redefining extreme low power

nPZero SENTINEL Goods

temperature and 3 axes accelerometer

Datasheet Rev. 2

Product name: nPZero SENTINEL Goods

Introduction

The **nPZero SENTINEL Goods** is our smallest sensor with Bluetooth Low Energy connectivity, a high accuracy temperature sensor, and an accelerometer. It is suitable for monitoring any type of transportation, as well as smart buildings.

With next-to-zero power use with our nPZero-technology, it is both small and long-lasting. Nanopower's patent pending nPZero solution provides extreme low power capabilities that enables battery powered sensors in use cases where battery longevity is essential and changing a battery is not an option.

For use cases in logistics condition or temperature monitoring, a typical battery life will be 5 years with possibilities for even longer life through modified settings.

While normal temperature sensors have a low sensor polling frequency to preserve power, the **nPZero SENTINEL Goods** combines long battery life with temperature monitoring every 4 seconds and impact every 0.6 seconds. This ensures that any deviation from specifications is detected and reported, never missing a beat.

The passive NFC enables the **nPZero SENTINEL Goods** to be activated by handheld devices and efficiently integrated into processes of transportation and logistics companies.

The **nPZero SENTINEL Goods** can be integrated into other BLE solutions, or used straight out of the box with the Nanopower mobile app for iOS and Android.

For more information, visit www.nanopower.store or contact us at info@nanopower.global or +47 401 20 800

Physical dimensions

Dimensions (L x W x H): 42 x 37 x 10 mm
Total width with flanges 47 mm
Mounting holes ØM3, Zip tie 5mm width
center-to-center distance 42 mm

Communication

BLE SoC: Nordic Semiconductor nRF52811 Bluetooth Low
Energy with Bluetooth 5.2. Optionally Bluetooth Long Range.

BLE SDK: The system comes with default settings utilizing
NUS (Nordic UART Service), e.g., to communicate with the
Nanopower app for iOS and Android.
The system can be delivered with a tailored setup, e.g., for
connectivity over, e.g., gateways.

OTA: Firmware over the air update.

NFC: Passive NFC tag that enables, wake up of system from
deep sleep/storage mode using, e.g., a mobile phone.

Memory

16 KB, equal to 45 alarms and 2,000 logs containing
temperature and accelerometer data

Battery

CR2050

Enclosure

Thermoplastic: ABS, flame retardant grade.

Indoor installation at any angle, avoid direct sunlight into
sensor area.

Outdoor installation on a vertical and weather protected
area to ensure sufficient drainage of water. Avoid direct
sunlight into sensor area. Direct sunlight and water on

sensors will cause erroneous sensor readings and damage
due to, e.g., frost.

Sensors

Temperature: ± 0.2 °C (-10°C to 65°C)
± 0.3 °C (from -40°C to -10°C and from 65°C to 85°C)
± 0.5 °C (for remaining temperature span)
Can wake system from sleep on thresholds, min/max.

Accelerometer: 3-axis, ±2g/±4g/±8g/±16g with output data
rates from 1.6 Hz to 1600 Hz
Can wake system from sleep on threshold.

Operating conditions

Temperature: -20 - +85°C

Certifications

RED - Radio Equipment Directive, CE

Assembled in Portugal

nanoPOWER

Mobile app

The nPZero SENTINEL series can be connected to the Nanopower mobile app which will be available for download from Apple App Store and Google Play.

Using the mobile app, you can:

- Read both real-time and historical sensor data from your nPZero SENTINEL devices.
- Choose between predefined modes to fit your requirements.
- Wake the device from deep sleep and activate the Bluetooth communication using the NFC function.

Visit www.nanopower.store for more information