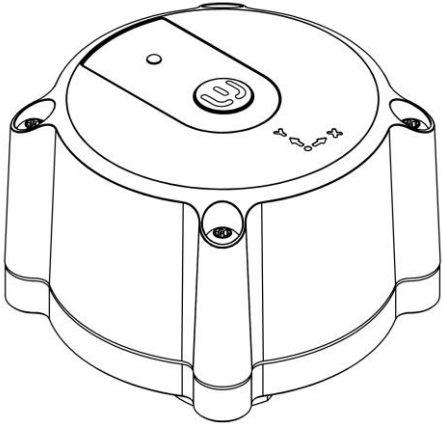
Vibration Sensor

Canary



User Manual

1. Description of the equipment

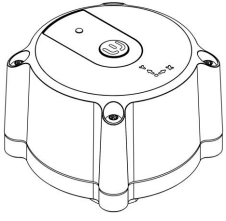
Product Name: Vibration Sensor Canary

Model: V-SFLITE24

2. Introduction

Canary is an intelligent sensor that continuously assesses the condition of industrial assets, such as machinery, allowing for real-time data collection and analysis. By leveraging a sophisticated platform powered by artificial intelligence, the system interprets the gathered data to provide actionable insights. This proactive approach enables users to setup a predictive maintenance strategy that enhances operational efficiency and extends the lifespan of their assets

This device is **not** intended for the use in explosive environments; for such applications use the model CanaryEX (V-SFATEX24).



V-SFLITE24

V-SFATEX24

3. Intended use of the equipment

The Canary is an intelligent low-power wireless sensor for the monitoring of industrial assets designed to work exclusively with the Sensorfact software suite.

The device is designed for indoor use and is intended to be mounted on the measured asset using exclusively the Sensorfact Bolt Adapter following instructions provided by this manual. No other mounting methods are allowed.

The product, as described in this manual, consists of:

- Device (i.e. sensor unit)
- User manual (including Declaration of Conformity)

Necessary materials, tools, equipment for installation, commissioning, maintenance and disposal, such as, but not limited to: bolt adapters, fasteners, glues, connectivity hubs, personal safety equipment, hand tools, etc. are not provided by the product Manufacturer and therefore also not covered in this manual.

It is expected that the device installation, commissioning, maintenance and disposal is performed by trained personnel, using approved equipment, materials and procedures. It is assumed, that the industrial asset the device is attached to, is located in a restricted zone, so no uninvolved people are present in the safety perimeter of said asset at any time.

4. Safety Information

Familiarize yourself with information in this manual before attempting installation, commissioning, operations, maintenance or disposal of this device; keep this manual for future reference.

Country, state or local legislation, regulations and standards may apply to the installation, commissioning, operations, maintenance or disposal of this device.

Improperly performed actions such as, but not limited to: installation, commissioning, maintenance or disposal may cause injury or material damage.

This device is not user-serviceable. Do not attempt to repair or modify the device. Unauthorized personnel are strictly prohibited from performing any actions, including but not limited to installation, commissioning, operation, maintenance, or disposal.

Do not attempt to modify the device's embedded software in any way. Never attempt to update the device with embedded software that has not been officially released and published by the Manufacturer. In case of doubts about particular software release, troubles updating your device's software or a suspicion on a counterfeit software release, please contact support as detailed in the **Support** section of this manual.

Do not reach to or touch the device, attached to the industrial asset, when in operation. Before any action, make sure that the appropriate procedures for safety-guaranteed switch-off procedures had been followed (e.g. LOTO).

Make sure to monitor and inspect device for any sign of damage of other than nominal behaviour. See section **Damaged Device** of this manual for detailed info.

Do not open, disassemble, or crush the device; Do not drill or cut into its casing.

Do not let the device heat-up above the specified temperature range or incinerate it. Do not dispose of the device in fire or similar.

Make sure that the device body is or has not been in contact with chemical materials as it can lead to potential device damage.

The device generates, uses and can radiate radio frequency energy and, if not installed and operated in accordance to the instructions in this manual, may cause harmful interference to radio communications.

5. Damaged Device

Do not attempt installation, commissioning, operation or maintenance of the device if it is visibly damaged or if you notice any other sign of other-than-nominal behaviour as described in this manual.

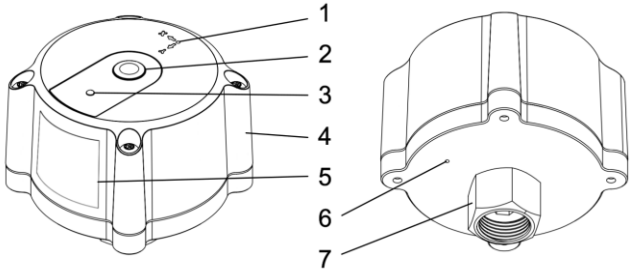
If the device is damaged or if there is any suspicion of potential damage, contact support as described in the **Support** section of this manual.

The damaged device must be removed from service as soon as possible. In the following cases, but not limited thereto, the device must be considered damaged and it is not allowed to proceed with installation, commissioning, operation or maintenance of such device to avoid any potentially unsafe situation.

