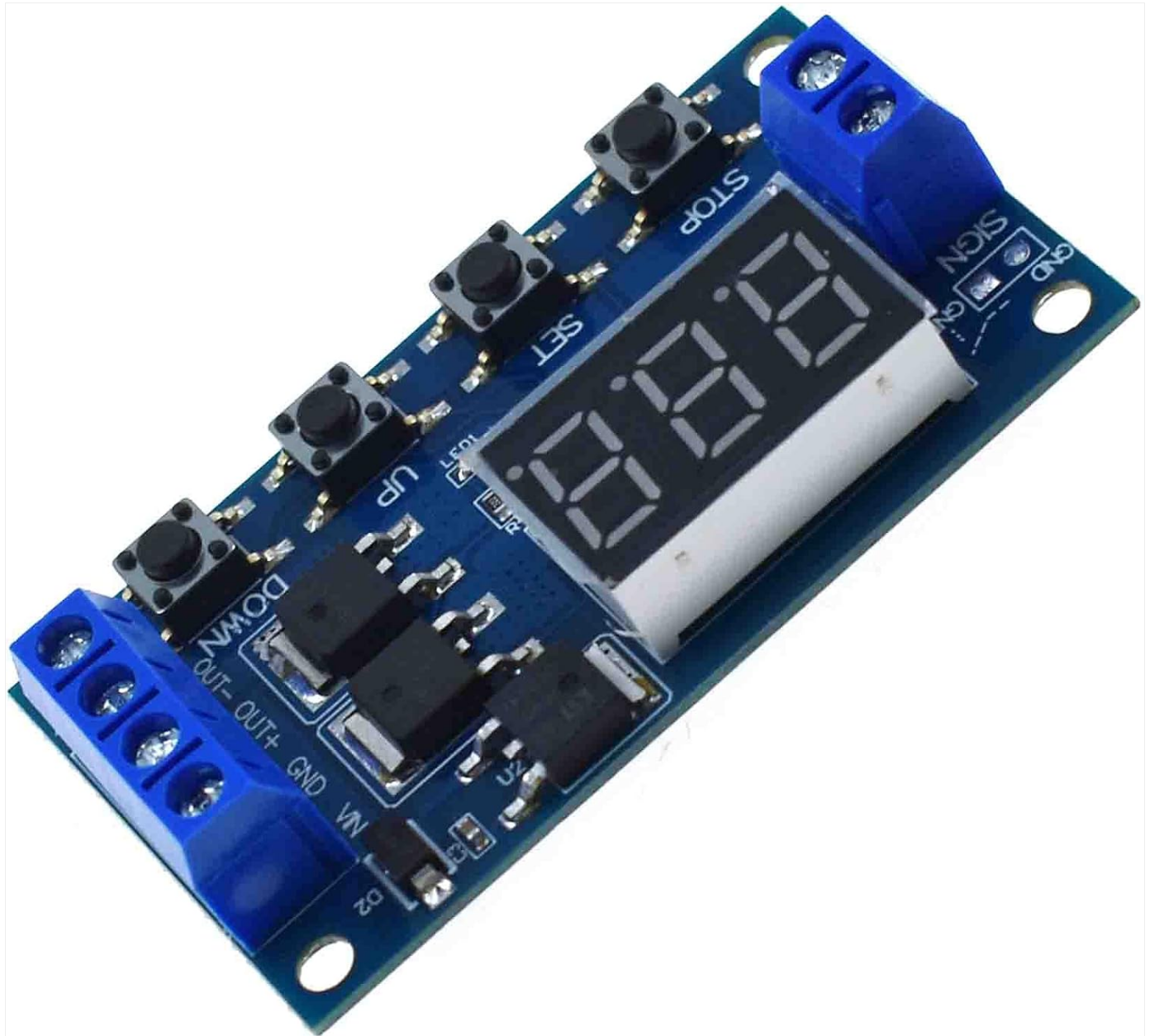


Figure 4: Terminal connections for power input (V+, GND), load output (OUT+, OUT-), and trigger signal (SIG, GND).

Important: Observe polarity carefully. The module has reverse connection protection, but incorrect wiring can still lead to malfunction or damage to connected components. For loads exceeding 15A or 400W, a heatsink is required for the MOS transistors.

