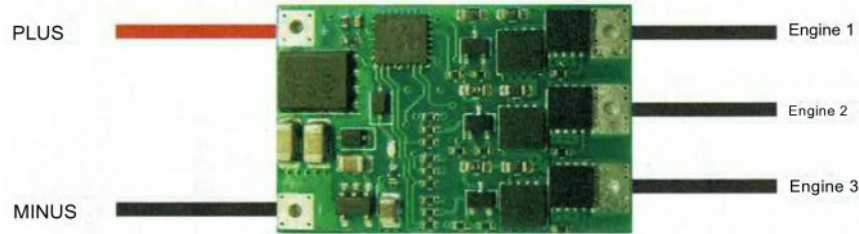


User manual X89 Slot-Racing Brushless Motor Controller

Thank you for purchasing the X89 Brushless Motor Controller.
Please read this manual carefully before using the product
to ensure safe and smooth operation.



Scope of delivery: X89 motor controller for brushless motors
Dimensions: 27.7 mm x 18.7 mm / Weight: 2.46 g light

Safety instructions:

- **Age recommendation:** This product is a model and not a toy and therefore not suitable for children under 14 years. Children only under expert supervision.
- **CE marking and declaration of conformity:** The X89 brushless motor controller meets the applicable safety standards and bears the CE mark.
- **Product disposal:** Dispose of this product in accordance with local regulations for electrical appliances. Do not dispose of in household waste; take it to a collection point.
- This product may only be passed on with this description and the original packaging. Please keep this information in a safe place.

Soldering work and soldering irons:

- **Danger from soldering work:** Working with a soldering iron can be dangerous and can lead to injury. Never touch the hot tip of the soldering iron or the hot shaft of the soldering iron. Always wear protective goggles.
- The three motor cables and the two wires for the power supply are connected by soldering. Be careful not to heat the circuit board excessively.
- The 3 motor cables must not be connected to each other. DO NOT kink or bend the motor cables sharply at the motor. The motor cables must also not be connected to the chassis or the power supply.
- Only use a model-making soldering iron and electronic solder.
- A large soldering iron is not allowed as it will generate too much heat and damage the board. Likewise, using flux will destroy the board.
- The positive pole is marked on the circuit board with + (plus). The negative pole with - (minus).

Installation:

- **Connecting the motor cables and power supply:** Connect the three motor cables of the brushless motor to the corresponding connectors on the board.
- Solder the two power supply wires (plus and minus) to the corresponding terminals on the board. Observe the polarity of the power supply. The plus wire must be connected to the plus terminal and the minus wire to the minus terminal. The maximum permissible voltage for the power supply is 15.5 volts. Do not exceed this value to avoid damaging the product.
- **Motor compatibility:** The controller is designed for brushless motors from 2,000KV to 8,000KV. 2-3S motors are not suitable. It must be 3-4S motors. Note that this controller may not be compatible with some motors. In such cases, use a suitable motor.

DO NOT use screws that are too long to mount the motor. Screws that are too long will touch the motor's copper wires and destroy the motor immediately!!!

Mechanical blockage: The gear should rotate easily. A stiff gear or defective gear teeth must not be used. If the motor is mechanically blocked, immediately disconnect the power supply to prevent overheating and damage.

Notes on use: Do not switch on the power supply until the brushless motor is correctly connected. Make sure that the motor can move freely before switching on the power supply. Be careful not to exceed the voltage limit of 15.5 volts. If the motor makes any unusual noises or behaves in an unusual way, immediately disconnect the power supply and check the motor and the connections.

Mechanical fastening:

- Make sure the vehicle's chassis is clean and dry to ensure optimal adhesion of the double-sided tape. Check the positioning of the control board on the chassis, taking into account the placement of the cables to ensure proper connection. Cut the double-sided tape to cover the dimensions of the board. Remove the protective film from one side of the double-sided tape and carefully stick it to the bottom of the control board. Carefully position the board on the chassis in the desired location, making sure that no components come into contact with other parts of the vehicle. Press the board firmly onto the chassis so that the double-sided tape adheres properly.

Motor rotates the wrong way:

- Unsolder two of the three motor connection cables and swap them. Solder the cables back on, making sure they are positioned correctly.
- Do not swap the power supply wires. This will not change the direction of rotation of the motor.

Elimination of malfunctions:

Motor does not rotate: Check the motor cables for secure and correct connections at both the motor and the control board. Make sure that the

Power supply is switched on and has the correct polarity. Check whether the motor is mechanically blocked. Remove any obstacles or jams.

Motor runs unevenly or stutters: The SUPPLY VOLTAGE IS TOO HIGH. Reduce the voltage, otherwise the control will be destroyed. Check the motor cables for correct connection, damage or poor soldering points.

Motor overheating: Make sure the motor has adequate ventilation and is not blocked by any obstructions. Check the voltage settings and make sure the operating voltage is within the recommended limits.

Uncontrolled motor behavior: Check for possible interference with other electronic devices that could affect the controls.

vehicle brakes, the power supply reports an error and switches off due to a voltage flowing



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