1. The device body is cracked.
2. Any of the screws on the device body have become loose or are missing.
3. The device body shows extensive scratches or wear signs not caused by normal use of the device.
4. The device cannot be turned on.
5. There is a suspicion that there may be internal mechanical damage to the device, e.g. there are sounds hinting there may be a loose component (screw, fragment, etc.) inside the device.
6. The attachment mechanism parts are damaged, so the mechanical fixation of the device to the asset may be compromised.

7. The attachment mechanism contains dirt or debris, due to which the device may have no electrical connection to the bolt adapter.
8. The pressure relief opening has been clogged.
9. Device behaviour that is other that nominal, e.g. faulty readings, frequent or intermittent loss of connection, involuntary shutdowns etc.
10. Any other signs that indicate wear beyond surface wear expected from normal use of the device.

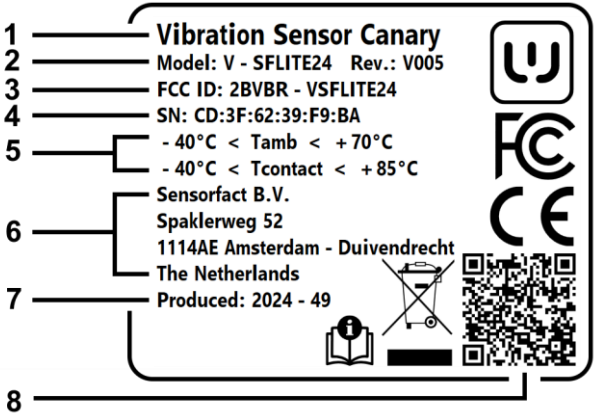
6. Device overview



1. **Coordinate system indication**
2. **Button**
3. **Indicator**
4. **Device body**
5. **Device type plate**
6. **Pressure relieve opening**
7. **Installation nut M20x1.5**

7. Device identification

Device type plate (5) contains the following information:



1. **Device type**
2. **Model number and revision**
3. **FCC ID**
4. **Serial number (MAC address)**
5. **Temperature rating**
6. **Manufacturer**
7. **Production date (format YYYY-WW)**
8. **QR code**

8. Overview of device's functions

8.1. Wireless connectivity

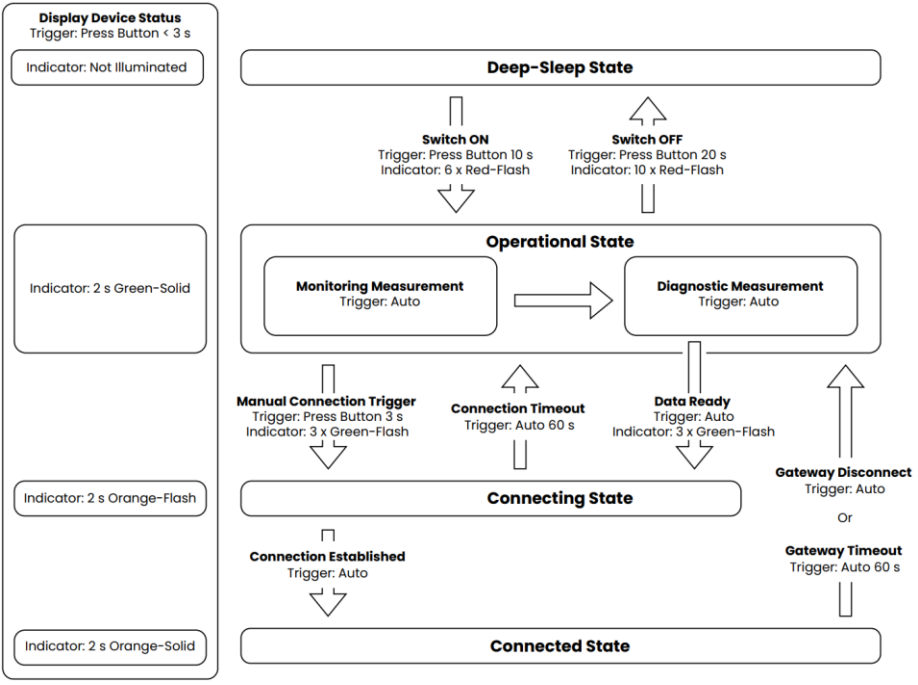
The device is equipped with Bluetooth LE connectivity for the data transfer to the gateway. The gateway can perform firmware updates of the device over this interface. It is designed such, that the device is only connecting and communicating at specific time intervals or when pre-defined conditions are met.

8.2. Cybersecurity

The communication between the device and the gateway is encrypted and secured using Bluetooth LE Level 4 implementation. Passkey authentication is required for firmware updates. The firmware update mechanism is secured and only accepts authorized firmware images.

8.3. Operational states, actions and indications

Out of the box, the device is set to *deep-sleep state*. To check the current device state, press button (2) shortly ($t < 3$ s). The operational states as well as actions and indications are described in the following diagram.


