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Tekin RX8 Gen3

Tekin RX8 Gen3 1/8 Scale BL Sensored/Sensorless Dual Mode ESC Instruction Manual

1. PRODUCT OVERVIEW

The Tekin RX8 Gen3 is a high-performance 1/8 scale Brushless Electronic Speed Controller (ESC) designed for demanding RC racing applications. It features D2 Dual Drive Mode Technology, allowing seamless operation with both sensored and sensorless motors. Engineered for reliability and advanced control, the RX8 Gen3 offers a programmable High Voltage BEC, data logging capabilities, and extensive tuning options via the HotWire programming port.



Figure 1: The Tekin RX8 Gen3 Electronic Speed Controller, shown with its compact design and various connection points.

2. KEY FEATURES

- **HD Gold-plated Solder Posts:** Ensures easy and secure soldering connections.
- **Multi-Fin High Efficiency Heat Sink and Optional High RPM Cooling Fan:** Provides superior thermal management.
- **QuickTune One Touch Programming:** Simplifies initial setup and adjustments.
- **Adjustable Torque Control:** Fine-tune power delivery for various track conditions.
- **Adjustable Throttle and Brake Frequencies:** Customize response for precise control.
- **HD High Voltage Programmable BEC:** Delivers stable power to servos and receivers.
- **HotWire Programming Port:** Enables advanced tuning and data logging (requires HotWire, sold separately).
- **Data Logging Capability:** Record performance data for analysis and optimization.
- **Sensor Checker On-Board:** Verify motor sensor functionality.
- **Temperature Indicator:** Monitor ESC temperature for safe operation.
- **ESC Self Diagnostics with Error Codes:** Aids in troubleshooting.
- **Fully Proportional Forward/Brake/Reverse:** Offers complete control over vehicle movement.

- **Brushless and Brushed Motor Drive:** Versatile motor compatibility.
- **Sensored or Sensorless Operation:** Supports both motor types with D2 Dual Drive Mode Technology.
- **LiPo Safe with Custom Voltage Cutoffs:** Protects LiPo batteries from over-discharge.
- **Sensor Plug for Precise Commutation:** Ensures smooth and efficient motor operation.
- **HDAC: High Density Copper PCB's:** Enhances current handling and efficiency.
- **Ultra-smooth and Precise Throttle and Braking Control:** Provides refined driving experience.

3. SPECIFICATIONS

Specification	Value
Product Dimensions	6 x 4.8 x 1.58 inches
Item Weight	5.8 ounces
Item Model Number	TEKTT2302
Manufacturer	Tekin
Brand	Tekin
Connectivity Technology	Bluetooth

4. SETUP AND INSTALLATION

Proper setup is crucial for optimal performance and safety. Ensure all connections are secure before operation.

4.1 Connecting the ESC

1. Connect the ESC to your power supply (battery) ensuring correct polarity.
2. Connect the ESC to your remote control receiver's throttle channel.
3. Connect the motor to the ESC's motor output terminals (A, B, C). For sensored motors, ensure the sensor wire is also connected.
4. Mount the ESC securely in your vehicle using appropriate hardware.

4.2 Initial Parameter Adjustment via App

The Tekin RX8 Gen3 ESC can be configured and adjusted using a dedicated mobile application via Bluetooth. This allows for precise tuning of various parameters to match your driving style and vehicle setup.

Your browser does not support the video tag.

Video 1: This video demonstrates how to connect an ESC to the mobile application and adjust various parameters. It covers connecting the ESC to the power supply and remote control, opening the app, connecting via Bluetooth, changing app language, modifying basic and advanced parameters, and saving changes. A reboot is required after parameter changes.

5. OPERATION

Once installed and configured, the RX8 Gen3 is ready for operation. Its dual-mode technology ensures

smooth power delivery whether you are using a sensed or sensorless motor. The adjustable torque control and throttle/brake frequencies allow for a highly customized driving experience, providing precise control in various racing conditions.

6. MAINTENANCE

To ensure the longevity and consistent performance of your Tekin RX8 Gen3 ESC, regular maintenance is recommended:

- Regularly inspect all wiring and connections for signs of wear or damage.
- Keep the ESC and its cooling fan clean from dirt, dust, and debris. Use compressed air to clear the fan and heatsink fins.
- Monitor ESC temperatures during operation, especially in demanding conditions, to prevent overheating.
- Ensure the cooling fan is functioning correctly. Replace if damaged or noisy.

7. TROUBLESHOOTING

The RX8 Gen3 features self-diagnostics with error codes to assist in troubleshooting. Refer to the full user manual for a complete list of error codes and their solutions. Common issues and general troubleshooting steps include:

- **No Power:** Check battery connections, ensure battery is charged, and verify power switch functionality.
- **Motor Not Responding:** Check motor connections, sensor wire (if applicable), and throttle signal from the receiver.
- **Erratic Behavior:** Inspect for loose connections, radio interference, or incorrect parameter settings.
- **Overheating:** Ensure proper ventilation, clean heatsink and fan, and verify motor/gear ratios are appropriate for the application.

8. FIRMWARE UPDATE

Tekin regularly releases firmware updates to improve performance, add features, and address any issues. You can update the ESC firmware online using the dedicated mobile application.

8.1 Online Firmware Upgrade Process

1. Ensure your ESC is connected to a power source and your mobile device is connected to the ESC via Bluetooth.
2. Open the ESC control application on your mobile device.
3. Navigate to the 'Firmware' section within the app.
4. Select the desired firmware version from the available options.
5. Initiate the firmware update process. Do not disconnect power or Bluetooth during the update.
6. Once the update is complete, the ESC will restart. You may need to restart the app and reconnect Bluetooth.

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Video 2: This video demonstrates the online firmware upgrade process for an E-series ESC via the mobile application. It shows connecting the device, navigating to the firmware section, selecting an available version, and initiating the upgrade. The video highlights the progress of the upgrade and the final restart.

9. SAFETY INFORMATION

Always prioritize safety when operating RC electronics:

- Read and understand all instructions before use.
- Ensure proper ventilation to prevent overheating.
- Use appropriate battery types and connectors.
- Keep hands and loose clothing away from moving parts.
- Operate in a safe environment, away from people and obstacles.
- Disconnect the battery when not in use or during maintenance.

10. WARRANTY AND SUPPORT

Tekin is a United States-based company that sources parts from American and global producers. For warranty information, technical support, or service inquiries, please contact Tekin customer support directly through their official website or contact channels. Keep your purchase receipt as proof of purchase.