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VisioTrack Nano TechnicalGuide

Index

Disclaimers

- Page 3

Device Certification Details

- Page 4

VisioTrack Nano details

- Page 5

Device Specification

- Page 6

Replacing the battery

- Page 7

Label information

- Page 8

Installing the device

- Page 9

Information for Optimal Device Usage

- Page 10

Battery Lifetime Estimation

- Page 11

Disclaimer – General Conditions of Use

Please read carefully - By using the Visiosoft products you agree that you have read the *General Conditions of Use*, this document and that it is considered acceptable for the user.

- Visiosoft cannot be held liable or responsible for any consequence of the use of the Visiosoft products. This can include but not be limited to damage to property, bodily harm or failure of detecting an emergency situation.
- The user of the Visiosoft devices are fully responsible for its use and at its own risk.
- Always ensure your region is covered before using the Visiosoft devices. It can be checked from <https://www.sigfox.com/en/coverage>
- Sigfox and GPS transmission/reception is strongly dependent on environmental conditions. Visiosoft does not guarantee the performance of signal reception and GPS tracking.
- The owner/user is fully responsible to abide by the rules and laws for providing position data in its local area or country.

Disclaimer – Primary Lithium Battery

This device contains a Lithium Thionyl Chloride Battery

- The device must not be pierced or burnt.
- Batteries have to be recycled.
- Do not open or damage the battery.

Device Certification Details

Certification information and standards passed:

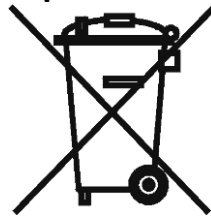
- IEC 60950-1:2005 + A1:2009 + A2:2013 / SANS 60950-1:2014
- ETSI EN 300 220-1 V2.4.1 (2012-01)
- ETSI EN 300 220-2 V2.4.1 (2012-01)
- EN 301 489-1: V2.1.1
- EN 301 489-3: V2.1.1
- GOVERNMENT GAZETTE 38641 (2015)
- ICASA Type Approval TA-2017/2177
- Sigfox Ready Class 1u
- IEC60335-1:2013 used in conjunction with IEC 60529 (IP Code) – IP67

Sigfox Network Coverage

Please check Sigfox Network Coverage before using the Visiosoft Devices.

- <https://www.sigfox.com/en/coverage>

Device Developed and Produced in Cape Town South Africa



WELCOME TO THE FUTURE!

We trust you are just as excited as we are, about all the real-world applications of our technology. This documents purpose is to provide some hints for getting started with activation and use your new VisioTrack Nano device. If you require further information, please do not hesitate to contact us.

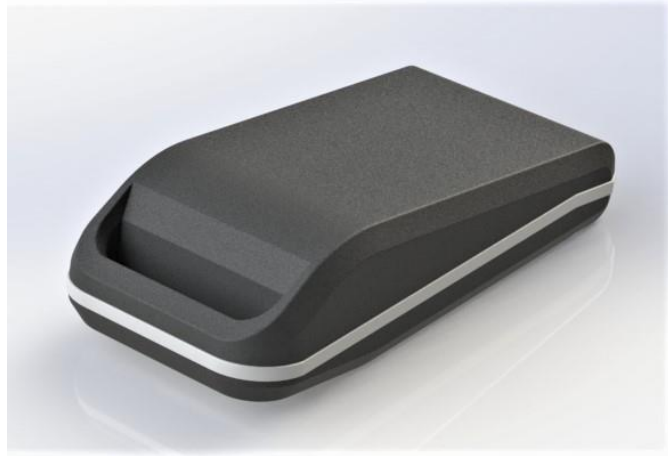
What is the VisioTrack Nano?

The VisioTrack Nano is an application ready Sigfox enabled transceiver. A smart sensor perfectly suited for asset tracking applications.

The VisioTrack Nano provides connection to national and global network infrastructure for reliable and secure communications. This rugged small form factor sensor device delivers tracking functionality to powered or non-powered assets. Powered through a Li-SOCL2 battery, it allows standard autonomy up to 2+ years.

The VisioTrack Nano device

- Location and sensor data through Sigfox compliant radio networks
- GPS and non-GPS hardware options
- Rugged sealed enclosure
- Fully battery powered
- Long range connectivity
- Low Cost Low power design with 2+ years autonomy
- Small, Compact and easy to install and conceal



Typical Applications

- Non Powered Asset tracking
- Small Form Factor applications

Device Specifications

- Please refer to the datasheet for most common specifications
- Further please note:
 - ✓ Indoor and Outdoor Tracking Services (GPS and Wifi)
 - ✓ Fully configurable using the Sigfox Downlink
 - ✓ Movement, Time, Tamper and Distance configuration options
 - ✓ Integrated Battery and Antennas
 - ✓ Small Form Factor

Replacing and fitting the Battery

Step 1

- Unscrew the 2 screws and open the device.



Step 2

- Replace battery
- Make sure of the battery orientation

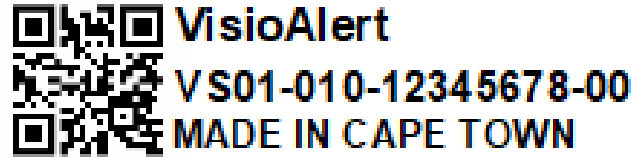


Step 3

- Close the device
- Tighten the screws but be careful not to over tighten.



Label Information



- The label displays various device information which can be used as follow (we use the above image as reference)
 - VS01-010 displays the product version
 - 12345678 displays the Sigfox ID
 - 00 displays the hardware configuration
- The above information is also captured in the 2D barcode for easy device management and installation

Installing / Using the Device

The VisioTrack Nano can be used with a Keyring or Lanyard as example – please see images below. Can also be tied or fastened to various assets.



Example of Lanyard



Example of Keyring

Information for Optimal Device Usage

RF Environment

- An metallic environment can degrade the Sigfox signal for transmission and reception.

Device Position

- It is preferred to install the device according the installation guidelines for optimal transmission and reception. Below images shows the omni-directional Sigfox RF radiation patterns.



Battery Lifetime Estimation

- The table below provides a battery lifetime estimate based on:
 1. Theoretical battery modelling
 2. Battery exhaustion profiling
 3. Device power profile measurement for the various device states
 4. The default VisioTrack Nano is shipped with a ½ AA cell battery
 5. Room temperature was used as reference – Temperature fluctuations will have an effect on the battery lifetime and capacity
 6. Accelerometer mode detects device movement – only transmit on movement. 12 Hour non-movement is assumed in below data set.
 7. Below table can be used as a guideline with a typical GPS lock of 30 seconds

Time to GPS lock of 30 seconds assumed	Tracker GPS uplinks per Day at 100% Battery Capacity	Tracker GPS uplinks per Day at 80% Battery Capacity	Tracker GPS uplinks per Day at 60% Battery Capacity
6 Messages per Day	1.5 years	1.2 years	0.9 years
6 Messages per Day with Acc	2+ years	1.6+ years	1.2+ years

Enjoy your device!

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