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› SKYRC GNSS Performance Analyzer RC GPS+GLONASS Speedometer, Bluetooth Enabled Race Data Logger and Speed Tracker for RC Cars and Planes. GSM020 SK-500023 User Manual

## SKYRC SK-500023-01

# SKYRC GNSS Performance Analyzer User Manual

Model: SK-500023-01 | Brand: SKYRC

## INTRODUCTION

The SKYRC GNSS Performance Analyzer (GSM020) is a compact, app-enabled device designed for comprehensive performance assessment of RC vehicles and aircraft. It utilizes both GPS and GLONASS systems to provide accurate data for various metrics, including acceleration, G-force, speed, time, distance, and vertical velocity. This manual provides essential information for setting up, operating, and maintaining your GNSS Performance Analyzer.

## WHAT'S IN THE BOX

- 1 x GNSS Performance Analyzer (GSM020)
- 1 x USB-C Charging Cable
- 1 x Instruction Manual

## PRODUCT OVERVIEW AND FEATURES



Figure 1: SKYRC GNSS Performance Analyzer (GSM020) and USB-C cable.

**Dimensions: 40x40x17mm**  
**Weight: 38g**



Figure 2: Compact size of the GNSS Performance Analyzer (40x40x17mm, 38g).

The SKYRC GNSS Performance Analyzer is engineered for precision and portability. Key features include:

- **Precision Performance Tracking:** Utilizes dual GPS and GLONASS systems for pinpoint accuracy in measuring speed, acceleration, and other metrics.
- **Continuous Data Capture:** Integrated 1M memory automatically replaces old records, ensuring uninterrupted data logging.
- **Reliable Longevity:** Onboard LiPo battery provides up to 5 hours of continuous use.
- **Effortless Connectivity:** Syncs with the "RC Gears App" via Bluetooth 4.0 for immediate data analysis.
- **Ultra-Portable Design:** Compact dimensions (40mm x 40mm x 17mm) and lightweight design ensure minimal impact on vehicle performance.

## SETUP

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### 1. Charging the Device

Before first use, ensure the GNSS Performance Analyzer is fully charged. Connect the provided USB-C cable to the device and a compatible USB power source. The device features an internal LiPo battery providing up to 5 hours of operation. It is recommended to charge the device regularly, as it slowly consumes battery power even in standby mode while searching for a

Bluetooth signal.



Figure 3: The device's internal LiPo battery provides up to 5 hours of use.

## 2. App Installation and Connection

The GNSS Performance Analyzer requires the "RC Gears App" for operation and data analysis. Download the app from your smartphone's app store (available for both iOS and Android). Once installed:

1. Enable Bluetooth on your mobile device.
2. Open the "RC Gears App".
3. Select "GNSS Performance Analyzer (GSM020)" from the list of available devices to connect. The device's Bluetooth LED indicator will turn blue when connected.

# Latest GNSS engine: GPS + GLONASS



Figure 4: The device utilizes both GPS and GLONASS for enhanced accuracy.

## OPERATING MODES

The RC Gears App offers different operating modes tailored for various RC activities:

### 1. Track Race Mode

Ideal for tracking performance on a race track. This mode provides data such as:

