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Spektrum SPMXSE1160CP

Spektrum Firma 160A Smart ESC (SPMXSE1160CP) Instruction Manual

Model: SPMXSE1160CP

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1. 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 use with incompatible components or alter this product in any way outside of the instructions provided by Horizon Hobby, LLC.

The product 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.

2. Product Overview

The Spektrum Firma Smart ESC is designed to provide a seamless and intelligent power solution for your RC vehicle. It integrates advanced telemetry capabilities, allowing real-time communication with other Spektrum Smart electronics. This system provides vital operating data to help optimize performance and ensure reliable operation.

Firma Smart ESCs offer more than just power regulation. They act as a virtual engineer, providing direct access to critical data such as RPM, temperature, battery voltage, and capacity. This telemetry data is sent to your compatible Spektrum transmitter in real-time, enabling on-the-go adjustments to boost performance.

Key Features:

- Smart all-in-one telemetry
- Fast, powerful 32-bit ARM M4 processor
- Waterproof design

- Multiple options for easy programming
- Multi-point protection



Figure 2.1: Spektrum Firma 160A Smart ESC.

Smart Technology Integration

The Firma Smart ESC simplifies your RC setup by providing telemetry data over a single data wire, eliminating the need for extra sensors, modules, or links. This one-wire solution ensures a cleaner installation and reduced complexity.



Figure 2.2: Simple One-Wire Telemetry connection for the Firma Smart ESC.

Telemetry data is transmitted in real-time to your compatible Spektrum transmitter, allowing you to monitor critical parameters during operation.



Figure 2.3: Real-time telemetry data transmission to a Spektrum transmitter.

This integrated approach ensures that all your model's electronics work together efficiently for maximum performance.



Figure 2.4: High performance through integrated Smart Technology.

3. What's in the Box

The package for your Spektrum Firma 160A Smart ESC (SPMXSE1160CP) includes the following components:

- Spektrum Firma 160A Smart ESC with Capacitor 3S - 8S, SPMXSE1160CP

4. Setup and Installation

Follow these steps to properly set up and install your Spektrum Firma 160A Smart ESC:

1. **Remove the ESC from its packaging:** Carefully unbox the ESC and inspect it for any visible damage.
2. **Connect the motor output lead to your motor:** Ensure a secure connection between the ESC's motor output wires and your RC motor. Refer to your motor's manual for specific wiring instructions if necessary.

3. **Connect the battery input lead to your battery:** Attach the ESC's battery input connector to your compatible 3S-8S LiPo battery.
4. **Ensure the correct polarity:** Double-check that all connections are made with the correct polarity to prevent damage to the ESC or battery.
5. **Power on your transmitter and RC vehicle:** Turn on your RC transmitter first, then connect the battery to the ESC to power on your vehicle.
6. **Adjust settings as needed using the Smart ESC Programming Box (if required):** For advanced configuration or fine-tuning, use a compatible Spektrum Smart ESC Programming Box (sold separately).

Simplified Wiring with Smart Data Wire

The Smart Data Wire provides a single-wire solution for transmitting telemetry data directly to your Spektrum transmitter, simplifying the wiring process and reducing clutter.



Figure 4.1: Simplified setup with Smart Technology.

5. Operation

Once installed and powered on, the Spektrum Firma Smart ESC provides real-time telemetry data to your compatible Spektrum transmitter. This allows for enhanced monitoring and control during operation.

Real-time Telemetry

The Smart ESC continuously gathers and transmits data such as battery information (voltage, capacity used, remaining capacity), ESC temperature, BEC voltage, motor current, speed, and RPM. This information is displayed on your transmitter, giving you a comprehensive overview of your model's status.



Figure 5.1: Smart Technology connectivity and data flow.

This connectivity allows for on-the-fly adjustments and proactive management of your RC vehicle's performance and health.

6. Maintenance

Proper maintenance ensures the longevity and optimal performance of your Spektrum Firma Smart ESC. While the unit is waterproof, regular inspection and cleaning are recommended.

- **Cleaning:** After each use, especially in dusty or wet conditions, gently clean the exterior of the ESC with a soft brush or compressed air to remove dirt and debris. Avoid using harsh chemicals or solvents.
- **Inspection:** Periodically inspect all wires and connectors for signs of wear, fraying, or corrosion. Ensure all connections are secure.
- **Storage:** Store the ESC in a cool, dry place away from direct sunlight and extreme temperatures when not in use.

7. Troubleshooting

If you encounter issues with your Spektrum Firma Smart ESC, consider the following general troubleshooting steps:

- **No Power:** Check battery connections, ensure the battery is charged, and verify that the power switch (if applicable) is in the ON position.
- **Motor Not Responding:** Ensure the motor wires are securely connected to the ESC. Check for proper calibration between the ESC and your transmitter.
- **Intermittent Operation:** Inspect all wiring for loose connections or damage. Check for potential interference sources.
- **Overheating:** Ensure adequate airflow around the ESC. Verify that the motor and gearing are appropriate for your vehicle and driving conditions.
- **Telemetry Issues:** Confirm that your transmitter is compatible with Spektrum Smart Technology and that the Smart Data Wire is correctly connected.

For more detailed troubleshooting or persistent issues, refer to the official Spektrum support resources or contact customer service.

8. Specifications

Below are the technical specifications for the Spektrum Firma 160A Smart ESC (SPMXSE1160CP):

Feature	Specification
Product Dimensions	5.6 x 4 x 2.2 inches
Item Weight	6.9 ounces
ASIN	B081T8NZLN
Item Model Number	SPMXSE1160CP
Manufacturer Recommended Age	14 years and up
Release Date	November 26, 2019
Manufacturer	Spektrum

9. Warranty and Support

For warranty information and customer support regarding your Spektrum Firma 160A Smart ESC, please refer to the official Spektrum website or contact Horizon Hobby, LLC directly. Warranty terms and conditions may vary and are subject to the manufacturer's policies.

It is recommended to register your product on the Spektrum website to receive updates and access to support resources.
Online Resources: Visit the official Spektrum website for product manuals, FAQs, and firmware updates.
Contact Support: For technical assistance, contact Spektrum customer support through their website or the contact information provided in your product packaging.

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Example: How do I reset this device or fix this error?

Details

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