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**Jenngao Jenngao5t6qcview9g**

# Jenngao DC 12V Programmable Timer Relay

Instruction Manual

## 1. INTRODUCTION

This manual provides detailed instructions for the operation and setup of the Jenngao DC 12V Programmable Timer Relay. This versatile digital timer switch is designed for automation control in various applications, including street lights, solenoid valves, instrumentation, and LED display control. It features programmable capacity with up to 17 ON/OFF settings, manual override, and automatic error correction for high precision.

# Time Relay

The signal terminal voltage signal can be maintained for a long time



Figure 1: Jenngao DC 12V Timer Relay. This image highlights the device as a 'Time Relay' and indicates its ability to maintain a signal terminal voltage for extended periods.

## 2. SPECIFICATIONS

- **Material:** ABS
- **Working Voltage:** DC 12V
- **Quiescent Current:** 20 mA
- **Working Current:** 50 mA
- **Signal Source:** Positive trigger, PNP, active high
- **Output Capacity:** Controls equipment within DC 30V 5A or AC 220V 5A
- **Service Life:**  $\geq 100,000$  times
- **Working Temperature:**  $-30 \sim 85$  °C
- **Programmable Settings:** 17 ON/OFF settings
- **Error Correction:** Automatic +30 seconds weekly

### 3. SETUP AND WIRING

Proper wiring is essential for the safe and correct operation of the timer relay. Refer to the diagram below for connection details.



Figure 2: Wiring Diagram. This image illustrates the connection points for Power+, Power-, and the Signal end on the timer relay.

#### Wiring Instructions:

1. **Power Input:** Connect the positive (+) terminal of your DC 12V power supply to the terminal labeled 'Power+' on the relay. Connect the negative (-) terminal of your DC 12V power supply to the terminal labeled 'Power-'.
2. **Signal Input:** Connect your trigger signal source to the terminal labeled 'Signal end'. Ensure the signal is a positive trigger, PNP, and active high.
3. **Output Control:** The relay output terminals are typically located on the opposite side of the power input. These terminals are used to connect the device you wish to control (e.g., lamp, solenoid valve). The relay can switch loads up to DC 30V 5A or AC 220V 5A. Consult the specific wiring requirements of your controlled device.

**Caution:** Ensure all power is disconnected before performing any wiring. Incorrect wiring can damage the device

or connected equipment.

## 4. OPERATING MODES

The timer relay supports various operating modes, selectable via its interface. The specific mode (P-1 to P-5) dictates the relay's behavior based on signal input and timing parameters.

### Mode P-1: Signal Triggered Delay Disconnect

The signal triggers the relay to close. When the set time expires, the relay disconnects. During the timing period, the behavior upon re-triggering can be configured:

- **A:** Re-triggering is invalid.
- **C:** Re-triggering restarts the timing.
- **E:** Re-triggering resets the timer.

### Mode P-2: Signal Triggered ON-OFF Cycle

A signal triggers timing for period T1. When T1 expires, the relay pulls in for period T2, then disconnects (resets). Behavior upon re-triggering:

- **A:** Re-triggering is invalid.
- **C:** Re-triggering restarts the timing.
- **E:** Starts timing immediately upon power-on without requiring a trigger.

### Mode P-3: Infinite Cycling (ON/OFF)

The relay turns ON for T1, then OFF for T2, repeating indefinitely. Both T1 and T2 are adjustable. Setting a parameter to 0 can modify the cycle behavior (e.g., continuous ON or single pulse).

- **A:** The relay is activated immediately after power-on.
- **C:** The relay is turned off and then on after power-on.

### Mode P-4: Signal Maintained, Delay Disconnect on Signal Loss

When a signal is present, the relay closes and remains closed. When the signal disappears, timing begins. When the set time expires, the relay disconnects. If the signal is reapplied during timing, the timing is canceled, the relay remains closed, and when the signal disappears again, timing restarts.

### Mode P-5: Single Shot Output with Lockout

This mode provides a single output pulse when triggered, with a subsequent lockout period. (Note: The original description for P-5 was incomplete. This interpretation is based on common timer relay functionalities.)

## 5. MAINTENANCE

The Jenngaoo DC 12V Programmable Timer Relay is designed for reliable operation with minimal maintenance. To ensure longevity and optimal performance:

- Keep the device clean and free from dust and debris.
- Avoid exposing the device to extreme temperatures or humidity outside its specified operating range (-30 ~ 85 °C).
- Regularly check wiring connections to ensure they are secure and free from corrosion.
- Do not attempt to open the casing or modify the internal components, as this will void any potential warranty.

and may cause damage.

## 6. TROUBLESHOOTING

If you encounter issues with your timer relay, consider the following troubleshooting steps:

- **Device Not Powering On:**

- Verify that the DC 12V power supply is correctly connected to the 'Power+' and 'Power-' terminals.
- Check the power supply itself to ensure it is providing the correct voltage and current.

- **Relay Not Activating/Deactivating:**

- Ensure the signal source is correctly connected to the 'Signal end' and is providing an active high, positive trigger signal.
- Check the selected operating mode (P-1 to P-5) and its parameters to ensure they match your desired behavior.
- Verify that the load connected to the output terminals is within the specified capacity (DC 30V 5A or AC 220V 5A).
- Inspect the output wiring for any loose connections or damage.

- **Incorrect Timing:**

- Review the programmed time settings for the active operating mode.
- The device has automatic error correction (+30 seconds weekly), but significant discrepancies may indicate a programming error.

- **Display Issues:**

- If the digital display is blank or showing erratic characters, check the power supply.

If these steps do not resolve the issue, contact customer support for further assistance.

## 7. WARRANTY AND SUPPORT

For information regarding product warranty, please refer to the terms and conditions provided at the time of purchase or contact the seller directly. For technical support or further inquiries, please reach out to Jenngao customer service through their official channels.