Display Device Status
Trigger: Press Button < 3 s
Indicator: Not Illuminated
Deep-Sleep State
Switch ON
Trigger: Press Button 10 s
Indicator: 6 x Red-Flash
Switch OFF
Trigger: Press Button 20 s
Indicator: 10 x Red-Flash
Indicator: 2 s Green-Solid
Operational State
Monitoring Measurement
Trigger: Auto
Diagnostic Measurement
Trigger: Auto
Manual Connection Trigger
Trigger: Press Button 3 s
Indicator: 3 x Green-Flash
Connection Timeout
Trigger: Auto 60 s
Data Ready
Trigger: Auto
Indicator: 3 x Green-Flash
Gateway Disconnect
Trigger: Auto
Or
Gateway Timeout
Trigger: Auto 60 s
Indicator: 2 s Orange-Flash
Connecting State
Connection Established
Trigger: Auto
Indicator: 2 s Orange-Solid
Connected State

8.4. Measurement capabilities

The device contains two independent measurement circuits. In this section, their principle and capabilities will be explained.

8.4.1. Monitoring circuit

The monitoring circuit uses low-power vibration measuring circuit to monitor the state of the asset. If defined threshold conditions are met, the diagnostic measurement circuit is triggered for further data gathering.

8.4.2. Diagnostic circuit

The diagnostic circuit contains individual measurement circuits for measuring asset's:

- Vibration
- Temperature
- Magnetic field

The measurement circuits are equipped with smart algorithms (running on-device) designed and tuned to gather high-quality data for accurate assessment of the asset's state.

9. Pre-installation

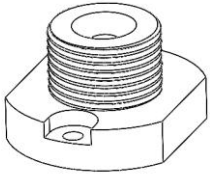
Before attempting the installation of the device, make sure that the appropriate procedures for safety-guaranteed switch-off procedures had been followed (e.g. LOTO); never attempt to install the device on a running asset.

Check that the pressure relieve opening (6) is clean and unobstructed before installation. For correct function, it must remain free from blockage.

To avoid potential radiation interference the device must not be co-located or operated in conjunction with any other radio antenna or transmitter.

Physical obstructions such as concrete/cement block walls or metallic objects may cause signal interference and degraded performance of communication between the device and the gateway.

The device is designed to be mounted on the **Sensorfact bolt adapter**:



The bolt adapter must be installed following its separate installation instruction before the installation of the device.

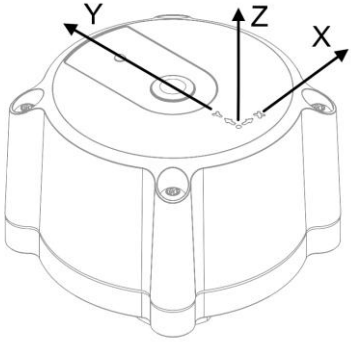
Before the installation of the device verify that the bolt adapter is solidly mounted to the asset; glue has to be fully cured according to instructions of the glue manufacturer.

10. Installation procedure

To prevent seizing of the threaded connection between the device and the bolt adapter, apply a small amount of anti-seize compound to the bolt adapter before attaching the device.

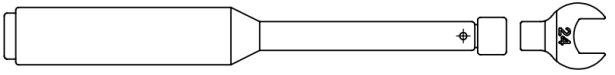
10.1. Device coordinate system

The device is designed with a pre-defined coordinate system, using default X, Y, Z axis right-hand notation, see below:



10.2. Tooling and materials

Side wrench size 30



Torque wrench with side insert size 24

Suitable anti-seize compound

10.3. Device attachment on asset

1. Align the device so that the X-axis and Y-axis are in the desired orientation.
2. Attach the device to the bolt adapter by tightening the installation nut (7) by hand. Use the open side wrench size 30 to firmly hold the bolt adapter.
3. Tighten the installation nut (7), using the torque wrench with side insert size 24 set to 70±10 Nm.
4. Check that the X, Y, Z alignment of the device stayed as desired.

10.4. Connecting the device to the gateway

The device is delivered in the *deep-sleep state* by default.

1. Switch the device on by pressing the button (2) for 10 s; the device is successfully switched into *operational state* if the indicator shows 6 x red-flash.
2. Trigger manual connection attempt by pressing the button (2) for 3 seconds; the indicator (3) shall flash 3x green.
3. The device will now automatically connect to the gateway.

11. Device maintenance

The device is service and maintenance free. If circumstances require, basic maintenance may be necessary, particularly when the device is repeatedly attached to multiple different assets.

11.1. Device refurbishment

For further information on device refurbishment, contact support as outlined in the **Support** section of this manual.

11.2. Preventive maintenance

11.2.1. Exterior Cleaning

To clean the exterior of the device, use a soft damp cloth. Don't use any detergent or other cleaning agents. Avoid abrasive cleaners, solvents, or excessive moisture, as these may damage the surface. Do not immerse the device in water or use high-pressure cleaning methods.

11.2.2. Installation nut

Do not attempt installation, commissioning or operations of the device if the installation nut (7) is visibly damaged.

