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› Spovan Ring SP02 Smart Ring User Manual

Spovan SP02

Spovan Ring SP02 Smart Ring User Manual

Model: SP02 | Brand: Spovan

1. INTRODUCTION

The Spovan Ring SP02 is a smart ring designed for personal health monitoring. It integrates advanced biosensors and AI analysis to track various health metrics, including electrocardiogram (ECG), heart rate, blood oxygen, body temperature, and blood pressure. This device is intended for personal use to help users understand their activity and health data. It is not a medical device and should not be used for clinical diagnosis, treatment, or providing medical advice.



Figure 1: Close-up of the Spovan Ring SP02's internal components.

2. PRODUCT FEATURES

- **ECG Detection & AI Analysis:** Advanced electrocardiogram monitoring with artificial intelligence for

detailed health insights.

- **Accurate Heart Rate Detection:** Continuous and precise heart rate tracking.
- **Real Blood Oxygen Detection:** Monitors blood oxygen saturation levels.
- **Body Temperature Detection:** Tracks body temperature.
- **Blood Pressure Detection:** Provides blood pressure readings.
- **Sleep Monitoring:** Analyzes sleep patterns and quality.
- **Non-invasive Blood Sugar Change Detection (Post-Activity):** Detects changes in blood sugar levels after physical activity.
- **24-Hour Health Monitoring:** Continuous tracking of key health indicators.
- **APP Active Detection:** Integrates with a mobile application for active monitoring and data analysis.
- **Activity Data:** Records steps, calories burned, and distance covered.
- **Multiple Exercise Modes:** Supports various fitness activities including running, cycling, and jump rope.
- **Bluetooth 5.3 BLE:** Low-power Bluetooth for efficient connectivity.
- **Durable Battery Life:** 5-7 days of use, over 30 days standby.
- **Magnetic Charging:** Convenient magnetic charging method with a portable charging case (short-circuit protection).
- **Mobile App Control:** Manage settings and view data via a dedicated mobile application.
- **Premium Materials:** Outer surface made of Metal 304 stainless steel; inner ring made of high-density eco-friendly cured rubber and metal-silicon blend.

