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› Walfront Servo Micro Analog 1.5g GS1502 Instruction Manual

Walfront GS1502

Walfront Servo Micro Analog GS1502 Instruction Manual

Model: GS1502

1. PRODUCT OVERVIEW

The Walfront GS1502 is a micro analog servo designed for ultra-micro 3D flight aircraft and other small-scale remote-controlled applications. Its lightweight design makes it suitable for projects where minimizing weight is crucial for performance.

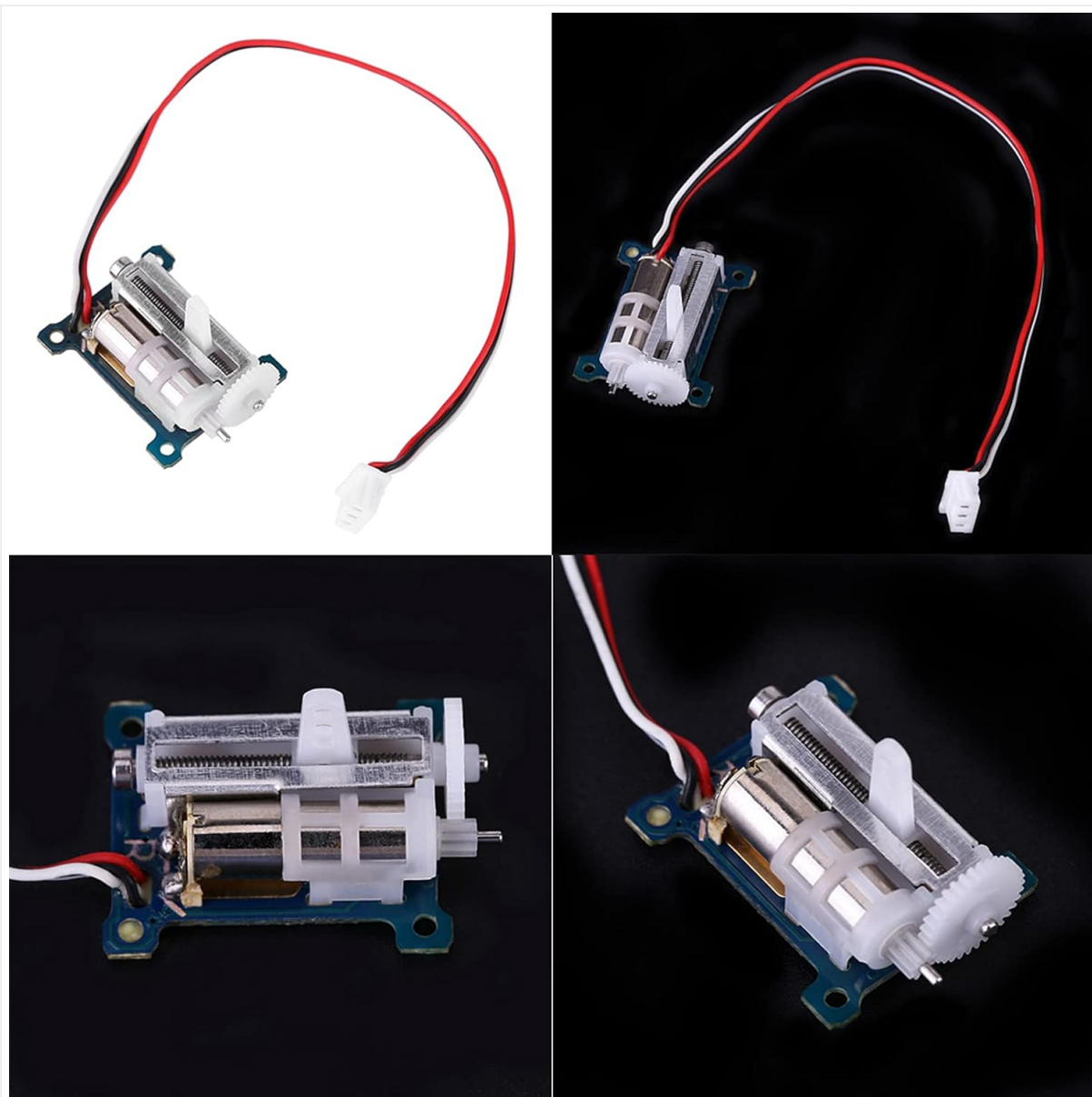


Figure 1: Walfront GS1502 Micro Analog Servo with its three-wire connector.

