Fafeicy TRM01

Fafeicy DC5V-24V Timer Relay Module Instruction Manual

Model: TRM01

1. Introduction

This instruction manual provides comprehensive details for the Fafeicy DC5V-24V Timer Relay Module (Model TRM01). This versatile module offers multiple timing functions, including power-on delay, power-off delay, self-locking, and level trigger modes, making it suitable for a wide range of control applications. Please read this manual thoroughly before operation to ensure correct usage and optimal performance.

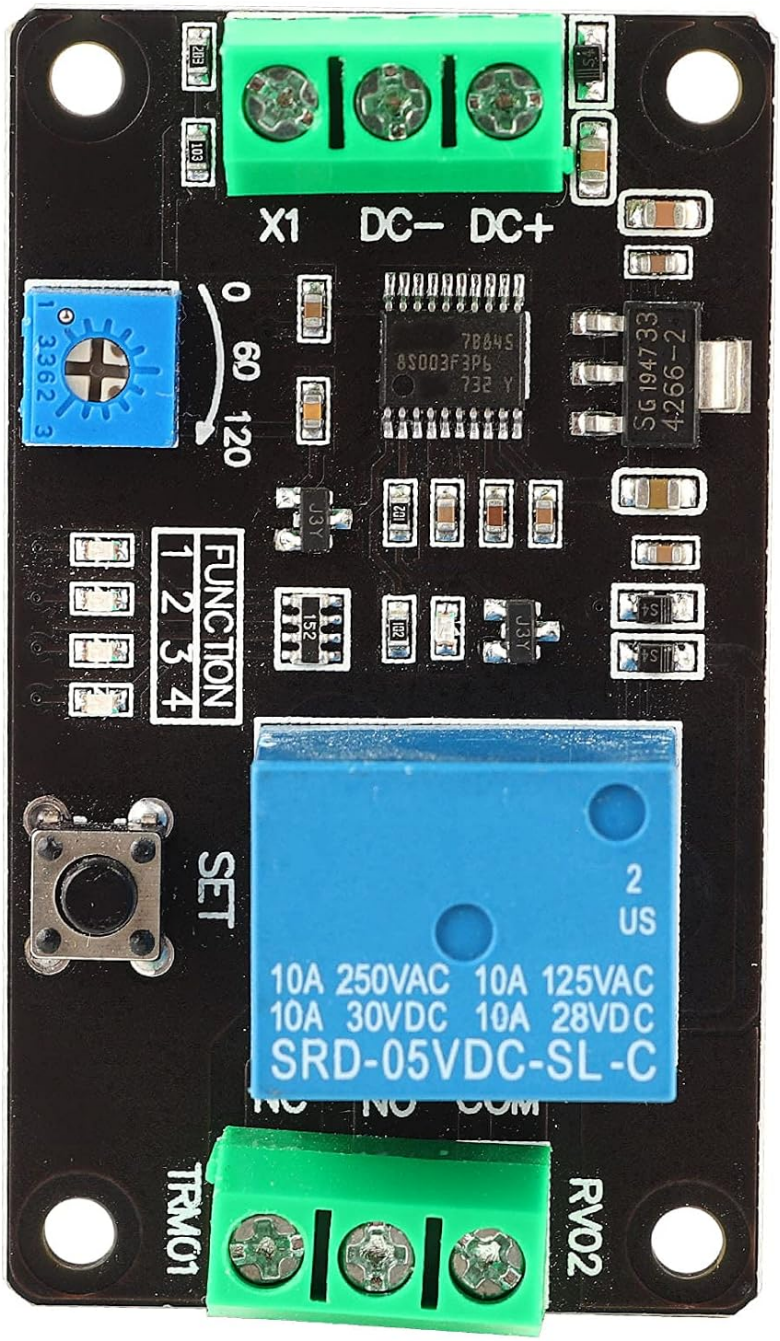


Figure 1: Top view of the Fafeicy DC5V-24V Timer Relay Module.