1. Before each installation, visually inspect the inner thread of the installation nut (7) on the device and the thread on the bolt adapter. If any thread damage is detected, do not proceed with installation, as this may result in improper fixation of the device on the asset.
2. Visually check for dirt and debris in the thread of the installation nut (7) as well as on the connection face. Clean any potential dirt or debris and re-apply anti-seize compound before installation.
3. The outer hexagonal surface (Hex 24) of the installation nut (7) must be inspected for excessive damage before use, as significant wear or deformation may cause wrench slipping, leading to potential injury or material damage.

12. Troubleshooting

12.1. Before troubleshooting

Turn the device off by first pressing the button (2) for 20 seconds and releasing; the indicator (3) shall flash 10x red. Now turn the device on again by pressing the button (2) for 10 seconds and releasing; the indicator (3) shall flash 6x red.

If turning the device off and on didn't solve the issue, follow the troubleshooting instructions as described in this section.

12.2. The delivered device does not turn on

Contact support as detailed in the **Support** section of this manual and ask for repair/replacement.

12.3. The device is damaged or malfunctioning

Do not attempt installation, commissioning or operations of the device if damaged or malfunctioning as it can lead to unsafe situations. Contact support as detailed in the **Support** section of this manual and ask for repair/replacement.

12.4. The device cannot connect to the gateway

Make sure the device is in the *Operational State*. Trigger manual connection attempt by pressing the button (2) for 3 seconds and releasing; the indicator (3) shall flash 3x green (device set to *connecting state*). If the device does not automatically connect within the next 60 seconds, the problem is probably on the side of the gateway.

Check the gateway is powered on and in close range of the device. If problems persist, contact support as detailed in the **Support** section of this manual.

12.5. The device is at the end of its projected lifetime

The device may continue to function beyond its projected lifetime; however, its continued operation cannot be guaranteed. It is recommended to plan for the device replacement to ensure reliability.

If the device cannot be switched on after reaching its projected lifetime, the internal battery is likely depleted. Contact support as detailed in the **Support** section of this manual for information on the refurbishment plan.

12.6. Device disposal

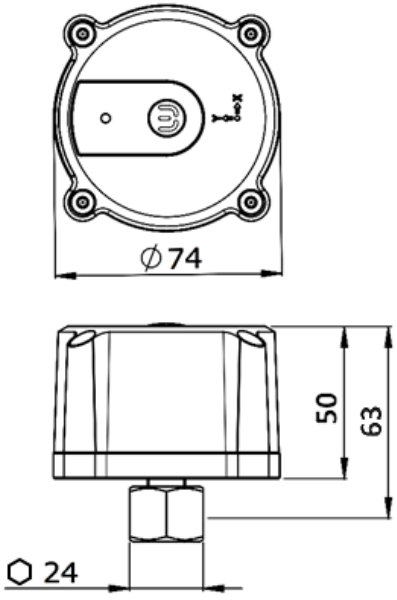
A damaged or non-functioning device can typically be repaired or refurbished. Follow instructions in the **Device refurbishment** section of this manual.

This device is subject to the Waste Electrical and Electronic Equipment (WEEE) Directive (2012/19/EU). It should not be disposed of with household waste; please take it to an appropriate collection point for recycling of electronic waste.

Proper disposal helps prevent environmental damage and supports sustainable resource use. Please contact your country, state, or local authorities to check how to dispose of the device in the safe way according to the relevant regulations.

Detailed recycling instructions are available upon request.

13. Device dimensions



All stated device dimensions are nominal dimensions

14. Transportation and storage

14.1. Transportation

The device contains a primary (non-rechargeable), 3.6 V lithium-metal battery and can be transported under UN 3091; Section II of Packing Instructions for Passenger or Cargo Aircraft: PI970 (IATA) applies.

14.2. Storage

Store device in a location conforming to the prescribed storage conditions in the **Specifications** section of this manual.

Storage conditions and storage duration can affect the device's lifetime. For optimal performance, store the device at optimal storage conditions as indicated in the **Specifications** section of this manual and limit total storage time under these conditions to a maximum of 3 months.

15. Specifications

Enclosure	
Material	Anodised Aluminium, Zinc-Plated Steel, Stainless Steel, PA6 Plastic, Polyester Plastic, EPDM Rubber
Dimensions	74 mm x 74 mm x 63 mm (Excl. Installation Nut)
Ingress Protection	IP 67

Vibration Measurement	
Measurement	3-Axis vibration measurement
Bandwidth	0-6 kHz
Noise Density	Down to 75 $\mu g/\sqrt{Hz}$ [2]
Vibration Measurement Range	± 16 g [2]
Sensitivity	High stability of sensitivity over temperature range and against mechanical shocks

Magnetic Flux Measurement	
Measurement	3-Axis AMR magnetic sensor
Bandwidth	Up to 1.5 kHz
Measurement Range	± 133 mT in all axes

Temperature Measurement	
Temperature Measurement Range	-40 °C to +85 °C

Operational Environment	
Operational Temperature	-40 °C to +70 °C
Operational Humidity	0% to 90% Rh, non-condensing
Operational Altitude	Max 2000 m

