Walfront Walfront7820a6dfzu

Walfront 5V - 24V DC Motor Forward/Reverse Control Timing Delay Time Cycles Relay

Model: Walfront7820a6dfzu

Brand: Walfront

INTRODUCTION

This manual provides detailed instructions for the Walfront 5V - 24V DC Motor Forward/Reverse Controller. It covers product specifications, port descriptions, setup procedures, operating modes, and troubleshooting tips to ensure optimal performance and safe usage of your device.

SPECIFICATIONS

Feature	Value
Power Supply	DC 6.5-25V, DC 5V
Operating Current (Normal Mode)	83 mA
Standby Current (Normal Mode)	41 mA
Operating Current (Power Saving Mode)	44 mA
Standby Current (Power Saving Mode)	7 mA
Relay Load Current	<5 A
Delay Time Range	0.1-9.9 seconds, 1-9999 seconds, 1-9999 minutes
Dimensions	8 x 5 cm (3.2 x 2 inches)
Weight	Approx. 51 g (1.8 oz)

PORT DESCRIPTIONS

Understanding the function of each port is crucial for correct wiring and operation.

- **DC 5.5mm Female:** Power supply input 1 (DC 5V).
- **VIN:** Power supply input 2 positive (DC 6.5-25V).
- **GND:** Power supply input 2 negative.

- **FWD:** Forward input control. Note: This input is invalid in partial function modes.
- **REV:** Reverse input control. Note: This input is invalid in partial function modes.
- **STOP:** Stop input control. Note: This input is invalid in partial function modes.
- **M+:** Motor positive terminal.
- **M-:** Motor negative terminal.
- **P+:** Motor power supply positive terminal.
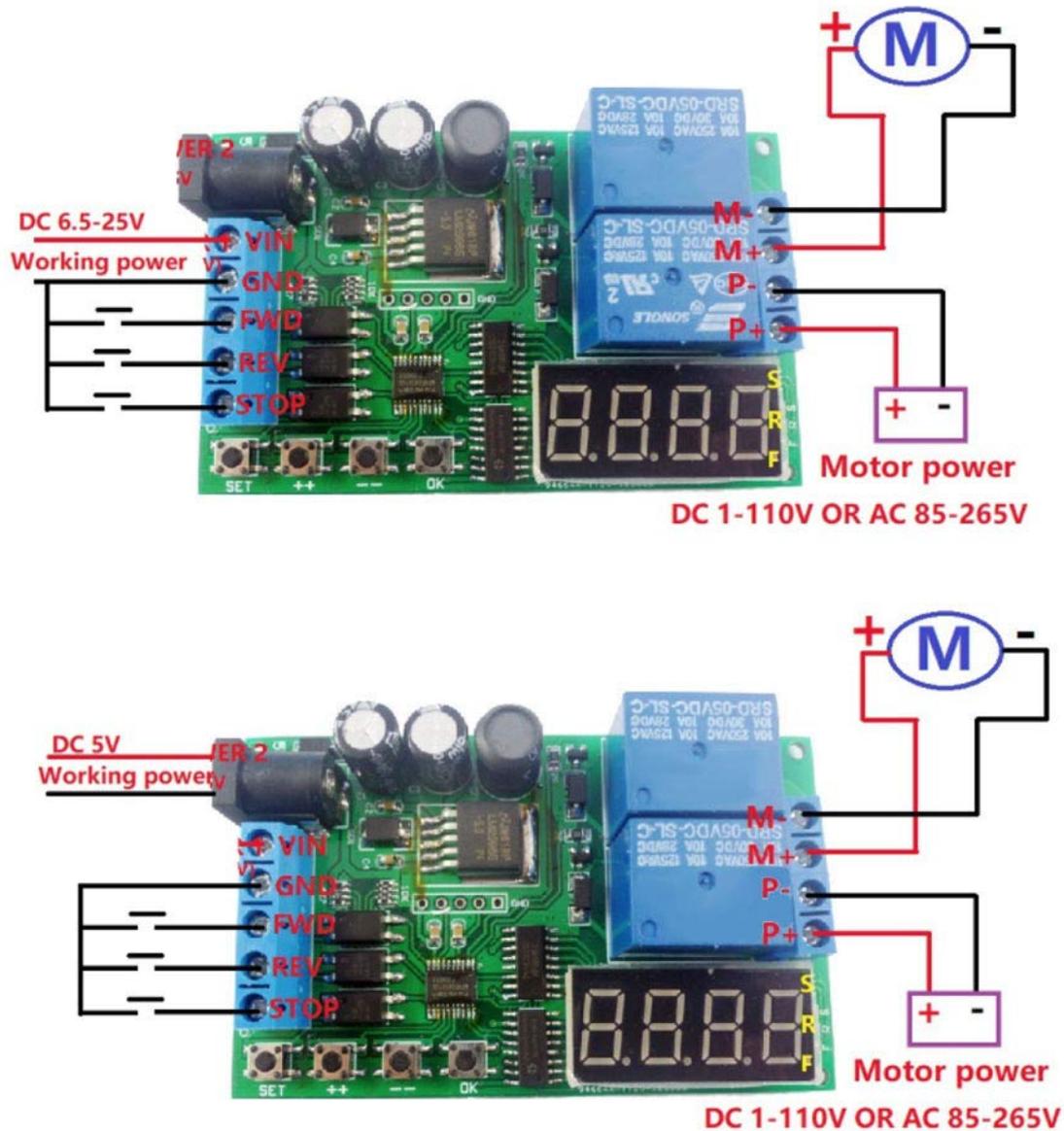- **P-:** Motor power supply negative terminal.