2. Specifications

Parameter	Value
Operating Voltage	DC 5V, 12V, or 24V (selectable version)
Working Current (5V)	<80mA (active), <1mA (relay off)
Working Current (12V)	<35mA (active), <1mA (relay off)
Working Current (24V)	<18mA (active), <1mA (relay off)
Load Capacity (Normally Open Port)	DC 0-30V/10A, AC 0-250V/10A
Load Capacity (Normally Closed Port)	DC 0-28V/10A, AC 0-125V/10A

Parameter	Value
Working Temperature	-20°C to 60°C (limit range -30°C to 70°C)
Dimensions (L x W x H)	60 x 35 x 20 mm (2.36 x 1.38 x 0.79 inches)
Weight	Approx. 23g
Delay Time Range	0.1 to 120 seconds (adjustable)
Contact Material	Copper
Contact Type	Normally Closed (NC)
Mounting Type	PCB Mount

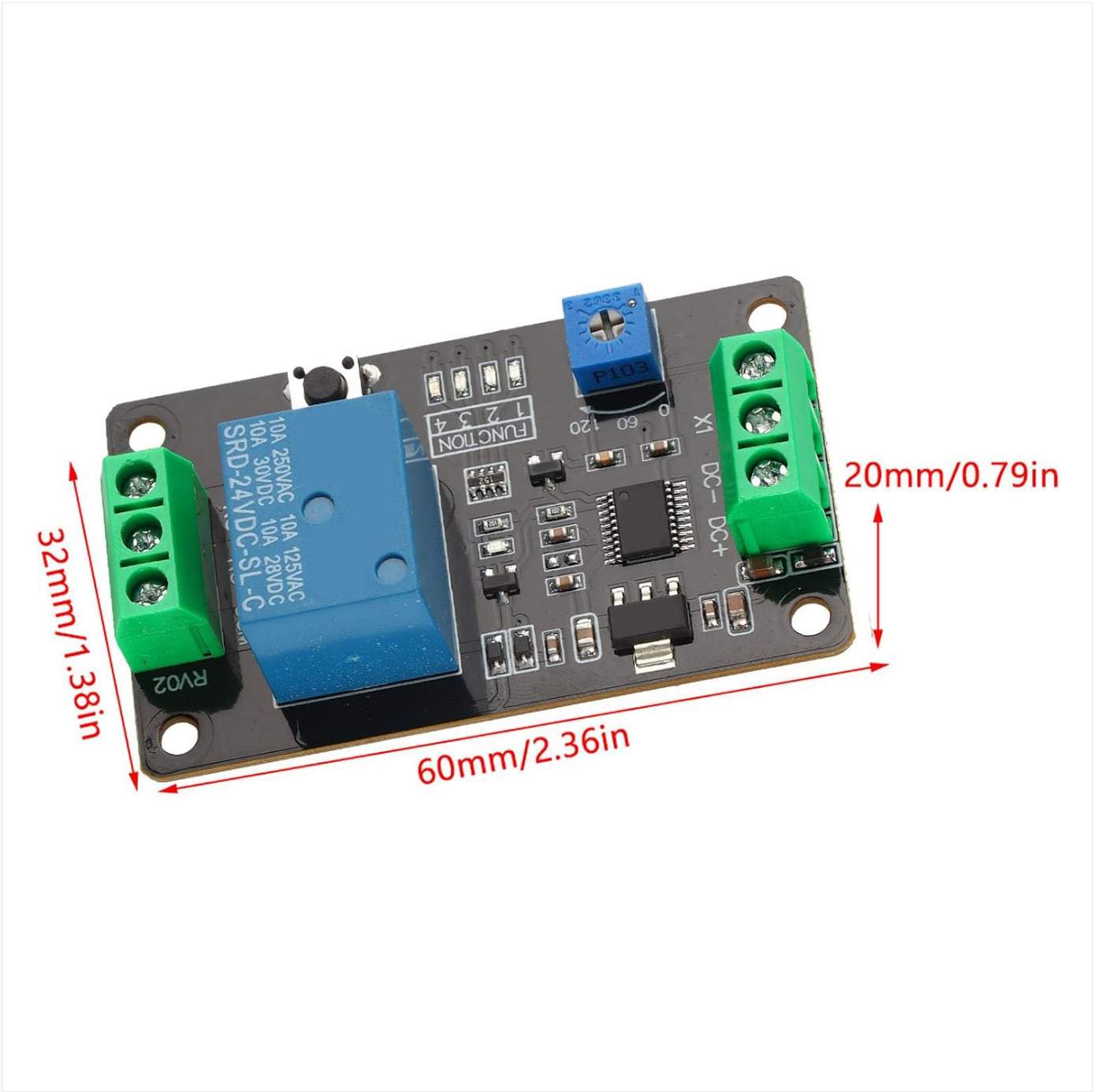


Figure 2: Module dimensions.

