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› [CUIPPWRJ Sub250 Huma20 2 Inch HD O3 4S Drone Instruction Manual](#)

CUIPPWRJ Huma20

CUIPPWRJ Sub250 Huma20 2 Inch HD O3 4S Drone Instruction Manual

Model: Huma20 (ELRS Without O3 Variant)

INTRODUCTION

This manual provides essential information for the safe and effective use of your CUIPPWRJ Sub250 Huma20 2 Inch HD O3 4S Drone. Please read this manual thoroughly before operating the drone to ensure proper setup, operation, and maintenance. This specific variant is equipped with ELRS2.4 receiver and does not include the O3 Air Unit.

SAFETY INFORMATION

- Always operate the drone in open areas, away from people, animals, and obstacles.
- Maintain a safe distance from power lines, buildings, and other structures.
- Do not fly in adverse weather conditions, including strong winds, rain, or snow.
- Ensure all propellers are securely attached and undamaged before each flight.
- Always disconnect the battery immediately after flight and during any maintenance.
- Understand and comply with all local regulations and laws regarding drone operation.
- Keep fingers and loose clothing away from rotating propellers.
- Use only recommended batteries and chargers.

PACKAGE CONTENTS

Verify that all items listed below are present in your package:

- 1 x Huma20 Drone (ELRS Without O3 Variant)
- 2 x M15*150mm Straps
- 1 x Sub250 Surround
- 1 x Sub250 Material Pack
- 1 x Spare Screw Pack

- 1 x PA Nylon Nut_M2*2
- 1 x L-shaped Screwdriver 1.5mm
- 1 x Lens Shock Absorber Ball 50 Degrees
- 1 x SUB250 Naked Dog Mount
- 1 x Sub250 Huma20 Rack Accessories Foot pads (set of 4)

Note: The O3 Air Unit Manual, O3 Camera Accessory_UV Filter, and other O3-specific components are not included with this 'Without O3' variant.

SETUP

1. Initial Inspection

Carefully unbox the drone and inspect it for any visible damage during shipping. Ensure all wires are securely connected and there are no loose components.

2. Propeller Installation

Attach the propellers to the motors. Ensure the correct rotation direction for each propeller. Typically, propellers are marked (e.g., R for clockwise, L for counter-clockwise) or have different hub shapes. Refer to the motor rotation diagram if available in your flight controller software settings.



This image illustrates the proper method for attaching propellers to the drone's motors, ensuring they are oriented for correct thrust direction.

3. Battery Connection (XT30)

Connect a fully charged 4S LiPo battery (recommended 650mah-750mah) to the XT30 connector on the drone. Ensure the connection is firm. Always connect the battery last before flight and disconnect it first after flight.



This image demonstrates how to correctly connect the XT30 battery to the drone's power port.

4. Receiver Binding (ELRS2.4)

This variant comes with an ELRS2.4 receiver. To bind your ELRS radio transmitter to the drone, follow these general steps:

1. Power on your ELRS radio transmitter and navigate to the ELRS LUA script.
2. Power on the drone by connecting the battery. The receiver's LED should flash slowly.
3. Initiate the binding process from your ELRS LUA script on the transmitter.
4. The receiver LED on the drone should turn solid once successfully bound.
5. If binding fails, cycle power on the drone three times rapidly (connect battery, disconnect, connect, disconnect, connect) to put the receiver into binding mode, then retry from the transmitter.

For PNP (Plug-N-Play) or TBS NanoRX variants, refer to their respective binding procedures.

5. Flight Controller Configuration

The drone is equipped with a Sub250 Redfox A3 45A AIO flight controller. It typically comes pre-configured. However, for advanced settings or troubleshooting, you may need to connect it to a computer using a USB cable and use flight controller software (e.g., Betaflight Configurator) to adjust parameters, calibrate sensors, or update firmware. Ensure you have the correct drivers installed.

OPERATING

1. Pre-Flight Checks

- Ensure battery is fully charged and securely connected.
- Check propellers for damage and correct orientation.
- Verify transmitter is powered on and bound to the drone.
- Confirm flight area is clear of obstacles and people.
- Perform a quick visual inspection for any loose wires or components.