- Distance
- Time elapsed
- Average Speed
- Max Speed

# Track Race Mode

- Distance
- Time elapsed
- Average Speed
- Max Speed

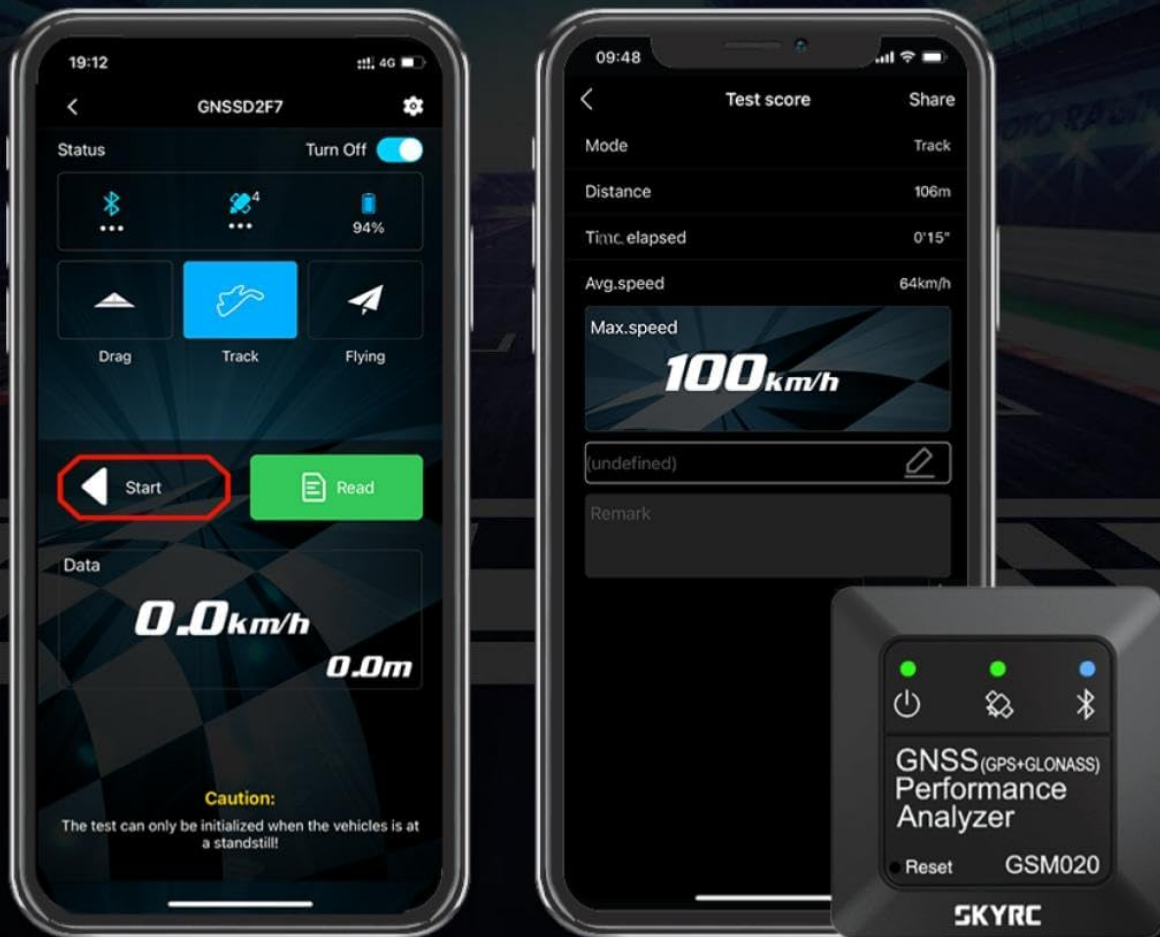


Figure 5: RC Gears App interface for Track Race Mode.

## 2. Drag Race Mode

Designed for measuring acceleration and speed during drag races. Metrics include:

- Acceleration (G-force) Chart
- Speed Chart
- User-definable measurement windows