3. Product Features

- **Wide Application Range:** Suitable for various control scenarios requiring delayed self-locking functions.
- **Voltage Options:** Available in DC 5V, 12V, and 24V versions to match different power supply requirements.
- **Reverse Power Protection:** Designed with reverse power supply protection to prevent damage to the module.
- **Multiple Functions:** Pre-programmed with four distinct functions (F1-F4) to meet diverse application needs.
- **Adjustable Delay Time:** Delay time is adjustable from 0.1 seconds to 120 seconds.
- **Parameter Memory:** Settings are saved automatically and retained even after power loss.
- **High-Quality Components:** Constructed with quality components for stable performance and simple operation.

4. Module Interface and Wiring

The module features three wiring terminals for voltage/signal input and three terminals for relay output.

4.1 Input Terminals

- **DC+:** Positive DC power supply input.
- **DC-:** Negative DC power supply input.
- **X1:** Input signal detection interface (high-level pulse signal).

4.2 Output Terminals (Relay)

- **NO:** Normally Open contact.
- **NC:** Normally Closed contact.
- **COM:** Common contact.

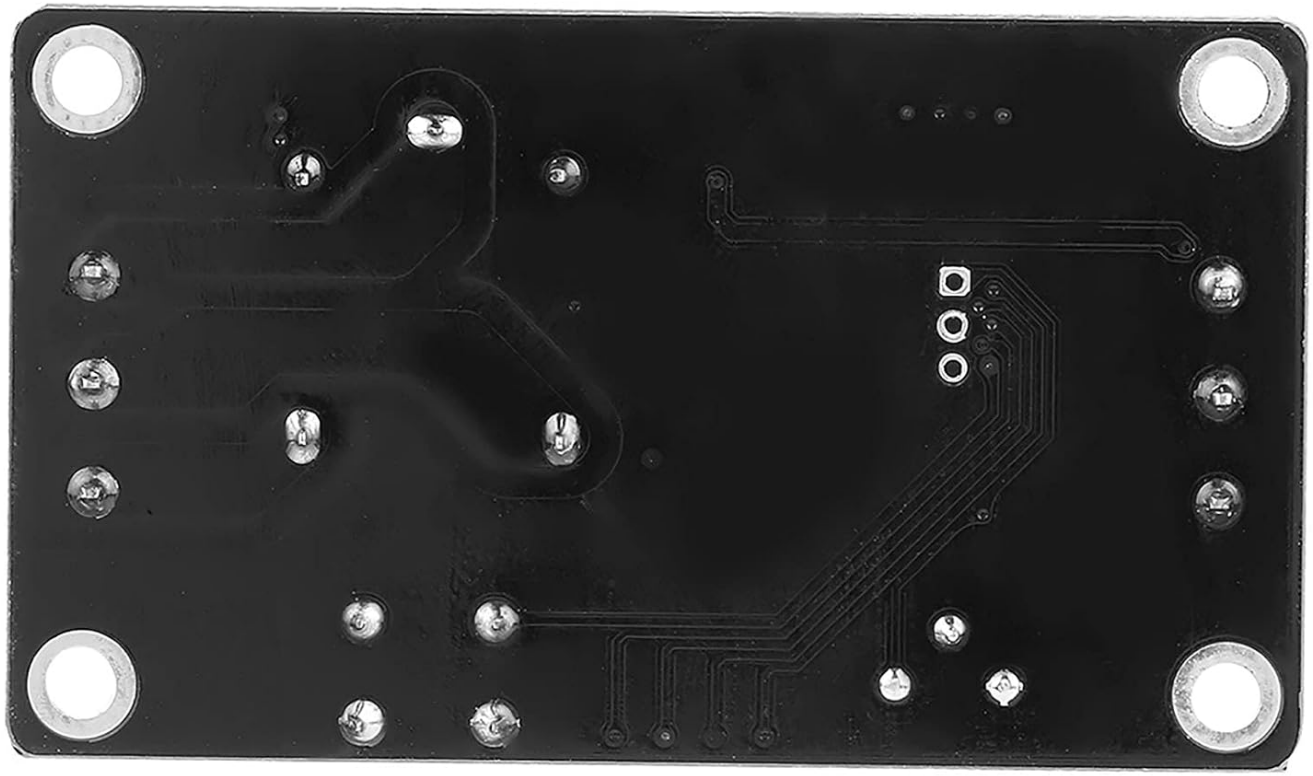


Figure 3: Input terminals (X1, DC-, DC+).



Figure 4: Typical wiring diagrams for DC and AC loads.

5. Setup and Initial Configuration

5.1 Power Connection

1. Connect the positive terminal of your DC power supply to the**DC+** terminal on the module.
2. Connect the negative terminal of your DC power supply to the**DC-** terminal on the module.
3. Ensure the power supply voltage matches the module's specified operating voltage (5V, 12V, or 24V).

5.2 Load Connection

Connect your load to the relay output terminals (NO, NC, COM) according to your application requirements. Refer to Figure 4 for typical wiring configurations.

5.3 Function Selection

The module has a 'SET' button to cycle through the four operating functions (F1, F2, F3, F4). Press the 'SET' button

briefly to change the function mode. The current function mode is typically indicated by an LED or a sequence of flashes (refer to specific product documentation for LED indicators if available).