Figure 1: Wiring diagram for the motor controller using a DC 6.5-25V power supply. This diagram illustrates how to connect the motor and power source to the board's terminals, showing the VIN and GND connections for the main power and P+ and P- for the motor's power.
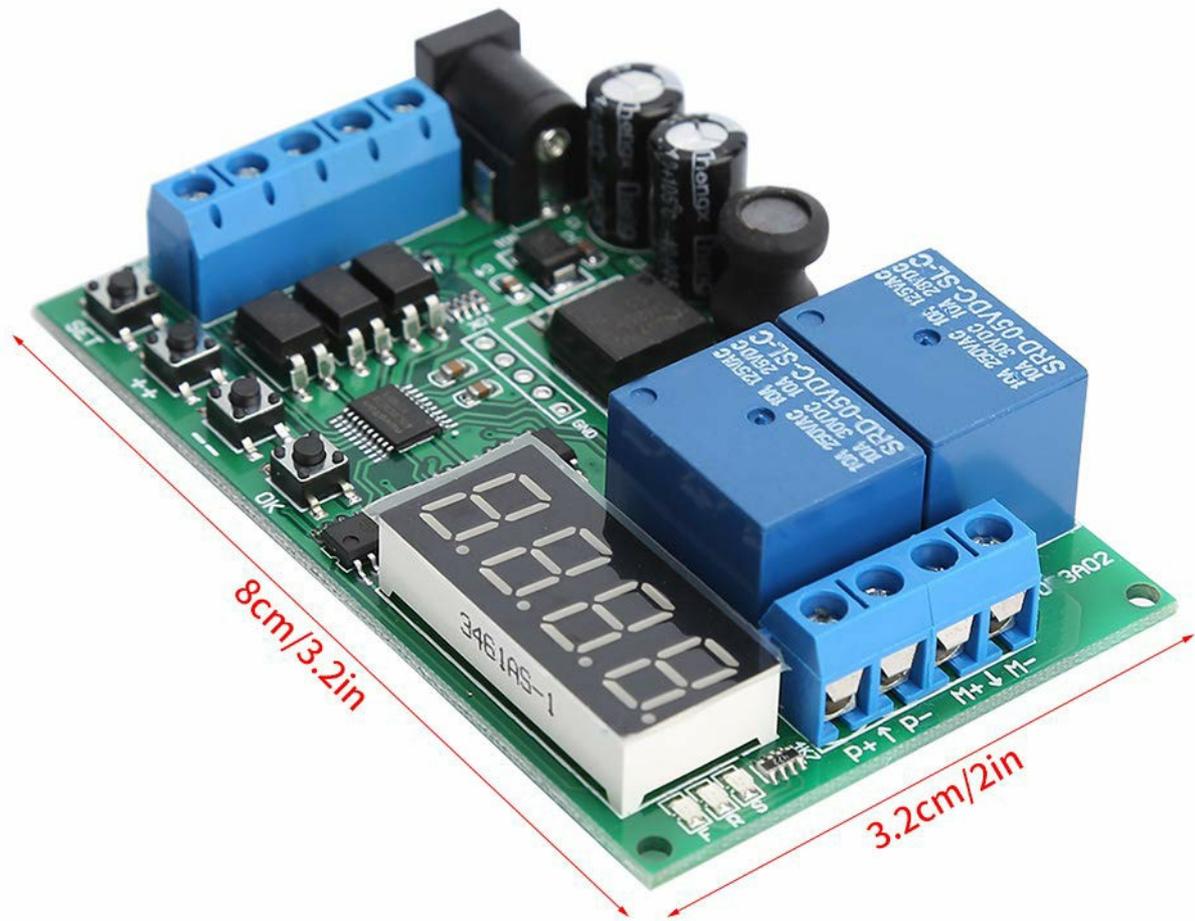
Figure 2: Wiring diagram for the motor controller using a DC 5V power supply. This diagram shows connections via the 5.5mm DC female jack for the main power, with P+ and P- for the motor's power supply.

