

VitalSense Wristband

User Manual

TimeKeeping Systems, Inc.

Introduction

The VitalSense Wristband is a PPG-based wearable monitoring device designed to support operational oversight by providing physiological trend indicators in a correctional environment. The device measures heart rate and blood oxygen saturation (SpO₂) and transmits this information wirelessly using proprietary RF communication to the GUARD1 Tracking System.

The VitalSense Wristband is intended for situational awareness and early warning purposes only and is not intended for medical diagnosis, treatment, or patient care.

Configurable alerts within the GUARD1 system provide flexibility in establishing thresholds for early detection of critical incidents.

Intended Use

The VitalSense Wristband is intended for continuous, non-invasive monitoring of heart rate and blood oxygen levels for individuals under supervised custody. It is designed for operational monitoring purposes and is not intended to replace or function as a clinical medical device, diagnostic tool, or therapeutic system.

The device is intended to be applied, monitored, and interpreted by trained facility personnel in accordance with established operational procedures.

Device Overview

The VitalSense Wristband consists of the following components:

- PPG optical sensor module
- Disposable tamper-resistant wristband
- Internal non-rechargeable battery
- Proprietary RF communication module

Each VitalSense Wristband is a single-use, disposable device and must be discarded according to facility procedures once the battery is depleted or the device is removed. Reuse is not supported due to battery life limitations and the tamper-resistant design of the wristband.

Applying the VitalSense Wristband

- Verify the device is active and properly registered in the GUARD1 Tracking System.

- Place the wristband on the wearer's wrist with the sensor positioned directly against the skin.
 - Tighten the band until it is secure, ensuring it cannot be removed without damage.
 - Confirm the fit is snug but comfortable, allowing normal circulation.
 - Ensure the sensor is in contact with clean, dry skin. Improper placement, excessive movement, or foreign material between the sensor and skin may affect measurement quality,
 - Confirm vital signs are received within the GUARD1 system.
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Operation

When properly applied, the VitalSense Wristband automatically begins monitoring and transmitting vital sign data.

By default, the device transmits a signal to the GUARD1 Tracking System once per second. Actual transmission behavior may vary based on system configuration and environmental conditions.

If signal transmission is interrupted or data falls outside configured parameters, an alert is generated in the GUARD1 Tracking System.

Alerts and Monitoring

Alerts are configured within the GUARD1 Tracking System based on predefined thresholds such as heart rate limits, oxygen saturation levels, or signal loss.

It is the responsibility of facility staff to respond to alerts according to established operational protocols.

Alert delivery and timing may be affected by wireless coverage, environmental conditions, or system configuration. The absence of an alert should not be interpreted as confirmation of normal condition.

Safety Information

- The VitalSense Wristband contains a non-rechargeable battery. Do not attempt to recharge, open, or modify the device.
- Inspect the device prior to application. Do not use if damaged or malfunctioning.
- Ensure the wristband is applied with proper tension to avoid circulation restriction.
- The device is water-resistant but should not be submerged for prolonged periods.

- Discontinue use if skin irritation or discomfort occurs and follow facility procedures for device removal and evaluation.
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Disposal

The VitalSense Wristband is a disposable device. When battery life is exhausted, dispose of the device in accordance with local regulations and facility disposal policies for electronic waste or other applicable regulated waste categories, as appropriate.

Technical Specifications

- Monitoring Technology: Photoplethysmography (PPG)
 - Measurements: Heart Rate, Blood Oxygen Saturation (SpO₂)
 - Communication: Proprietary RF
 - Battery Type: Internal, non-rechargeable
 - Usage: Single-use, disposable
 - Intended Operating Environment: Indoor, facility-controlled settings
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Certification

FCC Compliance

Pursuant to FCC 15.21 of the FCC rules, changes not expressly approved by TimeKeeping Systems, Inc. might cause harmful interference and void the FCC authorization to operate this product.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

This product complies with FCC radiation exposure limits set forth for an uncontrolled environment.

ISED (Canada) Compliance

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

This device complies with Industry Canada's RSS-102 radiation exposure limits set forth for an uncontrolled environment.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

1. L'appareil ne doit pas produire de brouillage;
2. L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Cet appareil est conforme aux limites d'exposition aux rayonnements de la norme CNR-102 d'Industrie Canada établies pour un environnement non contrôlé.

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HVIN: PPG-030

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