OPERATING INSTRUCTIONS

Parameter Setting

The module allows setting three main parameters: OP (ON time), CL (OFF time), and LOP (cycle count).

- 1. Enter Setting Mode:** Press and hold the **SET** button for approximately 3 seconds. The digital display will flash, indicating entry into parameter setting mode.
- 2. Select Parameter:** Short press the **SET** button to cycle through the parameters: OP (ON time) → CL (OFF time) → LOP (cycle count). The currently selected parameter will flash.
- 3. Adjust Value:** Use the **UP** and **DOWN** buttons to adjust the value of the selected parameter.
 - Short press **UP/DOWN** to increment/decrement the value.
 - Long press **UP/DOWN** for rapid adjustment.
 - For LOP, "----" indicates infinite cycles.
- 4. Set Time Unit:** While adjusting OP or CL, short press the **STOP** button to switch the time unit:
 - XXX.** (decimal point in the hundredth place): 0.1 seconds to 99.9 seconds
 - XX.X** (decimal point in the tenth place): 1 second to 999 seconds
 - XXX** (no decimal point): 1 minute to 999 minutes
- 5. Save and Exit:** After setting all desired parameters, press and hold the **SET** button for approximately 3 seconds to save the settings and exit the parameter setting mode. The module will return to its normal operating display.

Emergency Stop Function

In normal operating mode, short press the **STOP** button to activate or deactivate the emergency stop function. When activated, the module will immediately stop its current operation. The display will indicate the stop status.

Sleep Mode

The module features an automatic sleep mode to conserve power. If there is no operation for 5 minutes, the display will turn off. To wake the module, simply press any button.

MAINTENANCE

To ensure the longevity and reliable operation of your ZK-J04 module, follow these maintenance guidelines:

- Keep Dry:** Protect the module from moisture and liquids.
- Cleanliness:** Keep the module free from dust and debris. Use a soft, dry cloth for cleaning.
- Temperature:** Operate and store the module within its specified temperature range. Avoid extreme heat or cold.
- Connections:** Periodically check all wiring connections to ensure they are secure and free from corrosion.
- Ventilation:** If operating at higher currents, ensure adequate ventilation or consider adding a heatsink to the MOS transistors.

TROUBLESHOOTING

Problem	Possible Cause	Solution
Module does not power on.	Incorrect power connection, insufficient voltage, or faulty power supply.	Verify V+ and GND connections. Ensure power supply is within DC 5V-36V range and functioning correctly.

Problem	Possible Cause	Solution
Load does not switch.	Incorrect load wiring, trigger signal issue, or parameters not set correctly.	Check OUT+ and OUT- connections. Verify trigger signal (SIG) is active and within 3.0V-24V. Recheck OP, CL, and LOP settings.
Timing is inaccurate.	Incorrect time unit selected or parameter value set incorrectly.	Review the time unit setting (XXX., XX.X, XXX) during parameter configuration. Adjust OP/CL values as needed.
Module enters sleep mode too quickly.	Normal operation, no activity detected.	This is a power-saving feature. Press any button to wake the module.
Module gets hot during operation.	Load current exceeds 15A or 400W without adequate cooling.	Reduce load current or install a heatsink on the MOS transistors for loads above 15A/400W. Ensure proper ventilation.

SPECIFICATIONS

Model:	ZK-J04
Operating Voltage:	DC 5V - 36V
Trigger Signal Source:	High-level trigger (3.0V - 24V)
Output Capability:	Dual MOS parallel active output, 15A 400W (normal temperature), 30A (maximum, requires heatsink)
Timing Range:	0.1 seconds to 999 minutes (continuously adjustable)
Operating Modes:	Cycle trigger with configurable ON time (OP), OFF time (CL), and cycle count (LOP)
Protection:	Reverse connection protection, Optocoupler isolation
Additional Features:	Emergency stop function, Sleep mode, Automatic parameter saving

WARRANTY AND SUPPORT

This product is covered by the standard warranty provided by the retailer at the time of purchase. For technical support, troubleshooting assistance, or warranty claims, please contact your original point of purchase or the manufacturer directly. Please have your product model (ZK-J04) and purchase details available when seeking support.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page’s manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question