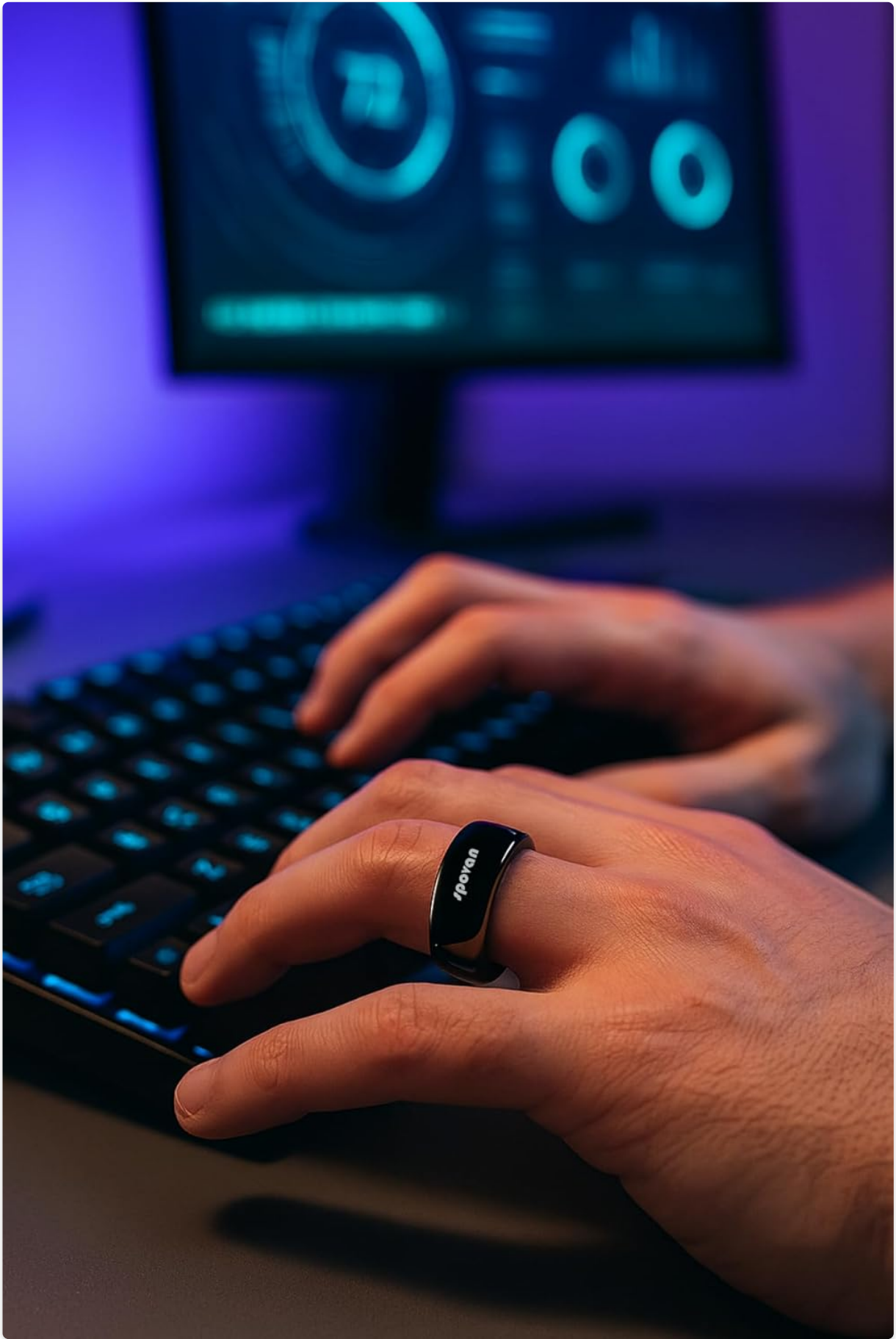


Figure 2: Spovan Ring SP02 features overview.

3. PRODUCT SPECIFICATIONS

Specification	Detail
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Product Model	Spovan Ring SP02
Main Control Chip	NORDIC
Charging Chip	Siyuan
Acceleration Sensor	STK8321
Wearing Detection	Capacitive induction + photoelectric detection
PPG Sensor	Goodix 3228T + 2 * SFH2703
ECG Sensor	Goodix 3228T
Temperature Sensor	Goodix 3228T + high-precision NTC resistance
Compatible System	Android 6 and above, iOS 11 and above
Bluetooth Version	5.3 BLE (Low Power Consumption)
Battery Type	High-density polymer lithium battery
Battery Capacity	18mAh
Charging Method	Magnetic charging and portable charging case (short circuit protection)
Battery Life (Usage)	5-7 days
Battery Life (Standby)	30+ days
Control Method	Mobile application control
Outer Surface Material	Metal 304 stainless steel
Inner Ring Material	High-density eco-friendly cured rubber and metal-silicon blend
Product Color	Black
Available Ring Sizes	8, 9, 10, 11
Metal Weight	56 grams
Certification	CE ROHS
Included Components	User Manual, Charging Cable
Warranty	2 Years Distributor Warranty

4. RING SIZING INFORMATION

The Spovan Ring is available in sizes 8, 9, 10, and 11. Please refer to the following measurements:

- **Size 8:** 18.2 mm diameter – suitable for smaller fingers. (57mm Circumference)
- **Size 9:** 18.9 mm diameter – standard size. (59mm Circumference)
- **Size 10:** 19.8 mm diameter – ideal for male users. (62mm Circumference)
- **Size 11:** 20.6 mm diameter – compatible with wider fingers. (65mm Circumference)

If you are unsure of your ring size, you may request a trial set containing all four sizes after placing your order. This trial set will help you determine the correct size, and the appropriate ring can then be dispatched to you.