SETUP

Follow these steps to set up your motor controller:

1. **Power Connection:** Connect your power supply to the board. You have two options:

   - For DC 5V, use the 5.5mm DC female jack.
   - For DC 6.5-25V, connect to the VIN (positive) and GND (negative) terminals.

   Note: Do not connect both power sources simultaneously.

2. **Motor Connection:** Connect your motor to the M+ (positive) and M- (negative) terminals.

3. **Motor Power Supply:** Connect the motor's dedicated power supply to the P+ (positive) and P- (negative) terminals. This supply can be DC 1-110V or AC 85-265V.

4. **Input Controls (Optional):** If using external control signals, connect them to the FWD (forward), REV (reverse), and STOP (stop) input terminals.
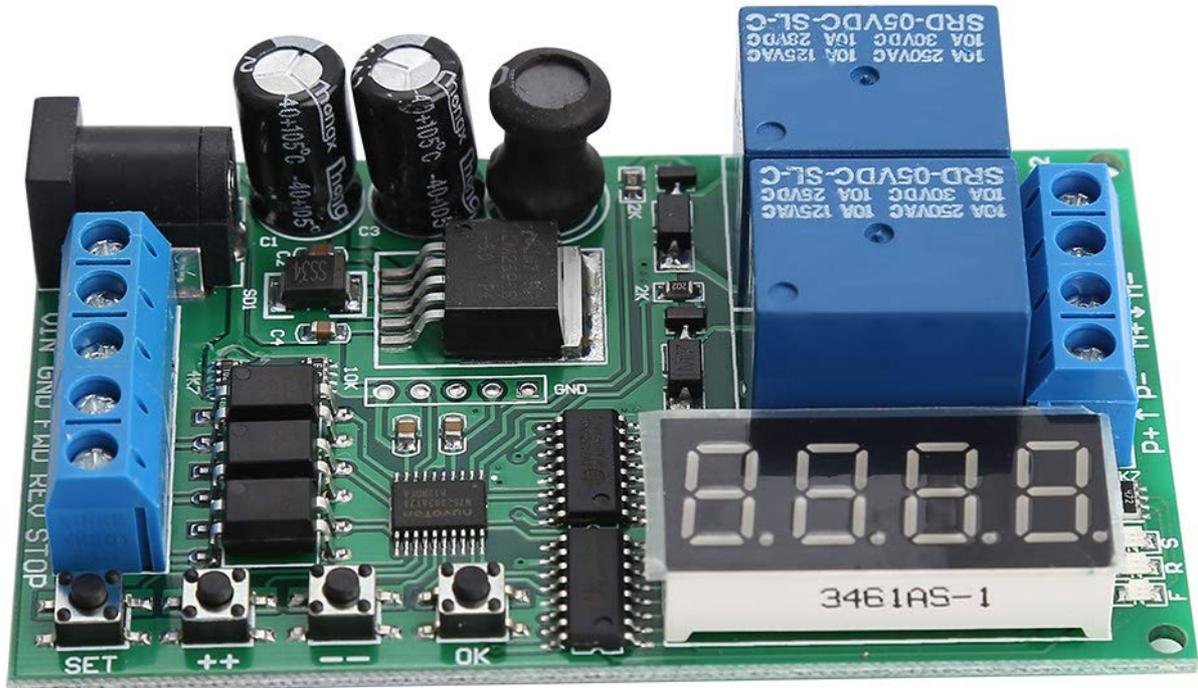
Figure 3: Top view of the Walfront motor controller board, showing the various terminals and components for setup.