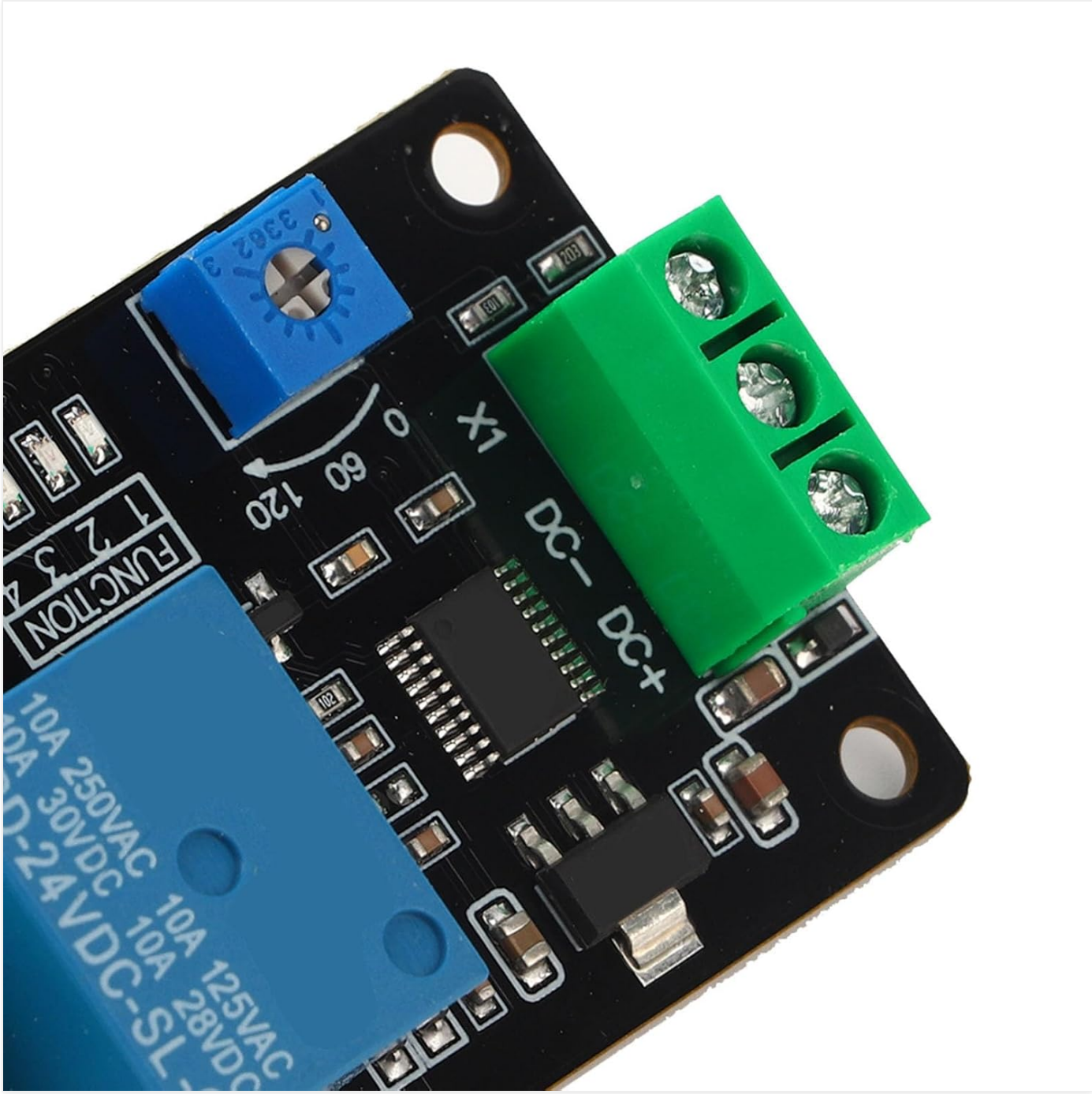


Figure 5: Potentiometer for time adjustment and 'SET' button for function selection.

6. Operating Modes

The module supports four distinct operating functions:

6.1 Function F1: Power-On Delay

Upon power-up, the relay remains off. After a set delay time (T1), the relay activates (closes). A high-level pulse signal to the X1 interface at any time will reset and restart this function.

6.2 Function F2: Power-Off Delay

The relay is initially activated (closed) upon power-up. After a set delay time (T1), the relay deactivates (opens). A high-level pulse signal to the X1 interface at any time will reset and restart this function.

6.3 Function F3: Self-Locking Relay Mode

A high-level pulse signal sent to the X1 interface will activate (close) the relay. A subsequent high-level pulse signal to X1 will deactivate (open) the relay. This mode acts as a toggle switch.

6.4 Function F4: Level Trigger Delay Mode

Upon power-up, the relay is deactivated (open). When a high-level signal is applied to the X1 interface, the relay immediately activates (closes). The relay remains active as long as the high-level signal is present. Once the high-level signal is removed, the relay will deactivate after the set delay time (T1).

7. Time Adjustment

The delay time (T1) for functions F1, F2, and F4 can be adjusted using the onboard potentiometer. The adjustment range is from 0.1 seconds to 120 seconds. Rotate the potentiometer clockwise to increase the delay time and counter-clockwise to decrease it. The settings are automatically saved.

8. Maintenance

- Keep the module clean and free from dust and moisture.