Figure 3: Spovan Ring SP02 in different views.

5. ECG MEASUREMENT PRINCIPLE

The Spovan Ring performs ECG (Electrocardiography) measurements using a biosensor-based electrical conduction method. The operational principle is as follows:

1. **Wearing the Ring:** The ring is worn on the index finger of the left hand.
2. **Signal Collection:** The ring continuously contacts the skin, collecting electrical signals generated by the heart.
3. **Circuit Completion:** Place the index finger of your right hand on top of the ring. This action creates a closed electrical circuit between two points of the body (right hand – left hand), allowing the electrical potential difference of the heart to be detected.
4. **Signal Capture via Contact Sensors:** Electrodes inside the ring receive signals from the heart's electrical activity. These are low-voltage biopotentials (at millivolt level).
5. **Signal Filtering and Processing:** The signals pass through noise (interference) filters. Algorithms then extract the heart rhythm (ECG waveform).
6. **Data Visualization:** The ECG graph is displayed in the mobile application. Simultaneously, results such as heart rate and rhythm irregularities are calculated.

Important Note:

While medical ECG devices connect to your body with 12 electrodes to collect electrical data, the Spovan Ring collects electrical data from 2 channels and processes it with artificial intelligence. This device is not intended for use as a medical device, does not provide any clinical diagnosis, treatment, or diagnostic services. It is produced for personal use and recognition purposes in your activities.



Figure 4: Spovan Ring SP02 ECG measurement process.

Ölçüm Nasıl Sağlanır?

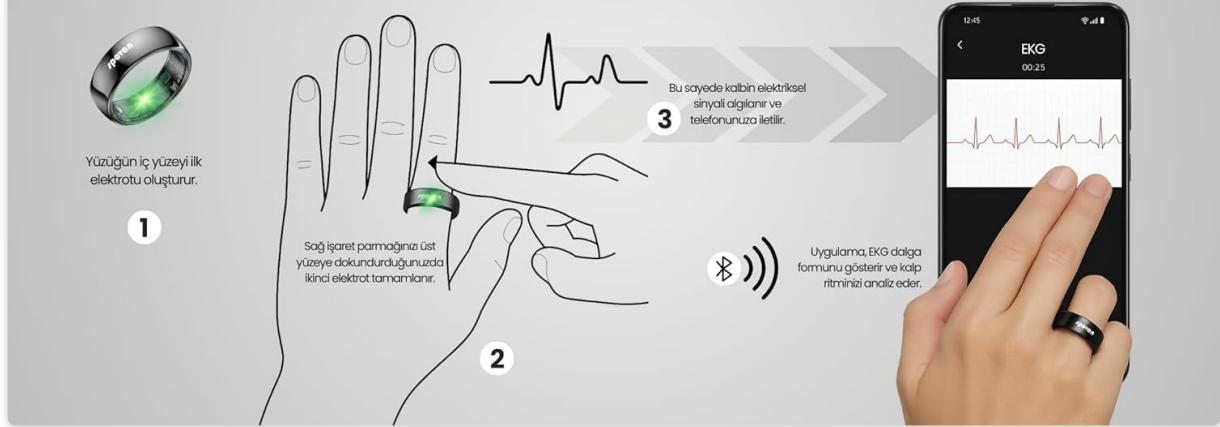


Figure 5: Principle of two-finger ECG measurement.

6. SETUP

Follow these steps for the initial setup of your Spovan Ring SP02:

- 1. Unboxing:** Carefully remove the Spovan Ring and its accessories (charging cable, user manual) from the packaging.
- 2. Initial Charge:** Before first use, fully charge the ring using the provided magnetic charging cable and portable charging case.
- 3. Download Mobile App:** Download the official Spovan health application from your device's app store (compatible with Android 6+ and iOS 11+).
- 4. Pairing:**
 - Ensure Bluetooth is enabled on your smartphone.
 - Open the Spovan app and follow the on-screen instructions to add a new device.
 - The app will guide you through the pairing process, which may involve scanning a QR code displayed on the ring or selecting the device from a list.
 - Confirm the pairing request on both your smartphone and the ring.
- 5. User Profile Setup:** Complete your personal profile in the app, including age, gender, height, and weight, to ensure accurate data analysis.
- 6. Wear the Ring:** Place the ring on the index finger of your left hand for optimal measurement.

