

Wuden T3231

Wuden T3231 Programmable Digital Time Delay Relay Switch User Manual

Model: T3231

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of the Wuden T3231 Programmable Digital Time Delay Relay Switch. The T3231 is designed for precise time control applications, featuring a dual LED display for clear indication of timing parameters and multiple working modes to suit various requirements. Please read this manual thoroughly before use to ensure proper functionality and safety.

2. PRODUCT OVERVIEW

The Wuden T3231 is a versatile programmable time controller. It operates on AC 110-220V and can handle loads up to 2200W. Key features include:

- **Dual LED Display:** Red and blue LED displays for simultaneous viewing of ON and OFF timing settings.
- **Wide Time Range:** Adjustable timing from 1 second to 999 hours.
- **Multiple Working Modes:** Supports single time delay (ON/OFF), infinite cycle ON/OFF, and on-off priority adjustment.
- **Power Failure Saving:** Retains settings in case of power interruption.
- **Active Output:** Output voltage equals operating voltage.
- **Reset Function:** Allows for quick reset and restart.



Figure 2.1: Front view of the Wuden T3231 controller, showing the red and blue LED displays, control buttons (Up, S, Down, R), and the 'OUT' indicator light.



Figure 2.2: Detailed view of the dual LED display, illustrating typical ON (red) and OFF (blue) time settings. The 'ON' and 'OFF' indicators are visible next to the numerical values.

3. SETUP AND WIRING

Safety Precaution: Ensure all power is disconnected before performing any wiring. Improper wiring can lead to electric shock or damage to the device.

The T3231 controller requires an AC 110-220V power supply. The output is an active output, meaning the output voltage will be the same as the input operating voltage. The maximum load capacity is 2200W (10A).

3.1 Wiring Diagram



Figure 3.1: Wiring terminals on the back of the T3231. The diagram indicates connections for Input Live (L), Input Neutral (N), Output Neutral (N), and Output Live (L).

1. Input Power Connection:

- Connect the AC Live wire (L) to the terminal marked "IN L".
- Connect the AC Neutral wire (N) to the terminal marked "IN N".

2. Output Load Connection:

- Connect the load's Neutral wire (N) to the terminal marked "OUT N".
- Connect the load's Live wire (L) to the terminal marked "OUT L".

Ensure all connections are secure and insulated. After wiring, apply power to the unit. The LED displays will illuminate.

4. OPERATING INSTRUCTIONS

The T3231 features four control buttons: **R** (Reset), **S** (Set/Mode), **▲** (Up), and **▼** (Down).

4.1 Setting Time Parameters

1. **Enter Setting Mode:** Press and hold the **S** button for approximately 3 seconds until the red LED display starts flashing. This indicates you are in the ON time setting mode.
2. **Set ON Time (P1):** Use the **▲** and **▼** buttons to adjust the desired ON duration. The unit (seconds, minutes, hours) can be changed by pressing the **S** button briefly while the value is flashing.
3. **Set OFF Time (P2):** After setting the ON time, press the **S** button briefly. The blue LED display will start flashing, indicating you are in the OFF time setting mode. Use the **▲** and **▼** buttons to adjust the desired OFF duration.
4. **Save Settings:** Press and hold the **S** button again for approximately 3 seconds to save the settings and exit the setting mode. The displays will stop flashing.

4.2 Changing Timing Units

While in the time setting mode (LED flashing), a short press of the **S** button cycles through the timing units: seconds (S), minutes (M), and hours (H). The selected unit will be indicated on the display.

4.3 Working Modes

The T3231 supports various operational modes. To select a mode, after setting P1 and P2, briefly press the **S** button to cycle through the modes. The display will show a code indicating the current mode (e.g., P-1, P-2, P-3).

- **P-1: Single Time Delay ON/OFF:** The relay activates for the set ON time (P1), then deactivates for the set OFF time (P2), and stops.
- **P-2: Infinite Cycle ON/OFF (ON first):** The relay activates for P1, then deactivates for P2, and repeats this cycle indefinitely.
- **P-3: Infinite Cycle ON/OFF (OFF first):** The relay deactivates for P2, then activates for P1, and repeats this cycle indefinitely.
- **P-4: Automatic Trigger:** The relay waits for an external trigger signal to start the timing sequence.
- **P-5: On-Off Priority Adjustment:** Allows setting which state (ON or OFF) takes precedence in certain scenarios. Refer to specific application needs for detailed use.

After selecting the desired mode, press and hold the **S** button to save and exit.

4.4 Reset Function

Press the **R** button to reset the current timing sequence and restart the program from the beginning of the selected mode.



Figure 4.1: The T3231 controller highlighting its capability to support various timing and cycle modes, indicated by the display and control buttons.



Figure 4.2: The T3231 controller emphasizing its wide time range capability, from seconds to hours, for precise control.

5. MAINTENANCE

The Wuden T3231 is designed for reliable operation with minimal maintenance. To ensure longevity and proper function:

- **Cleaning:** Keep the device clean and free from dust. Use a soft, dry cloth for cleaning. Do not use abrasive cleaners or solvents.
- **Environment:** Operate the controller within its specified temperature and humidity ranges. Avoid exposure to direct sunlight, excessive moisture, or corrosive environments.
- **Connections:** Periodically check wiring connections to ensure they remain secure.

6. TROUBLESHOOTING

- **No Display/No Power:**
 - Check the power supply connection to the "IN L" and "IN N" terminals.
 - Ensure the power source is active and within the AC 110-220V range.
 - Verify that the fuse (if external) is intact.
- **Output Not Activating:**
 - Confirm the load is correctly wired to "OUT N" and "OUT L".
 - Check if the timing parameters (ON/OFF times) are set correctly and the unit is in an active working mode.
 - Ensure the load does not exceed the maximum 2200W (10A) capacity.
 - Verify the 'OUT' indicator LED is illuminating when the relay should be active.
- **Settings Not Saving:**
 - Ensure you press and hold the **S** button for approximately 3 seconds to save settings after making changes.
- **Incorrect Timing:**
 - Check the selected timing unit (seconds, minutes, hours) during the setting process.

- Re-enter the setting mode and verify the ON (P1) and OFF (P2) values.

7. SPECIFICATIONS

Parameter	Value
Model	T3231
Operating Voltage	AC 110-220V
Max Load Power	2200W
Max Load Current	10A
Output Type	Active Output (Output voltage = Operating voltage)
Relay Type	1-way Normally Open Relay
Timing Unit	Seconds / Minutes / Hours
Timing Range	1-999 (seconds, minutes, or hours)
Display	Dual LED (Red for ON, Blue for OFF)
Installation Size	77 x 39.3 mm (approx.)
Power Failure Saving	Supported

8. WARRANTY AND SUPPORT

For warranty information and technical support regarding your Wuden T3231 Programmable Digital Time Delay Relay Switch, please refer to the documentation provided at the time of purchase or contact your retailer. Specific warranty terms may vary by region and seller.