Storage Environment	
Storage Temperature Range (Optimal)	+22 °C to +28 °C
Storage Temperature Range (Allowed)	+10 °C to +30 °C
Storage Humidity (<1 month)	Max 70% Rh, non-condensing
Storage Humidity (>1 month)	Max 60% Rh, non-condensing

Connectivity	
Wireless Communication	Bluetooth Low Energy
Communication Frequency	2.402 GHz to 2.48 GHz

Power	
Battery Powered	Single non-rechargeable non-replaceable 8.5 Ah 3.6V Lithium battery

Product Life-Cycle	
Projected Product Lifetime [3)]	36 Months [4)]
Device Refurbishment Option	Available [5)]

2) g = 9.81 ms^{-1}

3) The Projected Product Lifetime, as defined above, assumes the following operating conditions: indoor use with no direct sunlight exposure, ambient temperature range of +10 °C to +30 °C, maximum relative humidity (RH) of 60%, and placement of the Sensorfact Gateway at a direct line-of-sight distance of 5 meters from the device.

4) The product lifetime in a specific use case may be influenced by various factors, including but not limited to storage and operating temperature, frequency and volume of data collection and transmission to the Sensorfact Gateway, duration of storage prior to deployment, and other relevant environmental or operational conditions.

5) See **Device refurbishment** section of this manual.

16. Legal

16.1. Warranty and liability

The primary functionality of the device is to measure, collect, and transmit data from internal vibration, temperature, and magnetic field sensors using wireless communication, within the operational limits specified by the information in this manual or equivalent documentation. . For the avoidance of doubt, the data and insights provided by the Canary sensor are for informational purposes only. The Customer retains full responsibility for all decisions and actions taken regarding the maintenance and operation of their assets.

The Manufacturer permits the use of this product only for its intended purpose as defined in this manual.

The Manufacturer/Distributor warrants that, to its actual knowledge at the time of lease/sale of the product to the end Customer, the product is free from defects and complies with applicable laws, regulations, and industry standards in effect at such time, including but not limited to those concerning safety, environmental protection, and import/export requirements.

If, in the first one (1) year after delivery of the product to Customer, the Customer determines that the product has any defects or non-conformities due to bad material, faulty design or poor workmanship, the Manufacturer/Distributor shall (as the Customer's sole remedy) replace the defective hardware, by shipping other hardware within ten (10) business days upon receipt of the returned hardware.

16.1.1. Warranty exclusions

The following circumstances are not covered under this warranty:

- Any use of the product outside the scope of these instructions, or any improper use
- This warranty does not cover normal wear and tear and damage, malfunctions, or loss of functionality resulting from misuse, negligence, or failure to follow the instructions provided in this manual. This includes, but is not limited to:
    - Use of excessive force, improper handling, or failure to follow operational instructions.
    - Actions performed by unauthorized personnel.
    - Unauthorized modifications, repairs, or attempts to alter the device.
- The warranty is void if the embedded software of the device is modified in any way, or if any attempt is made to upload embedded software or a software version that has not been officially released and published by the Manufacturer. Additionally, any attempt to release, publish, or distribute counterfeit embedded software for this device shall be considered a criminal offense and may be subject to legal action.
- The warranty does not cover damage, malfunctions, or defects caused by external factors beyond normal operating conditions, including but not limited to water ingress, accidents, impacts, earthquakes, floods, fires, lightning, or other natural disasters.

16.1.2. Indemnification / Liability

The Manufacturer disclaims any liability for damages, costs, losses, or claims arising from wrongful or intentional misuse of the product. The Customer agrees to fully indemnify the Manufacturer and the Distributor and their representatives against any claims, damages, costs, or liabilities resulting from such misuse. Additionally, the Manufacturer and Distributor shall not be liable for any actions taken by the Customer, or third parties based on data provided by the product. The Customer shall indemnify the Manufacturer and Distributor against any third-party claims resulting from non-compliance with the obligations outlined in this manual.

16.2. About this manual

All dimensions in this manual are provided in millimeters, unless otherwise stated.

The information contained in this manual is for informational purposes only. While the Manufacturer/Distributor have made reasonable efforts to ensure the accuracy and reliability of the information as of the date of publication, no warranties, express or implied, are made regarding its accuracy, completeness, or suitability for any particular purpose.

All images in this manual are for illustrative purposes only. The final product may vary in appearance depending on version updates, component modifications, or design improvements.

To the fullest extent permitted by law, the Manufacturer/Distributor disclaims all liability for any reliance on the information contained in this manual.

17. Manufacturer & Distributor

Sensorfact B.V.

Sparklerweg 52

1114 AE Amsterdam-Duivendrecht

The Netherlands

18. Support

For any support questions, please contact the Manufacturer & Distributor:

Web: www.sensorfact.nl

Email: support@sensorfact.nl

Declaration of Conformity

Manufacturer:

Sensorfact B.V.

