

Etronix ET0421

Etronix PHOTON 2.1FW Combo Instruction Manual

Model: ET0421

1. INTRODUCTION

Thank you for purchasing the **Etronix PHOTON 2.1FW Combo**. This high-performance system includes a brushless motor and an Electronic Speed Controller (ESC) designed for remote-controlled vehicles. This manual provides essential information for the safe and efficient operation, setup, and maintenance of your ET0421 combo. Please read this manual thoroughly before use to ensure optimal performance and longevity of your product.



This image displays the Etronix PHOTON 2.1FW Combo, which includes a blue Etronix PHOTON 2Y 3450KV brushless motor, a black Etronix PHOTON 2.1FW 45A Electronic Speed Controller (ESC) with a cooling fan, and a blue Etronix PHOTON Program Card for ESC setup. The motor features gold-plated bullet connectors, and the ESC has various wire leads for connection. The program card shows a digital display and buttons for menu navigation, value adjustment, OK, and reset.

2. SAFETY PRECAUTIONS

Always observe the following safety guidelines to prevent injury or damage to the product and surrounding

property.

- **Battery Handling:** Use only compatible batteries. Never short-circuit battery terminals. Always disconnect the battery from the ESC when not in use.
- **Heat:** The motor and ESC can become very hot during operation. Avoid touching them immediately after use to prevent burns. Allow components to cool down before handling.
- **Connections:** Ensure all connections are secure and correctly polarized. Incorrect wiring can cause damage.
- **Water and Moisture:** This product is not waterproof unless explicitly stated. Avoid exposure to water or high humidity.
- **Children:** This product is not a toy. Operation should always be supervised by an adult, especially when children are present.
- **Ventilation:** Ensure adequate airflow around the ESC and motor to prevent overheating.
- **Disassembly:** Do not attempt to disassemble or modify the ESC or motor. This will void the warranty and may cause damage.

3. SETUP AND INSTALLATION

Follow these steps for proper installation and initial setup of your Etronix PHOTON 2.1FW Combo.

1. **Motor Installation:** Securely mount the Etronix PHOTON brushless motor into your vehicle's motor mount. Ensure proper gear mesh between the motor pinion and spur gear.
2. **ESC Mounting:** Mount the Etronix PHOTON 2.1FW ESC in a location that allows for good airflow and protects it from impacts. Use double-sided tape or screws as appropriate.
3. **Motor to ESC Connection:** Connect the three motor wires to the corresponding output wires on the ESC. While brushless motors typically do not have polarity for these connections, ensure they are securely fastened (e.g., using bullet connectors). If the motor spins in the wrong direction, swap any two of the three motor wires.
4. **ESC to Receiver Connection:** Plug the ESC's receiver cable (usually a standard servo plug) into the throttle channel (CH2) of your RC receiver.
5. **Battery Connection:** Connect your compatible battery pack to the ESC's battery input leads. Ensure correct polarity (red to positive, black to negative).
6. **ESC Calibration (Throttle Range):**
 - Turn on your transmitter and ensure the throttle trim is at neutral.
 - With the ESC off and battery connected, press and hold the ESC's setup button (if available) or follow the specific power-on sequence for calibration (refer to the full ESC manual for precise steps).
 - Turn on the ESC. It will typically emit a series of beeps.
 - Set the throttle stick to full forward, then full reverse, then neutral as prompted by the ESC's LED indicators or beeps.
 - Once calibrated, the ESC will confirm with a final beep sequence.
7. **Program Card Usage:** The included program card allows for easy adjustment of ESC parameters.
 - Disconnect the ESC's receiver cable from the receiver.
 - Plug the receiver cable from the ESC into the designated port on the program card.
 - Connect a battery to the ESC. The program card will power on.
 - Use the "MENU", "VALUE", "OK", and "RESET" buttons to navigate and adjust settings such as battery type, cut-off voltage, motor timing, brake force, and drag brake.

- Refer to the program card's specific instructions for detailed parameter descriptions.

4. OPERATING INSTRUCTIONS

Once the setup is complete, you are ready to operate your RC vehicle with the Etronix PHOTON 2.1FW Combo.