This servo provides precise control for various functions in miniature models. It operates within a specific voltage range and offers a defined torque and speed, making it an efficient component for your micro-aircraft needs.

2. SETUP INSTRUCTIONS

Proper connection of the servo is essential for its functionality and to prevent damage to the unit or your aircraft's control system.

2.1 Wiring Connections

- **Red Wire:** Connects to the positive (+) power supply.
- **Black Wire:** Connects to the negative (-) or ground.
- **White Wire:** Connects to the signal input from your receiver or flight controller.

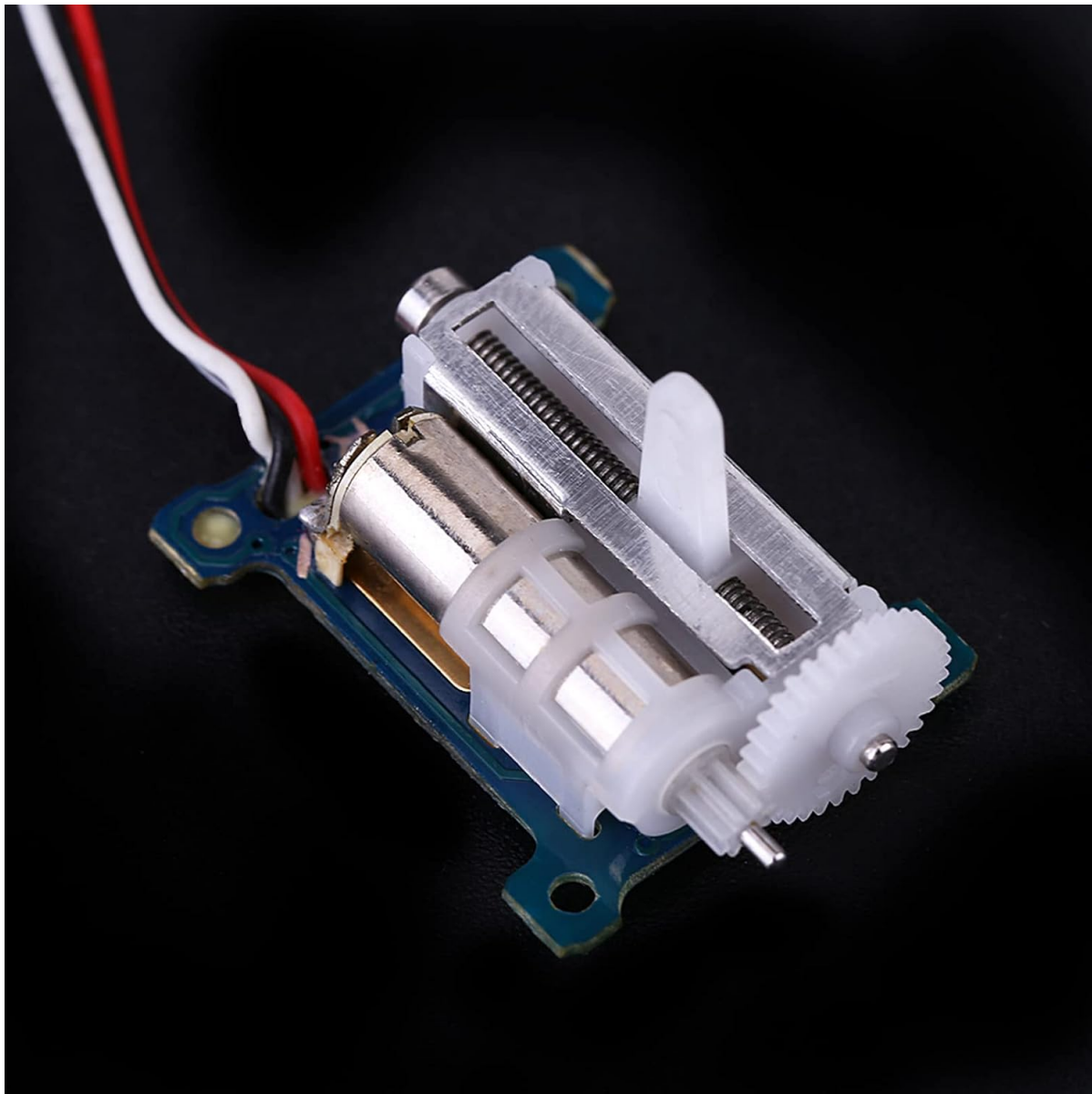


Figure 2: Detailed view of the servo's internal mechanism and wire connections.

2.2 Power Supply

The GS1502 servo operates within a working voltage range of **3.7V to 5V**. Ensure your power source (e.g., flight battery, BEC) provides voltage within this range. Exceeding the maximum voltage can damage the servo.

2.3 Mounting

Mount the servo securely in your aircraft using appropriate fasteners. Ensure that the servo arm has a clear range of motion and does not bind against any part of the airframe. Incorrect mounting can lead to reduced performance or servo failure.

3. OPERATING PRINCIPLES

The GS1502 is an analog servo, meaning it receives a Pulse Width Modulation (PWM) signal from your receiver or flight controller. This signal dictates the position of the servo arm. The servo's internal circuitry interprets the pulse width and moves the output shaft to the corresponding angle.

- **Control:** The servo arm's position is directly controlled by the signal pulse width.
- **Movement:** The servo provides a rotational movement, typically around 90-180 degrees, depending on the signal range.

- **Application:** Commonly used for controlling flight surfaces like ailerons, elevators, or rudders in ultra-micro aircraft.



Figure 3: Angled view of the Walfront GS1502 servo, highlighting its compact design.

4. MAINTENANCE

To ensure the longevity and optimal performance of your Walfront GS1502 servo, follow these basic maintenance guidelines:

- **Keep Clean:** Regularly inspect the servo for dirt, dust, or debris, especially around the gears and output shaft. Use a soft brush or compressed air to gently clean it.