- Avoid exposing the module to extreme temperatures or direct sunlight.
- Ensure all connections are secure and free from corrosion.
- Do not exceed the specified voltage and current ratings to prevent damage.

9. Troubleshooting

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

- **No Power/Module Not Responding:**
  - Verify that the DC power supply is connected correctly to DC+ and DC-.
  - Check if the power supply voltage matches the module's rating (5V, 12V, or 24V).
  - Ensure the power supply is providing stable voltage and sufficient current.
- **Relay Not Activating/Deactivating:**
  - Confirm the correct operating function (F1-F4) is selected using the 'SET' button.
  - Check the input signal at X1 for proper high-level pulse or continuous signal as required by the selected function.
  - Inspect load connections (NO, NC, COM) for proper wiring.
  - Ensure the load's voltage and current requirements do not exceed the relay's capacity.
- **Incorrect Delay Time:**
  - Adjust the potentiometer to set the desired delay time.
  - Note that the potentiometer provides an analog adjustment, and precise timing may require fine-tuning.
- **Module Overheating or Damage:**
  - Immediately disconnect power if you observe smoke or unusual odors.
  - This typically indicates an overcurrent, overvoltage, or short-circuit condition. Review all wiring and power specifications.

10. Warranty and Support

For warranty information or technical support, please refer to the retailer or manufacturer's official website. Keep your purchase receipt for any warranty claims.

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