Personal Safety Device Datasheet

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Personal Safety Device (PSD)

Features

- LTE Cat-M and NB-IoT
- GNSS receiver for precise outdoor location
- Wi-Fi location
- Cell ID location
- FCC, PTRCB, and T-Mobile Certified
- NFC tag reader
- SOS button
- Battery status LED
- Device status LED
- Temperature sensor
- Barometric pressure sensor for elevation
- Shock detection
- Movement detection
- Internal buzzer
- Micro-USB for battery recharging
- Nano SIM (4FF)
- Low power management for ultra-long battery life applications
- Over-the-air firmware update
- Waterproof (IP67)
- Shockproof

PSD Specifications

Dimensions	91mm x 59mm x 11mm
Weight	60 grams
LPWAN Technologies	NB-IoT (Cat NB2) / LTE-M (Cat-M1)
LTE-M Bands	All LTE-M bands can be supported; however, availability of bands is dependent upon the telecom carrier and antenna configuration.
NB-IoT Bands	All NB-IoT bands can be supported; however, availability of bands is dependent upon the telecom carrier and antenna configuration.
SIM Card Holder	Nano SIM (4FF)
Location Methods	GNSS / Wi-Fi / Cell ID / Indoor location beacons
GPS Antenna Pattern	Omnidirectional
Battery	Li-Po rechargeable battery. Micro-USB connector for battery recharging.
Battery Capacity	1600 mAh
Low Battery Indication	Reported to cloud to perform low battery LED sequence.
Sensors	Accelerometer, temperature, barometric pressure
Human Interfaces	Push button, buzzer, 2x RGB LED
Firmware Update	Over cellular
Operating Temperature	-10°C to 60°C
Case Material	ABS
Button Material	TPU

Dimensions

Power Consumption

The PSD is designed to provide very high efficiency in terms of power consumption and to be able to remain active for long periods of time. With one data packet transmitted every 3 minutes, the PSD will have a battery life of 10 days. There are several options to extend the battery life to several weeks based on the type and frequency of data required. It takes 90 minutes to power the device using micro-USB.

Privacy

The PSD and the Connected Resources platform overall are designed to ensure optimal personal privacy for the employees. Below are key features that make the PSD a device that respects personal privacy.

1 - CoRe does not report data outside shift hours or outside the workplace
2 - The PSD is inactive unless it has been paired with an NFC ID card, which must be inserted into the front-facing slot
3 - The system does not require any integration with personal phones
4 - The device can be switched off

Other Key Features

Location Positioning: Using a combination of technologies, the PSD can report location in indoor and outdoor environments using a combination of GPS, location beacons, Wi-Fi, and other advanced integrations that give elevation readings through and embedded barometric pressure sensors.

NFC and device interchangeability : The PSD reads NFC IDs to personalize the device data when the ID Is Inserted making the device Interchangeable between the employees.

SOS button: Whenever the SOS button is pressed, the PSD connects to the cloud server and sends an SOS alarm with the current position.

Temperature alarm: If the temperature is out of the user-set limits, the device sends a temperature alarm. This alarm can be disabled by the user.

Beeper notifications : The PSD Is equipped with a piezo buzzer that could be triggered as needed from the CoRe platform (for mass or personal notifications) or in case of specific pre-configured alerts (e.g. notify a person If they spend certain number of hours In specific location)

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Version	Date	Prepared by	Description
1.0	11/1/2021	Kyle Hopkins	Document created
1.1	1/20/2022	Jasmine Dahlby	Removed beacon section
1.2	2/18/2022	Jasmine Dahlby	Added measurement units on PSD graphic
1.3	6/20/2022	Jasmine Dahlby	Updated PSD rendering to new version
1.4	10/19/2022	Omar Ghazzaoui	Updated data transmission. Added certification features
1.5	10/24/2022	Jasmine Dahlby	Updated certification
1.6	1/24/2024	Jasmine Dahlby	Replaced BLE details with location beacon details