Sparklerweg 52

1114 AE Amsterdam-Duivendrecht

The Netherlands

Hereby, **Sensorfact B.V.** declares under our sole responsibility that the following product:

Product Name:	Vibration Sensor Canary
Type:	V-SFLITE24
Product Description:	Wireless predictive maintenance vibration sensor for industrial assets

To which this declaration relates is in conformity with the relevant **Union harmonization legislation**:

Radio Equipment Directive **(RED)**	2014/53/EU
Electromagnetic Compatibility Directive **(EMC)**	2014/30/EU
Restriction of Hazardous Substances Directive **(RoHS2)**	2011/65/EU
Waste Electrical and Electronic Equipment Directive **(WEEE)**	2012/19/EU

Registration, Evaluation, Authorization and Restriction of Chemicals **(REACH) Regulation**	1907/2006/EC

The following **harmonized standards** have been used to assess the compliance the above directives:

General requirements for EMC for Information Technology Equipment (ITE)	ETSI EN 301 489-1 V2.2.3 (2019-11)
Requirements for radiated emissions	NEN-EN 55032:2015/A11:2020
Requirements for electrostatic discharge (ESD) immunity	EN-IEC 61000-4-2:2025
Requirements for radiated immunity	EN-IEC 61000-4-3:2020
Requirements for magnetic field immunity	EN-IEC 61000-4-8:2010
Wideband transmission systems; Data transmission equipment operating in the 2,4 GHz ISM band and using wide band modulation techniques; Health and Safety	ETSI EN 300 328 V2.2.2 (2019-07)
Human RF exposure restriction	NEN-EN-IEC 62311:2020
Marking of electrical and electronic equipment in accordance with Article 11(2) of Directive 2002/96/EC (WEEE)	NEN-EN 50419:2006
Information technology Equipment Safety	IEC 62368-1:2023

Common security requirements for radio equipment Internet connected radio equipment	EN 18031-1:2024
RoHS Compliance	EN IEC 63000:2018

Compliance is assessed with: Software version 1.0.3

Signed for and on behalf of:

Date:

Place:

Name:

Title:

Sensorfact B.V.

Compliance Statement

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, and
2. This device must accept any interference received, including interference that may cause undesired operation.

Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a **Class B** digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

RF Exposure Statement: This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. The device can be used in portable exposure condition without restriction.

19. Appendix 1 - Belangrijke veiligheidsinformatie in het Nederlands

19.1. Beschrijving van de apparatuur

Productnaam: Vibration Sensor Canary

Model: V-SFLITE24

19.2. Inleiding

Canary is een intelligente sensor die continu de toestand van industriële installaties, zoals machines, beoordeelt en real-time gegevens verzamelt en analyseert. Door gebruik te maken van een geavanceerd platform dat wordt aangedreven door AI, interpreteert het systeem de verzamelde data en levert het bruikbare inzichten. Deze proactieve aanpak stelt gebruikers in staat een voorspellende onderhoudsstrategie op te zetten, waardoor de operationele efficiëntie verbetert en de levensduur van hun installaties wordt verlengd.

19.3. Beoogd gebruik van de apparatuur

De Canary is een intelligente, energiezuinige draadloze sensor voor het monitoren van industriële installaties en is exclusief ontworpen voor gebruik met de Sensorfact-software.

Het apparaat is bedoeld voor gebruik binnenshuis en moet uitsluitend worden gemonteerd op het te meten object, met behulp van de Sensorfact Bolt Adapter, volgens de instructies in deze handleiding. Andere montagemethoden zijn niet toegestaan.

Het product, zoals beschreven in deze handleiding, bestaat uit:

- Het apparaat (d.w.z. de sensorunit)
- De gebruikershandleiding (incl. EU-Conformiteitsverklaring)

Benodigde materialen, gereedschappen en apparatuur voor installatie, ingebruikname, onderhoud en verwijdering – zoals, maar niet beperkt tot: boutadapters, bevestigingsmiddelen, lijmen, verbindingshubs, persoonlijke beschermingsmiddelen, handgereedschap, enz. – worden niet geleverd door de fabrikant van het product en vallen derhalve ook niet onder deze handleiding.

Er wordt verwacht dat de installatie, ingebruikname, het onderhoud en de verwijdering van het apparaat worden uitgevoerd door gekwalificeerd personeel, met gebruik van goedgekeurde apparatuur, materialen en procedures.

Er wordt verwacht dat de industriële installatie waarop het apparaat is gemonteerd, zich bevindt in een beperkte zone, zodat zich geen onbevoegde personen binnen de veiligheidsperimeter van deze installatie bevinden.

19.4. Garantie en aansprakelijkheid

De primaire functionaliteit van het apparaat is het meten, verzamelen en verzenden van gegevens van interne trillings-, temperatuur- en magneetveldsensoren via draadloze communicatie, binnen de operationele grenzen zoals gespecificeerd in deze handleiding of gelijkwaardige documentatie. Voor alle duidelijkheid: de gegevens en inzichten die door de Canary-sensor worden verstrekt, zijn uitsluitend bedoeld ter informatie. De Klant blijft volledig verantwoordelijk voor alle beslissingen en handelingen met betrekking tot het onderhoud en de werking van zijn apparatuur.