- **Power On:** Turn on your transmitter first, then connect the battery to the ESC. The ESC will initialize.
- **Throttle Control:** Push the throttle stick forward on your transmitter to accelerate. Pull it back to brake or engage reverse (if enabled).
- **Braking:** The ESC provides proportional braking. Pulling the throttle stick back from neutral will apply brakes.
- **Reverse:** If reverse is enabled, pulling the throttle stick back a second time (after braking) will engage reverse.
- **Power Off:** Always disconnect the battery from the ESC first, then turn off your transmitter.

5. MAINTENANCE

Regular maintenance will help ensure the longevity and optimal performance of your Etronix PHOTON 2.1FW Combo.

- **Cleaning:** After each use, gently clean the motor and ESC to remove dirt, dust, and debris. Use a soft brush or compressed air. Avoid using solvents or liquids.
- **Connections:** Periodically check all electrical connections (motor wires, battery connectors, receiver plug) for looseness, corrosion, or damage.
- **Motor Bearings:** Listen for any unusual noises from the motor, which may indicate worn bearings. Replace bearings if necessary.
- **ESC Fan:** Ensure the cooling fan on the ESC is free from obstructions and spins freely. Clean any dust buildup.
- **Storage:** Store the components in a dry, cool place away from direct sunlight and extreme temperatures.

6. TROUBLESHOOTING

If you encounter issues with your Etronix PHOTON 2.1FW Combo, refer to the following common problems and solutions.

Problem	Possible Cause	Solution
Motor not spinning / No power	<ul style="list-style-type: none"> • Battery discharged or disconnected • Loose connections • ESC not calibrated • Transmitter/receiver issue 	<ul style="list-style-type: none"> • Charge battery, check connection • Secure all wires • Recalibrate ESC throttle range • Check transmitter batteries, bind receiver
Motor spins in wrong direction	Incorrect motor wire connection	Swap any two of the three motor wires connected to the ESC.

Problem	Possible Cause	Solution
Erratic or inconsistent operation	<ul style="list-style-type: none"> Radio interference Loose receiver connection ESC overheating 	<ul style="list-style-type: none"> Operate in a clear area Secure receiver plug Allow ESC to cool, check ventilation
ESC or motor overheating	<ul style="list-style-type: none"> Overgeared vehicle Insufficient ventilation Excessive load 	<ul style="list-style-type: none"> Reduce pinion size or increase spur size Improve airflow around components Reduce vehicle weight or driving intensity

If the problem persists after attempting these solutions, please contact Etronix customer support or consult a qualified RC hobby technician.

7. SPECIFICATIONS

Key specifications for the Etronix PHOTON 2.1FW Combo (Model ET0421):

Feature	Detail
Product Dimensions (L x W x H)	4.4 x 3.2 x 3.7 cm; 2.1 kilograms
Manufacturer Reference	ET0421
Number of Pieces	1 (Combo unit)
Assembly Required	No
Batteries Required	Yes (Not included)
Batteries Included	No
Remote Control Included	No
Spare Parts Availability	Information unavailable on spare parts
ASIN	B01N7F0UES
Date First Available on Amazon.com.be	31 August 2022

Note: Specifications are subject to change without notice.

8. WARRANTY AND SUPPORT

Etronix products are manufactured to high standards. For information regarding warranty coverage, terms, and conditions, please refer to the official Etronix website or contact your local distributor.

For technical support, troubleshooting beyond this manual, or spare parts inquiries, please visit the official Etronix website or contact their customer service department.

Etronix Official Website: www.etronix-rc.com

Related Documents

	<p><u>Etronix EX4GT Radio Control System Manual</u> Comprehensive guide to the Etronix EX4GT 2.4GHz radio control transmitter and receiver system, covering setup, binding, operation, and tuning for RC cars.</p>
	<p><u>Etronix EX4S 4-Channel RC System Instruction Manual</u> Comprehensive instruction manual for the Etronix EX4S 4-Channel RC System, covering binding, functions, safety, and specifications for car and boat models.</p>