OPERATING INSTRUCTIONS

Operating Modes

The controller supports two input trigger modes:

- **Mode 1:** Low Pulse (falling edge trigger)
- **Mode 2:** Low Level (rising edge trigger)

Timer Functions

The device features three distinct timers for precise control:

- **T1:** Forward Timer - Controls the duration of forward motor movement.
- **T2:** Reverse Timer - Controls the duration of reverse motor movement.
- **T3:** Stop Timer - Controls the duration the motor remains stopped between cycles.

Time units can be set to 0.1 seconds, 1 second, or 1 minute.

Sequence Movement Indication

The LEDs on the board indicate the current motor status:

- **Motor Forward:** Relay 1 is active, Relay 2 is stopped. The **F** LED flashes.
- **Motor Reverse:** Relay 1 is stopped, Relay 2 is active. The **R** LED flashes.
- **Motor Stop:** Both Relay 1 and Relay 2 are stopped. The **S** LED flashes.

Factory Settings Reset

To restore the device to its default factory settings:

- Press and hold the "++" and "--" buttons simultaneously for 5 seconds.

Power Saving Mode

This mode helps conserve energy by turning off the digital display and LED indicators while maintaining full functionality:

- **To Enter:** Press and hold the "OK" button for 5 seconds.
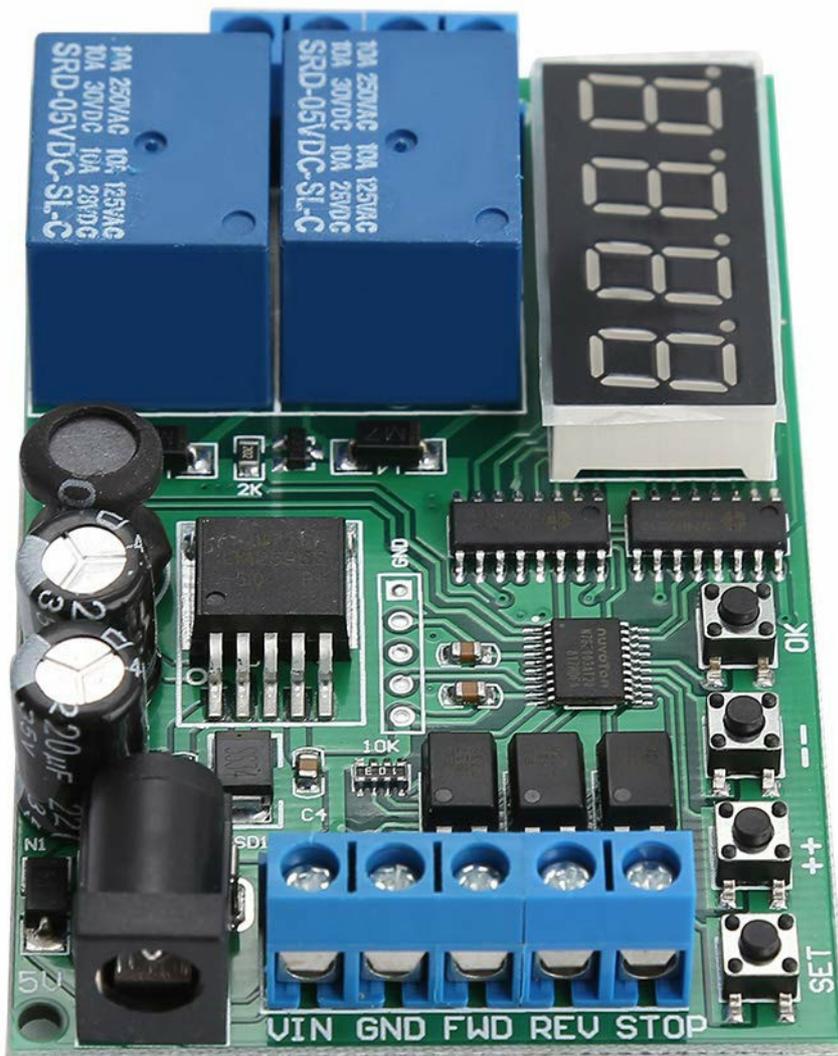- **To Exit:** Press and hold the "OK" button again for 5 seconds.

MAINTENANCE

To ensure the longevity and reliable operation of your Walfront motor controller, follow these general maintenance guidelines:

- **Keep Clean:** Regularly clean the board with a soft, dry cloth to prevent dust and debris buildup, which can affect performance.
- **Avoid Moisture:** Protect the device from moisture and extreme temperatures. Operate it within its specified environmental conditions.
- **Inspect Connections:** Periodically check all wiring connections to ensure they are secure and free from corrosion. Loose connections can lead to intermittent operation or damage.