De Fabrikant staat het gebruik van dit product alleen toe voor het beoogde doel zoals gedefinieerd in deze handleiding.

De Fabrikant/Distributeur garandeert dat, voor zover hem op het moment van verhuur/verkoop van het product aan de eindklant daadwerkelijk bekend is, het product vrij is van gebreken en voldoet aan de toepasselijke wet- en regelgeving en geldende industrienormen die op dat moment van kracht zijn, waaronder maar niet beperkt tot regelgeving inzake veiligheid, milieubescherming en importeer-/exporteer eisen.

Indien de Klant binnen het eerste (1) jaar na levering van het product vaststelt dat het product gebreken of non-conformiteit vertoont als gevolg van slecht materiaal, een foutief ontwerp of gebrekkige afwerking, zal de Fabrikant/Distributeur (als enige rechtsmiddel van de Klant) de defecte hardware vervangen door andere hardware, welke binnen tien (10) werkdagen na ontvangst van de geretourneerde hardware zal worden verzonden.

19.4.1. Uitsluitingen van de garantie

De volgende omstandigheden vallen niet onder deze garantie:

- Elk gebruik van het product buiten de inhoud van deze instructies, of elk onjuist gebruik.
- Deze garantie dekt geen normale slijtage, geen schade, storingen of verlies van functionaliteit als gevolg van verkeerd gebruik, nalatigheid of het niet opvolgen van de instructies in deze handleiding. Dit omvat, maar is niet beperkt tot:
    - Het gebruik van buitensporig kracht op het product, onjuiste behandeling of het niet opvolgen van bedieningsinstructies.
    - Handelingen uitgevoerd door niet-geautoriseerd personeel.
    - Niet-geautoriseerde wijzigingen, reparaties of pogingen om het apparaat aan te passen.
- De garantie vervalt als de software van het apparaat op wordt gewijzigd, of als er een poging wordt gedaan om software of een softwareversie te uploaden die niet officieel is uitgebracht en gepubliceerd door de fabrikant. Daarnaast wordt elke poging om vervalste software voor dit apparaat uit te brengen, te publiceren of te verspreiden beschouwd als een strafbaar feit en kan dit leiden tot juridische stappen.
- De garantie dekt geen schade, storingen of defecten die worden veroorzaakt door externe factoren buiten de normale bedrijfsomstandigheden, waaronder maar niet beperkt tot binnendringend water, ongelukken, stoten, aardbevingen, overstromingen, brand, blikseminslag of andere natuurrampen.

19.5. Veiligheidsinformatie

Maak uzelf vertrouwd met de informatie in deze handleiding vóór het uitvoeren van installatie, ingebruikname, gebruik, onderhoud of verwijdering van dit apparaat; bewaar deze handleiding voor toekomstig gebruik.

Wetgeving, regelgeving en normen op nationaal, regionaal of lokaal niveau kunnen van toepassing zijn op de installatie, ingebruikname, het gebruik, onderhoud of de verwijdering van dit apparaat.

Onjuist uitgevoerde handelingen, zoals maar niet beperkt tot: installatie, ingebruikname, onderhoud of verwijdering, kunnen letsel of materiële schade veroorzaken.

Dit apparaat kan niet door de gebruiker onderhouden worden. Probeer het apparaat niet te repareren of te modificeren. Niet-geautoriseerd personeel mag onder geen beding handelingen uitvoeren aan het apparaat, waaronder maar niet beperkt tot installatie, ingebruikname, gebruik, onderhoud of verwijdering.

Probeer de software van het apparaat op geen enkele manier te wijzigen. Probeer nooit het apparaat te updaten met software die niet officieel door de fabrikant is uitgebracht en gepubliceerd. Bij twijfel over een specifieke softwareversie, problemen bij het updaten of vermoedens van namaaksoftware, neem contact op met de supportafdeling zoals beschreven in de sectie **Support** van deze handleiding.

Raak het apparaat, bevestigd aan een industriële installatie, tijdens werking niet aan. Zorg ervoor dat de juiste veiligheidsprocedures voor het uitzetten (bijv. LOTO) zijn gevolgd voordat u enige handeling uitvoert.

Controleer het apparaat regelmatig op tekenen van schade of afwijkend gedrag. Zie de sectie **Beschadigd Apparaat** in deze handleiding voor gedetailleerde informatie.

Open, demonteer of verpletter het apparaat niet; boor of snijd niet in de behuizing.

Laat het apparaat niet boven de gespecificeerde temperatuurlimiet opwarmen en verbrandt het niet. Gooi het apparaat niet in het vuur of vergelijkbare omgevingen weg.

Zorg ervoor dat het apparaat niet in contact is (geweest) met chemische stoffen, aangezien dit het apparaat kan beschadigen.

Het apparaat genereert, gebruikt en kan radio energie uitstralen en kan, indien het niet correct is geïnstalleerd en gebruikt volgens de instructies in deze handleiding, schadelijke storing veroorzaken bij radiocommunicatie.

