



# 5G SENS

## Powerful Tracking & Monitoring Solution

### Tracking of assets and their conditions with a compact flat device

Whether you work in manufacturing, security, health or logistics and have valuable mobile assets such as machinery, pallets, containers or even electric vehicles, it is essential to track & monitor them in order to reduce loss. Optimise your costs and increase your efficiency while gaining peace of mind that your freight is safe and secure during its journey.

#### Sensors



- Up to six sensors on board
  - Outdoor Location
  - Indoor Location via BLE
  - Temperature
  - Humidity
  - Air Pressure
  - 6D-Acceleration
  - Light
- External sensors can be connected via Bluetooth Low Energy (BLE)

#### Long Battery Lifetime

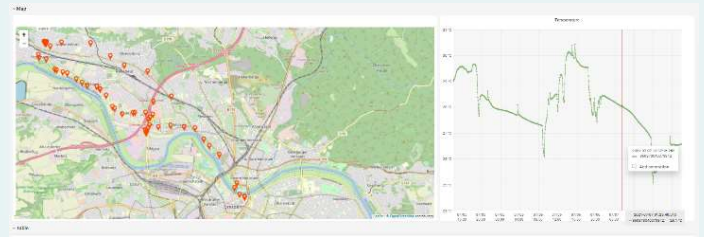
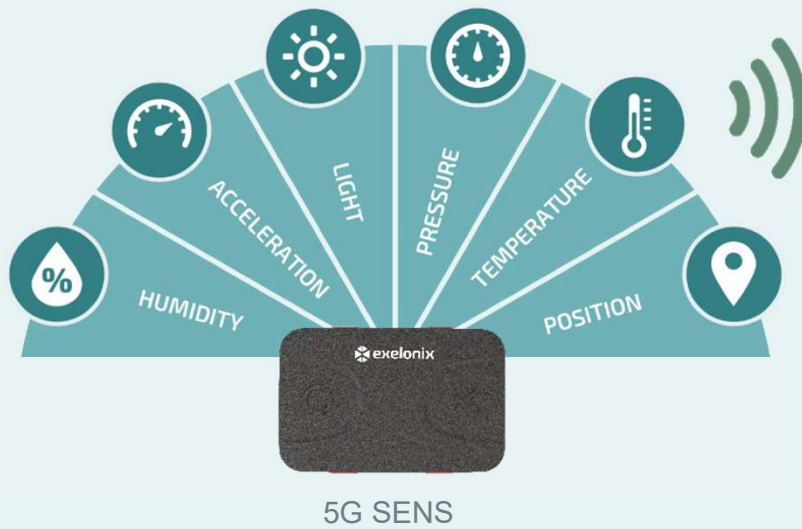


- Two power supplies options
  - Rechargeable battery
  - 3AA Primary batteries
- Low Power wireless technology
- Over 5.000 position messages (per battery capacity)
- Up to 5 years of operation

#### Flexibility



- Various parameter can be adapted
  - Time between periodic messages
  - Time between motion triggered messages
  - Daily tracking schedule
- Remote device management service
  - Parameter Update
  - Firmware update
  - Battery monitoring
  - Coverage monitoring



Cloud Backend



Clip Holder\*



USB-C Charger

### Connectivity:

3GPP Release 14 LTE Cat NB2  
 3GPP Release 13 LTE Cat M1  
 Bands: B3/B8/B20  
 GPRS Bands: 900/1800MHz  
 SIM-Card: 3FF (Micro SIM)



### Location Services

GNSS (GPS, Galileo)  
 QuecLocator\* (positioning via cellular base stations)  
 Quoppa Support (BLE indoor Tracking)

### Local Connectivity:

Bluetooth Low Energy Rx  
 Bluetooth Low Energy Rx/TX



### Chipset

Qualcomm MDM9205

### Data Transfer Protocols

TCP/ SSL/ TLS/ HTTPS

### Security Features

Protected device memory  
 Secure communication via transport level security (TLS)  
 Device authentication via ECDSA signatures

### Certifications

CE-RED, GCF, Vodafone  
 RoHS, REACH, WEEE  
 Battery: EC 62368-1, UN38.3, 2006/66/EC, UL1642,  
 IEC62133 -2, IEC 62321-4, IEC 62321-5

### Sensors

Acceleration & Gyrosensor: 6 – axis  
 Temperature: -10 °C ... 70 °C ± 1 °C  
 Humidity: 5% - 95% RH ± 5%  
 Barometer: 260 to 1260 hPa ± 1 hPa  
 Real-Time Clock: max. 20ppm at 25°C  
 Light sensor: approx. 0,2 Lux and above

### Interfaces

4 I/O Ports (via USB-C)

### Indicator/Buttons

3 LEDs  
 2 Buttons

### Electrical data

Power Supply via USB-C  
 Rechargeable LiPo battery 3.7V, 2.750 mAh  
 Primary Cells: 3AA Batteries

### Housing:

Housing: IP40, IP65  
 Dimension:  
 • 90x58x25 mm (with LiPo battery)  
 • 90x58x34 mm (with 3 AA-Type battery)  
 Weight 120g (LiPo battery)

### Environmental Conditions

Min/Max. Temperature:  
 • Rechargeable -10 ° C to +70 ° C  
 • 3AA Battery -40° C to +80 ° C



Features	STANDARD	MAX	CUSTOM
<b>Connectivity</b>			
NB-IoT	X	X	X
LTE-M	X	X	X
GSM	-	X	Your Choice
<b>Localization</b>			
Cell ID	X	X	X
GNSS	X	X	X
QuecLocate*	-	X	Your Choice
Quupa BLE indoor tracking	-	X	Your Choice
<b>Sensors</b>			
Acceleration	X	X	X
Gyroscope	-		Your Choice
Temperature	-	X	X
Humidity	-	X	Your Choice
Air Pressure	-	X	Your Choice
Light Sensor	-	X	Your Choice
4 External GPIO Ports	-	X	Your Choice



## Preinstalled Tracking Use Cases:

### 1. Inventory Track

- Periodic messages (at configured time of the day)
- Alarm messages on motion detection (configurable)

### 2. Theft Track

- Alarm messages on motion detection within configured time of the day (configurable)

Remote parameter setting allows tracking configuration directly from the cloud.

## Customized Device Software

5G SENS can be programmed freely and easily to **support your specific use case**. Ask us for a device set-up, that is tailored to your specific requirements.

## Estimated Battery Life

more than 5000 messages (in typical tracking scenarios)

## OTA (Over-The-Air) Configuration

Remote update of

- Application parameters
- Device application SW
- Complete firmware
- Modem firmware

## Cloud Support

- Exelonix IOT Cloud & Grafana
- Vodafone IoT Tracking
- Telekom Cloud of Things\*
- BOX-ID\*
- Others on request

\* Options on request