# Drag Race Mode

- Acceleration (G-force) Chart
- Speed Chart
- Define measurement windows

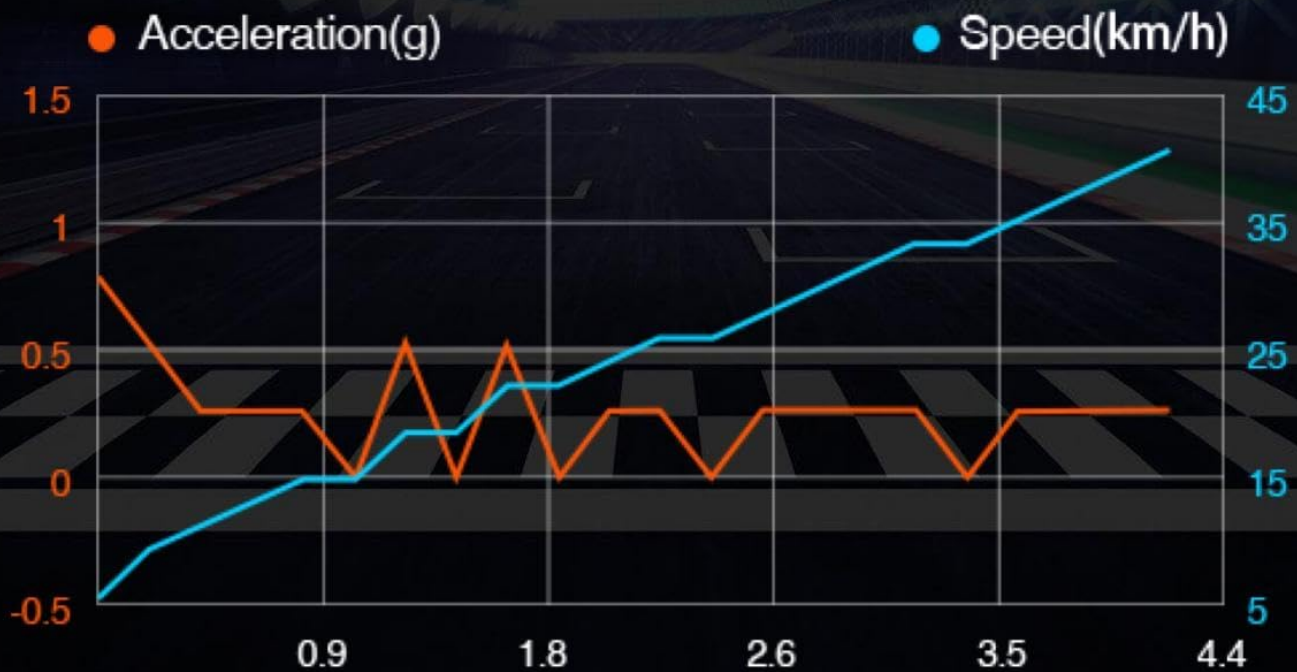


Figure 6: Example data visualization for Drag Race Mode.

## 3. Flying Mode

For RC aircraft, this mode captures flight dynamics, providing:

- Distance and Altitude
- Time elapsed
- Average Speed
- Max Speed

# Flying Mode

- Distance and Altitude
- Time elapsed
- Average Speed
- Max Speed

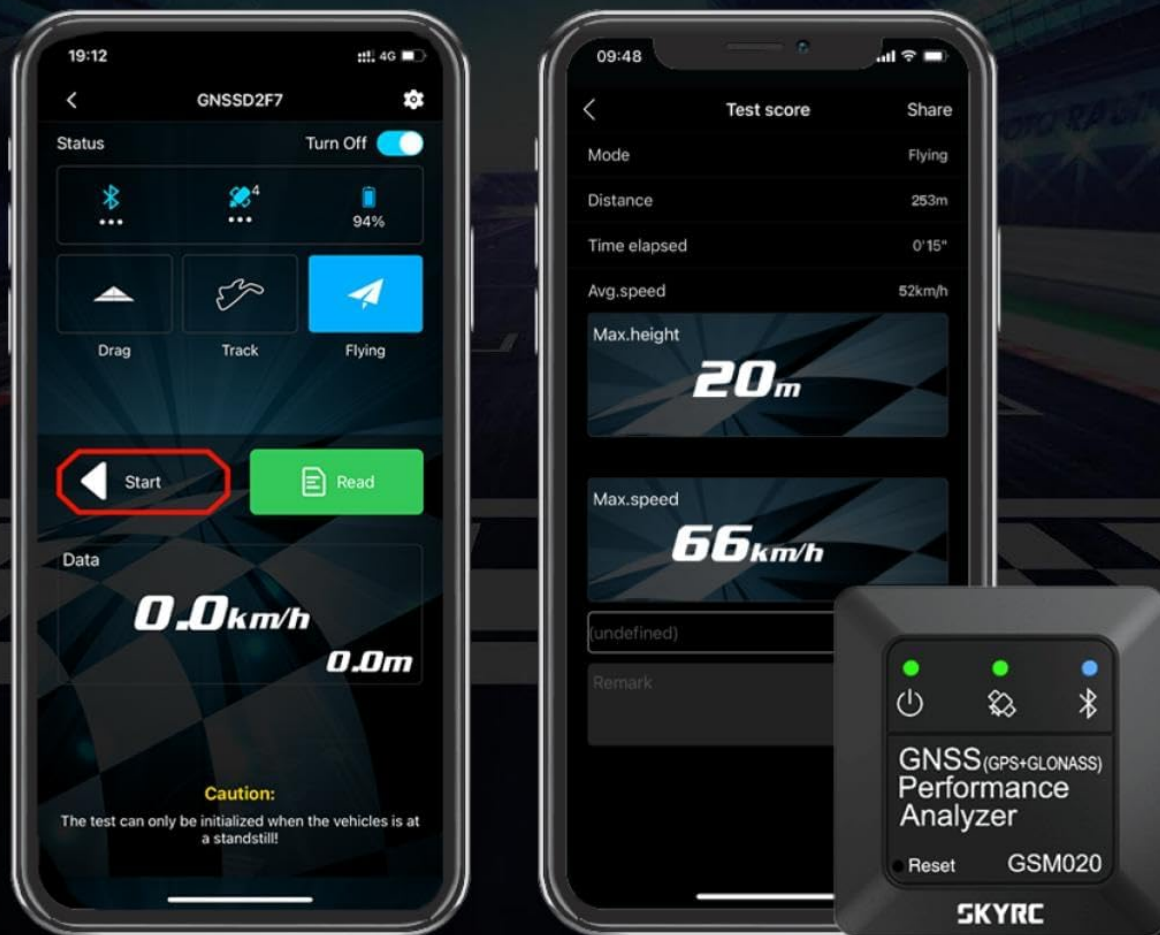


Figure 7: RC Gears App interface for Flying Mode.