19.6. Beschadigd Apparaat

Voer geen installatie, ingebruikname, gebruik of onderhoud uit aan het apparaat als het zichtbaar beschadigd is of als u enig ander teken van afwijkend gedrag constateert zoals beschreven in deze handleiding.

Als het apparaat beschadigd is of als er een vermoeden is van mogelijke schade, neem dan contact op met de supportafdeling zoals vermeld in de sectie **Support** van deze handleiding.

Een beschadigd apparaat moet zo snel mogelijk uit gebruik worden genomen. In de volgende gevallen (maar niet uitsluitend) wordt het apparaat als beschadigd beschouwd en mag niet worden overgegaan tot installatie, ingebruikname, gebruik of onderhoud, om een potentieel onveilige situatie te voorkomen:

1. De behuizing van het apparaat is gebarsten.
2. Één of meer schroeven op de behuizing zijn losgekomen of ontbreken.
3. De behuizing vertoont overmatige krassen of slijtage die niet door normaal gebruik kunnen worden verklaard.
4. Het apparaat kan niet worden ingeschakeld.
5. Er is een vermoeden van interne mechanische schade, bijvoorbeeld tikkende geluiden die wijzen op losse onderdelen (schroef, fragment, enz.).
6. Onderdelen van het bevestigingsmechanisme zijn beschadigd, waardoor de mechanische bevestiging van het apparaat mogelijk is aangetast.
7. Het bevestigingsmechanisme bevat vuil of stof, waardoor er mogelijk geen elektrische verbinding is met de boutadapter.
8. De overdrukopening is verstopt.
9. Gedrag van het apparaat dat afwijkt van normaal, zoals foutieve metingen, frequente of intermitterende verbindingsverlies, onverwachte uitschakelingen, enz.
10. Andere tekenen van slijtage die verder gaan dan normale gebruikssporen.

19.7. Voorafgaande aan de installatie

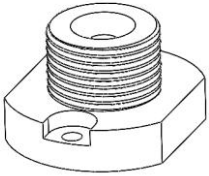
Voorafgaand aan de installatie van het apparaat dient te worden verzekerd dat de vereiste procedures voor een gegarandeerd veilige spanningsloze toestand zijn uitgevoerd (bijv. LOTO). Het is ten strengste verboden om het apparaat te installeren op een in bedrijf zijnde technische installatie.

Controleer vóór installatie of de drukontlastingsopening (6) schoon en niet geblokkeerd is. Voor een correcte werking moet deze opening te allen tijde vrij blijven van verstopping.

Om mogelijke storingen door stralingsinterferentie te voorkomen, mag het apparaat niet samen met een andere radioantenne of zender geplaatst of gebruikt worden.

Fysieke obstakels zoals betonnen of cementen muren of metalen objecten kunnen signaalinterferentie veroorzaken en de communicatie tussen het apparaat en de gateway negatief beïnvloeden.

Het apparaat is ontworpen om te worden gemonteerd op de Sensorfact-Boutadapter:



De boutadapter moet worden geïnstalleerd volgens de afzonderlijke installatie-instructies, voorafgaand aan de installatie van het apparaat.

Voor de installatie van het apparaat moet worden gecontroleerd of de boutadapter stevig op het object is gemonteerd; de lijm moet volledig uitgehard zijn volgens de instructies van de lijmfabrikant.

19.8. Revisie van het apparaat

Voor meer informatie over revisie van het apparaat, neem contact op met de supportafdeling zoals beschreven in de sectie **Support** van deze handleiding.

19.9. Preventief onderhoud van de montagemoer

Voer geen installatie, ingebruikname of bediening van het apparaat uit als de montagemoer (7) zichtbaar beschadigd is.

1. Controleer vóór elke installatie visueel de binnenschroefdraad van de montagemoer (7) op het apparaat en de schroefdraad op de boutadapter. Indien er schroefdraadbeschadiging wordt vastgesteld, ga dan niet over tot installatie, aangezien dit kan leiden tot een onjuiste bevestiging van het apparaat op de installatie.
2. Controleer visueel op vuil en stof in de schroefdraad van de montagemoer (7) en op het contactvlak. Verwijder eventueel vuil of stof en breng opnieuw montagepasta aan vóór installatie.
3. Het uitwendige zeskantoppervlak (Hex 24) van de montagemoer (7) moet vóór gebruik worden geïnspecteerd op overmatige beschadiging, aangezien aanzienlijke slijtage of vervorming kan leiden tot wegglijden van de steeksleutel, wat letsel of materiële schade kan veroorzaken.

19.10. Afdanking van het apparaat

Een beschadigd of niet-functionerend apparaat kan doorgaans worden gerepareerd of gereviseerd. Volg hiervoor de instructies in de sectie **Revisie van het apparaat** in deze handleiding.

De afdanking van het apparaat moet worden uitgevoerd door de distributeur of volgens instructies van de supportafdeling.

Dit apparaat valt onder de Richtlijn Afgedankte Elektrische en Elektronische Apparatuur (AEEA) (2012/19/EU). Het mag niet bij het huishoudelijk afval worden weggegooid; lever het in bij een erkend inzamelpunt voor recycling van elektronisch afval.

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