WINGONEER 5198

WINGONEER Digital Servo and ESC Consistency Tester User Manual

Introduction

This manual provides detailed instructions for the WINGONEER Digital Servo and ESC Consistency Tester. This device is designed for testing and adjusting the performance of servos and Electronic Speed Controllers (ESCs) used in RC helicopters, aircraft, and other motor applications. It allows for precise measurement and adjustment of pulse width signals.

Product Overview

Key Features

- Simultaneous control and testing of up to 4 servos.
- Accurate comparison of steering servo output signal performance to 2 microseconds (1 millisecond = 1000 microseconds).
- Enables testing of subtle changes in steering gear response.
- Display signal test function shows input PPM signal changes.
- Automatic initiation of synchronous output to servos in manual mode.
- Rotary potentiometer for adjusting output pulse width.
- Multiple operating modes: Manual, Neutral, and Automatic.
- Supports various servo signal cycles and frequencies.

Package Contents

- 1 x WINGONEER Digital Servo / ESC Consistency Tester

Image: The WINGONEER Digital Servo and ESC Consistency Tester shown in its retail blister packaging.

Setup

Power Connection

The tester requires a DC input voltage of 5-6V. Connect the power source to the designated input port, typically labeled for power input.

Servo/ESC Connection

Connect your servos or ESCs to the output ports labeled 'OUT 1 2 3 4'. The tester can connect with up to 4 servos simultaneously. Ensure correct polarity when connecting. The standard wiring for a servo is:

- **Positive:** Connect VCC to this pin (voltage 4.8-6V).
- **Negative:** Connect GND to this pin.
- **Signal:** Connect the signal wire (often yellow for 9g servos).

Image: A diagram illustrating the correct wiring connections for servos to the tester's output ports. Positive (red), Negative (brown), and Signal (yellow) wires are shown connected to the respective pins.

Image: A close-up view of the tester's output ports, labeled 'OUT 1 2 3 4', and the power input port '4.8-6V S+I'.

Operating Modes

The tester features a button to select between three operating modes and a rotary potentiometer to adjust the pulse width.

Mode Selection

Press the 'Select' button to cycle through the following modes:

1. **S-1 Manual Mode:** In this mode, you manually adjust the output pulse width using the rotary potentiometer. The display will show the current pulse width.
2. **S-2 Neutral Mode:** This mode sets the servo to its neutral position, typically a 1500us pulse width. This is useful for finding the center point of your servo.
3. **S-3 Automatic Mode:** In this mode, the tester automatically sweeps the servo through its full range of motion, from minimum to maximum pulse width, and then back. This is useful for checking the servo's full travel and consistency.

Pulse Width Adjustment

In S-1 Manual Mode, rotate the potentiometer knob to increase or decrease the output pulse width. The display will show the current pulse width value in microseconds (us).

Image: A close-up of the tester's digital display and the rotary potentiometer, used for adjusting pulse width in manual mode.

Pulse Width Options (Frequency)

The tester supports different signal frequencies for various servo types:

- **50H Analog Servo Signal Cycle:** 20us pulse width, 50Hz frequency. Suitable for standard analog servos.
- **125H Digital Steering Gear Signal Cycle:** 8us pulse width, 125Hz frequency. For faster digital servos.
- **250H Digital Servo Signal Cycle:** 4us pulse width, 250Hz frequency. For high-performance digital servos.

Ensure you select the appropriate signal type (analog or digital) for your servo using the button to prevent damage.

Specifications

Material	Plastic
Color	Blue + Black
Input Voltage	DC 5-6V

Output Signal Width	800-2200us
Package Size	14 x 10 x 3 cm (5.5 x 3.9 x 1.2 inches)
Package Weight	39g (1.4 oz)
Model Number	5198
UPC	736684079758

Maintenance

To ensure the longevity and proper functioning of your tester, follow these general maintenance guidelines:

- Keep the device clean and free from dust and debris. Use a soft, dry cloth for cleaning.
- Store the tester in a cool, dry place away from direct sunlight and extreme temperatures.
- Avoid exposing the device to moisture or corrosive substances.
- Handle with care to prevent physical damage.

Troubleshooting

If you encounter issues with your WINGONEER Digital Servo and ESC Consistency Tester, consider the following:

- **No Power/Display:** Ensure the input voltage is within the specified 5-6V range and that the power connection is secure and correctly polarized.
- **Servo Not Responding:** Verify that the servo is correctly connected to the output port with the correct polarity. Check if the servo itself is functional by testing it with another known good signal source. Ensure the correct operating mode (S-1, S-2, S-3) is selected.
- **Inconsistent Servo Movement:** Check for loose connections. Ensure the appropriate pulse width option (frequency) is selected for your specific servo type (analog or digital).
- **Damage to Servo:** Always select the correct signal type (digital or analog) for your servo using the button to prevent potential damage.

Safety Warnings

Please observe the following safety precautions:

- **Correct Servo Selection:** Always select the appropriate servo type (digital or analog) using the mode button before connecting and testing. Incorrect selection can lead to damage to the steering servo.
- **Power Supply:** Use only a DC 5-6V power supply. Using an incorrect voltage can damage the tester and connected components.
- **Polarity:** Ensure all connections, especially power and servo connections, adhere to correct polarity to prevent damage.
- **Supervision:** Do not leave the device unattended during operation, especially when testing sensitive components.
- **Children:** Keep this device out of reach of children. It is not a toy.

Warranty and Support

Specific warranty details and direct support contact information are not provided in the product description. For warranty claims or technical assistance, please refer to the retailer or manufacturer's official website where you purchased the product.