- **Proper Ventilation:** Ensure adequate airflow around the board, especially if operating under heavy loads, to prevent overheating.

TROUBLESHOOTING

If you encounter issues with your motor controller, refer to the following common problems and solutions:

- **Device Not Powering On:**

  - Verify that the power supply is correctly connected to either the DC 5.5mm jack or the VIN/GND terminals.
  - Ensure the power supply voltage is within the specified range (DC 5V or DC 6.5-25V).
  - Check for any loose wires or damaged connections.

- **Motor Not Responding to Control Inputs (FWD/REV/STOP):**

  - Confirm that the control inputs are correctly wired and receiving the appropriate signals.
  - Note that FWD, REV, and STOP inputs may be invalid in certain partial function modes. Refer to the operating instructions for mode-specific behavior.
  - Ensure the motor's power supply (P+/P-) is correctly connected and providing power.

- **Incorrect Timing or Sequence:**

  - Review the timer settings (T1, T2, T3) and time units (0.1s, 1s, 1min) to ensure they are configured as desired.
  - If the sequence is unexpected, try resetting to factory settings (press "++" and "--" simultaneously for 5 seconds) and reconfigure.

- **Digital Display/LEDs Off (but functions work):**

  - The device might be in Power Saving Mode. Press and hold the "OK" button for 5 seconds to exit this mode.

- **General Programming/Configuration Issues:**

  - While specific programming steps are not detailed in the product description, ensure you are following the button press sequences accurately for setting timers and modes.
  - If persistent issues arise, consider contacting Walfront customer support for advanced programming guidance.

Package Contents

The package includes the following item:

- 1 x Motor Control Board

Warranty and Support

For warranty information and technical support, please refer to the seller's policies or contact Walfront customer service directly. Keep your purchase receipt for any warranty claims.