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## Spektrum SPMXSEMC02

# Spektrum Firma 85A Brushless Smart ESC / 4000Kv Sensorless Motor Combo Instruction Manual

Model: SPMXSEMC02 | Brand: Spektrum

## IMPORTANT SAFETY INFORMATION

**WARNING:** Read the ENTIRE instruction manual to become familiar with the features of the product before operating. Failure to operate the product correctly can result in damage to the product, personal property, and cause serious injury.

This is a sophisticated hobby product. It must be operated with caution and common sense and requires some basic mechanical ability. Failure to operate this Product in a safe and responsible manner could result in injury or damage to the product or other property. This product is not intended for use by children without direct adult supervision. Do not attempt disassembly, use with incompatible components, or augment product in any way without the approval of Horizon Hobby, LLC. This manual contains instructions for safety, operation, and maintenance. It is essential to read and follow all the instructions and warnings in the manual, prior to assembly, setup, or use, in order to operate correctly and avoid damage or serious injury.

## WHAT'S IN THE BOX

- Spektrum Firma 85A Brushless Smart ESC / 4000Kv Sensorless Motor Combo

## PRODUCT OVERVIEW

The Spektrum Firma 85A Brushless Smart ESC and 4000Kv Sensorless Motor Combo (SPMXSEMC02) is designed for remote-controlled vehicles, offering a powerful and efficient brushless system. This combo integrates Smart Technology for enhanced performance and data feedback.

## Key Features

- Integrated Spektrum Firma 85A Brushless Smart ESC and 4000Kv Sensorless Motor
- Smart Technology for advanced telemetry and performance monitoring
- Optimized for 1/10 scale RC vehicles
- Durable construction for reliable operation

## SETUP AND INSTALLATION

Proper installation of your Spektrum Firma ESC and Motor Combo is crucial for optimal performance and safety. Follow these steps carefully:

## Motor Installation

Securely mount the 4000Kv sensorless motor in your vehicle chassis. Ensure proper gear mesh between the motor pinion and the vehicle's spur gear. The motor features a standard 1/8-inch shaft diameter.



*Image: Spektrum Firma 4000Kv Sensorless Motor. This image shows the brushless motor with its three phase wires and mounting holes.*

## ESC Connection

Connect the three phase wires from the motor to the corresponding terminals (A, B, C) on the 85A Smart ESC. Ensure correct polarity for the battery connection (red to positive, black to negative) using the pre-installed XT60 connector.



*Image: Spektrum Firma 85A Smart ESC. This image displays the electronic speed controller with its cooling fan and wire connections.*



*Image: Close-up of Spektrum Firma ESC battery and signal wires. This image highlights the XT60 battery connector and the signal wire for receiver connection.*

## Receiver Connection

Plug the ESC's signal wire into the throttle channel (typically channel 2) of your RC receiver. Ensure the signal wire is oriented correctly (ground wire to the outside edge of the receiver port).



*Image: Spektrum Firma ESC power button and set button. This image shows the integrated power and set buttons on the ESC.*

## Calibration

Calibrate the ESC to your radio transmitter's throttle range. Refer to the detailed calibration steps in the official manual for precise instructions. This typically involves holding the set button while powering on the ESC, then setting neutral, full throttle, and full brake positions on your transmitter.

Your browser does not support the video tag.

*Video: QUICRUN 10BL120 ESC & Motor Combo's Unboxing & Setup. This video demonstrates the unboxing and setup process for a similar ESC and motor combo, including calibration steps.*

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*Video: Sidewinder 4 Sport 1:10 Scale Sensorless ESC. This video provides an overview of a sensorless ESC, which may offer insights into general setup and features.*

## OPERATING INSTRUCTIONS

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Once installed and calibrated, ensure all connections are secure before operating your vehicle.

## Powering On/Off

Press and hold the power button on the ESC to turn it on. The ESC will emit a series of beeps indicating the number of LiPo cells detected. To power off, press and hold the power button again.

## Throttle Control

Use your transmitter's throttle trigger to control forward and reverse movement. The ESC provides smooth and precise throttle response. Avoid excessive free-revving of the motor without load.

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*Video: 3650 Brushless Motor Combo Set. This video showcases a brushless motor combo in action, demonstrating its performance.*

## MAINTENANCE

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Regular maintenance ensures the longevity and performance of your ESC and motor combo.

- Keep the ESC and motor clean from dirt, dust, and moisture. Use compressed air or a soft brush for cleaning.
- Regularly inspect all wires and connectors for damage, fraying, or loose connections. Secure any loose connections.
- Check motor bearings for smooth operation. If you hear grinding noises or feel resistance, the bearings may need replacement.
- Ensure the cooling fan on the ESC is free from obstructions for effective heat dissipation. Clean any debris from the fan blades.

## TROUBLESHOOTING

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If you encounter issues with your Spektrum Firma ESC and Motor Combo, refer to the following common troubleshooting steps:

### Common Issues and Solutions

- **Motor not responding:** Check battery connection, ensure the battery is charged, verify receiver connection, and confirm ESC calibration. Ensure the transmitter is powered on and bound to the receiver.
- **Motor runs in the wrong direction:** For sensorless motors, swap any two of the three motor-to-ESC wires (A, B, C) to reverse the direction.
- **Overheating:** Check gearing (ensure it's not too aggressive for your setup), ensure proper airflow to the ESC and motor, and verify battery health and discharge rate. Reduce continuous full-throttle operation.
- **Intermittent power:** Inspect all solder joints and connectors for corrosion or poor contact. Ensure the receiver is receiving a strong signal from the transmitter.

For advanced troubleshooting or specific error codes, consult the full Spektrum Firma ESC manual or contact Spektrum customer support.

## SPECIFICATIONS

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| Feature           | Detail  |
|-------------------|---|
| Brand             | Spektrum  |
| Model Name        | 85A Brushless Smart ESC / 4000Kv Sensorless Motor Combo |
| Item Model Number | SPMXSEMC02  |
| Speed (Motor)     | 4000 Kv   |
| ESC Current       | 85A   |

| Feature              | Detail  |
|----------------------|---|
| Material             | Plastic   |
| Item Weight          | 2.2 pounds (approx. 1 kg)   |
| Product Dimensions   | 6.8 x 5.2 x 2.1 inches  |
| Recommended Age      | 14 years and up   |
| Lipo Cells Supported | 2S-4S (ESC is rated for 2-4S, motor for 2-3S for optimal performance) |

## WARRANTY AND SUPPORT

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For detailed warranty information, product registration, and technical support, please refer to the official Spektrum website or the documentation included with your product. Keep your proof of purchase for warranty claims. You can typically find support contact information and FAQs on the manufacturer's website.