- **Avoid Overloading:** Do not force the servo arm beyond its natural range of motion or apply excessive external force, as this can strip the gears or damage the motor.
- **Check Connections:** Periodically verify that the wiring connections are secure and free from corrosion or damage.
- **Storage:** Store the servo in a dry, cool environment away from direct sunlight and extreme temperatures.

5. TROUBLESHOOTING

If you encounter issues with your GS1502 servo, consider the following troubleshooting steps:

- **Servo Not Responding:**
 - Check all wiring connections (power, ground, signal) for proper polarity and secure contact.
 - Verify that the power supply voltage is within the 3.7V-5V operating range.
 - Test the servo with a different receiver channel or a dedicated servo tester to rule out issues with the control signal source.
- **Erratic Movement or Jittering:**
 - Ensure the power supply is stable and sufficient. Voltage drops can cause erratic behavior.
 - Check for electromagnetic interference (EMI) from other electronic components. Try repositioning the servo or its wiring.
 - Inspect the servo gears for any obstructions or damage.
- **Servo Not Centering Correctly or Holding Position:**
 - Ensure there is no mechanical binding in the linkage or the servo arm's movement.
 - Verify that your radio transmitter or flight controller is calibrated correctly and sending the appropriate center signal.
 - Analog servos can sometimes be sensitive to minor signal variations; ensure a clean signal.

6. TECHNICAL SPECIFICATIONS

Below are the detailed specifications for the Walfront GS1502 Micro Analog Servo:

Feature	Specification
Model	GS1502
Type	Analog Servo
Torque	0.2kg/cm
Speed	0.12 sec
Working Voltage	3.7V - 5V
Dimensions	15 x 20mm (0.59 x 0.78 inch)
Wire Colors	Red (+), Black (-), White (Signal)
Manufacturer	WALFRONT

7. WARRANTY AND SUPPORT

Specific warranty information for the Walfront GS1502 Micro Analog Servo is not provided in this manual. For details regarding warranty coverage, returns, or technical support, please refer to the product's purchase documentation or contact the retailer or manufacturer directly.