## Visual LED Indicators

The device features LED indicators to show its current status:

# Visual LED indicator

| Symbol    | Color                                                                                   | Status                  |
|-----------|-----------------------------------------------------------------------------------------|-------------------------|
| Bluetooth |  Blue  | Bluetooth connected     |
| GNSS      |  Green | GNSS position fixed     |
| Power     |  White | Working                 |
|           | Off                                                                                     | Stand by                |
|           | Off                                                                                     | GNSS position not fixed |
|           | Off                                                                                     | Bluetooth disconnected  |

Figure 8: LED indicator status guide.

## LED Indicator Status

| Symbol    | Color | Status                  |
|-----------|-------|-------------------------|
| Bluetooth | Blue  | Bluetooth connected     |
| GNSS      | Green | GNSS position fixed     |
| Power     | White | Working                 |
| Power     | Off   | Stand by                |
| GNSS      | Off   | GNSS position not fixed |
| Bluetooth | Off   | Bluetooth disconnected  |

| Attribute                    | Value                                             |
|------------------------------|---------------------------------------------------|
| Item Weight                  | 2.89 ounces                                       |
| Product Dimensions           | 1.57 x 1.54 x 0.63 inches                         |
| Item Model Number            | SK-500023-01                                      |
| Display Size                 | 3 inches (App Interface)                          |
| Battery Life                 | 5 Hours                                           |
| Voice Command                | Buttons (referring to app interface)              |
| Connectivity Technology      | Bluetooth                                         |
| Map Type                     | Satellite (for GNSS)                              |
| Manufacturer Recommended Age | 14 years and up                                   |
| Mounting Type                | Dashboard Mount (as found in image, user-applied) |

## MAINTENANCE

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To ensure the longevity and optimal performance of your SKYRC GNSS Performance Analyzer, follow these maintenance guidelines:

- **Regular Charging:** Charge the device regularly, even when not in active use, to prevent battery depletion due to standby power consumption.
- **Cleaning:** Use a soft, dry cloth to clean the device. Avoid using harsh chemicals or abrasive materials.
- **Storage:** Store the device in a cool, dry place away from direct sunlight and extreme temperatures.
- **Protection:** Consider using a protective case or mounting solution to prevent physical damage during use, especially in high-impact RC environments.



Figure 9: The compact design allows for easy mounting on RC vehicles.

## TROUBLESHOOTING

If you encounter issues with your GNSS Performance Analyzer, refer to the following common problems and solutions:

| Problem                             | Possible Cause / Solution                                                                                                                                                                                                                                                                                           |
|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Device does not turn on or respond. | <ul style="list-style-type: none"><li>◦ <b>Low Battery:</b> Charge the device fully using the provided USB-C cable.</li><li>◦ <b>Hard Reset:</b> If unresponsive, locate the small reset pinhole (often near the USB port) and gently press it with a thin object (like a paperclip) to reset the device.</li></ul> |

| Problem                                             | Possible Cause / Solution                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cannot connect to the "RC Gears App" via Bluetooth. | <ul style="list-style-type: none"><li>◦ <b>Bluetooth Enabled:</b> Ensure Bluetooth is enabled on your mobile device.</li><li>◦ <b>Device Proximity:</b> Make sure the analyzer is within close range of your mobile device.</li><li>◦ <b>App Permissions:</b> Verify that the "RC Gears App" has necessary Bluetooth and location permissions enabled in your phone's settings.</li><li>◦ <b>Restart App/Device:</b> Close and reopen the app, or restart both your phone and the analyzer.</li></ul> |
| Inaccurate or no GNSS (GPS/GLONASS) signal.         | <ul style="list-style-type: none"><li>◦ <b>Clear View of Sky:</b> Ensure the device has an unobstructed view of the sky for optimal satellite acquisition. Avoid operating indoors or under heavy tree cover.</li><li>◦ <b>Acquisition Time:</b> Allow sufficient time (typically 30-60 seconds) for the device to acquire a stable GNSS signal after powering on. The green GNSS LED will indicate a fixed position.</li></ul>                                                                       |
| RC Gears App freezes or crashes.                    | <ul style="list-style-type: none"><li>◦ <b>Force Stop App:</b> Go to your phone's app settings and force stop the "RC Gears App", then restart it.</li><li>◦ <b>Update App:</b> Ensure you have the latest version of the app installed.</li><li>◦ <b>Device Compatibility:</b> Verify your mobile device meets the app's minimum system requirements.</li></ul>                                                                                                                                      |

## WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the official SKYRC website or contact their customer service directly. Keep your purchase receipt as proof of purchase for any warranty claims.

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### ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

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

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

**Submit question**