2. Arming and Disarming

The drone's motors will not spin until it is 'armed'. The default arming switch is typically configured on your radio transmitter. Consult your transmitter's manual or flight controller software settings for specific arming procedures. To disarm, use the same switch or a designated disarm command. Always disarm immediately after landing.

3. Basic Flight Controls

Familiarize yourself with the basic controls on your radio transmitter:

- **Throttle:** Controls altitude (left stick, vertical).
- **Yaw:** Rotates the drone horizontally (left stick, horizontal).
- **Pitch:** Tilts the drone forward/backward (right stick, vertical).
- **Roll:** Tilts the drone left/right (right stick, horizontal).

Start with gentle movements in an open area until you are comfortable with the controls.



An overview of the Sub250 Huma20 drone, highlighting its compact 2-inch frame and general layout.

MAINTENANCE

1. Cleaning

Regularly clean the drone to remove dirt, dust, and debris. Use a soft brush or compressed air. Avoid using liquids directly on electronic components.

2. Propeller Replacement

Inspect propellers for cracks, bends, or nicks before each flight. Damaged propellers can cause instability and reduce flight performance. Replace any damaged propellers immediately with new ones of the same type and size (2*2.2*4).

3. Battery Care

- Store LiPo batteries in a cool, dry place at storage voltage (around 3.8V per cell).
- Never overcharge or over-discharge LiPo batteries.
- Do not use damaged or puffed batteries.
- Use a reputable LiPo charger with balancing capabilities.

4. Firmware Updates

Periodically check the manufacturer's website or relevant flight controller software communities for firmware updates. Updating firmware can improve performance, add features, or fix bugs. Follow update instructions carefully to avoid bricking the flight controller.

TROUBLESHOOTING

- **Drone won't arm:** Check if the transmitter is bound, battery is connected, and all safety conditions (e.g., accelerometer calibration, arming switch position) are met in the flight controller software.
- **Unstable flight:** Inspect propellers for damage, ensure motors are spinning freely, and check for correct flight controller orientation in software. Recalibrate accelerometer.
- **No control input:** Verify receiver binding and ensure the receiver is properly connected to the flight controller. Check channel mapping in flight controller software.
- **Motors not spinning evenly:** Check for bent motor shafts, debris in motors, or ESC calibration issues.
- **Short flight time:** Battery may be old or damaged, or propellers might be inefficient. Ensure battery is fully charged.

SPECIFICATIONS

Component	Specification
Product Name	Huma20
Frame	Huma20 Frame
Wheelbase	95mm
Bottom Plate Thickness	2mm
Upper Plate Thickness	2mm
Arm Thickness	2mm
Flight Controller (FC)	Sub250 Redfox A3 45A AIO
Electronic Speed Controller (ESC)	Sub250 Redfox A3 45A AIO
Microcontroller Unit (MCU)	STM32F722RET6
Gyroscope	ICM42688-P
On-Screen Display (OSD)	AT7456E
Video Transmitter (VTX)	Not included in this variant (O3 Air Unit for O3 versions)
Camera	Not included in this variant (O3 camera for O3 versions)
Motors	Sub250 1304/6000kv
Propellers	2*2.2*4
Weight	140g ±5g (without battery)

Component	Specification
Receiver Options	PNP / TBS NanoRX / ELRS2.4 (This variant: ELRS2.4)
Recommended Battery	4S 650mah-750mah LiPo
Battery Connector	XT30
Item Model Number	CUIPPWRJ123
Item Weight	14.1 ounces (approx. 400g, likely including packaging)
Package Dimensions	1.18 x 0.79 x 0.39 inches

WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the official CUIPPWRJ website or contact your retailer. Keep your proof of purchase for warranty claims. Specific warranty terms may vary by region and retailer.

OFFICIAL PRODUCT VIDEOS

No official product videos are available for embedding at this time. Please refer to the manufacturer's website or product page for any available video resources.