Video 1: Product Assembly Video. This video demonstrates the physical setup and assembly of the product.

7. OPERATING INSTRUCTIONS

Once your Spovan Ring SP02 is set up, you can begin monitoring your health:

- 1. Activating Measurements:** To initiate an ECG measurement, place the index finger of your right hand on the top surface of the ring. Maintain steady contact until the measurement is complete, as indicated by the app.
- 2. Viewing Data:** All collected health data, including heart rate, blood pressure, blood oxygen, temperature, and sleep patterns, can be viewed and analyzed within the Spovan mobile application.
- 3. Activity Tracking:** The ring automatically tracks steps, calories, and distance. Select specific exercise

modes (running, cycling, jump rope) within the app to get more detailed activity insights.

4. **Sleep Monitoring:** Wear the ring during sleep for automatic sleep pattern analysis. View your sleep score and duration in the app each morning.
5. **Notifications:** Configure app notifications for health alerts or activity reminders as desired.

Video 2: Close Look at the Product. This video provides a detailed view of the Spovan Ring SP02 and its features in action.



Figure 6: Spovan Rings worn on hands.

8. MAINTENANCE

Proper maintenance ensures the longevity and optimal performance of your Spovan Ring SP02:

1. Cleaning:

- Regularly clean the ring with a soft, dry cloth.
- For stubborn dirt, slightly dampen the cloth with water and gently wipe the ring.

- Avoid using harsh chemicals, abrasive cleaners, or solvents, as these can damage the ring's materials and sensors.

2. Charging:

- Charge the ring when the battery level is low.
- Use only the provided magnetic charging cable and charging case.
- Ensure the charging contacts on the ring and case are clean and dry before charging.

3. Storage:

- When not in use, store the ring in a cool, dry place, away from direct sunlight and extreme temperatures.
- Keep the charging case and cable in a safe place.

4. **Water Resistance:** The product description does not specify water resistance. Avoid exposing the ring to water unless explicitly stated in the full product documentation that it is waterproof.

9. TROUBLESHOOTING

If you encounter any issues with your Spovan Ring SP02, refer to the following common troubleshooting steps:

• Ring Not Pairing:

- Ensure Bluetooth is enabled on your smartphone.
- Make sure the ring is charged.
- Restart both the ring and your smartphone.
- Ensure the Spovan app is updated to the latest version.
- Try unpairing and re-pairing the device in the app's settings.

• Inaccurate Readings:

- Ensure the ring is worn correctly on the index finger of your left hand.
- Make sure the ring is snug but comfortable.
- Clean the sensors on the inside of the ring.
- Avoid excessive movement during measurements.

• App Not Syncing Data:

- Check your smartphone's internet connection (Wi-Fi or mobile data).
- Ensure the Spovan app has necessary permissions (Bluetooth, location, storage).
- Restart the app or your phone.

• Battery Draining Quickly:

- Reduce the frequency of continuous monitoring if not needed.
- Ensure the ring is not constantly searching for a Bluetooth connection if out of range of your phone.
- Check for any background apps on your phone that might be excessively using the ring's connection.

10. WARRANTY AND SUPPORT

Warranty: The Spovan Ring SP02 comes with a 2-year distributor warranty. Please retain your proof of purchase for warranty claims.

Support: For technical assistance, troubleshooting beyond this manual, or warranty inquiries, please contact your

retailer or the official Spovan customer support. Refer to the contact information provided with your product packaging or on the official Spovan website.