exelonix

5G SENS

Tracking of assets and their conditions with a compact flat device

Six Senses Monitoring: Up to six sensors for temperature, humidity, air pressure, 3D-acceleration, light & location enables monitoring of asset conditions corresponding to your individual needs. The solution is built to tackle many different IoT use cases, from outdoor tracking mobile assets to monitoring an indoor environment.

Connectivity: Cellular networks provide worldwide coverage for seamless tracking of goods, based on NB-IoT and Cat-M1. For countries without these 4G/5G networks the tracker offers a 2G network fallback.

Long Battery Lifetime: Based on the Qualcomm 9205 chipset 5G SENS offers connectivity and GNSS positioning along with low power technology for long battery operation. Preconfigured Power Save Modes are available for long battery lifetime. Remote configuration allows to tailor the device messages to the needs of the practical use case.

External Sensors: There are two ways to connect external sensors to 5G SENS:
- via Bluetooth Low Energy (BLE) or
- via 4 GPIO ports simply accessible via a specific USB-C cable

5G|SENS
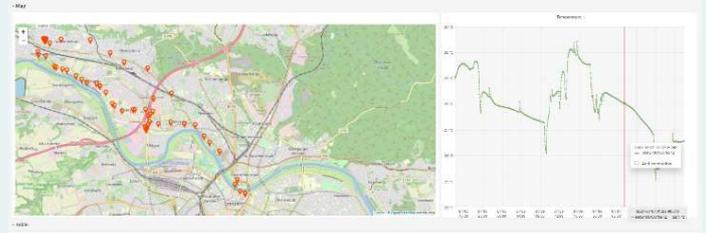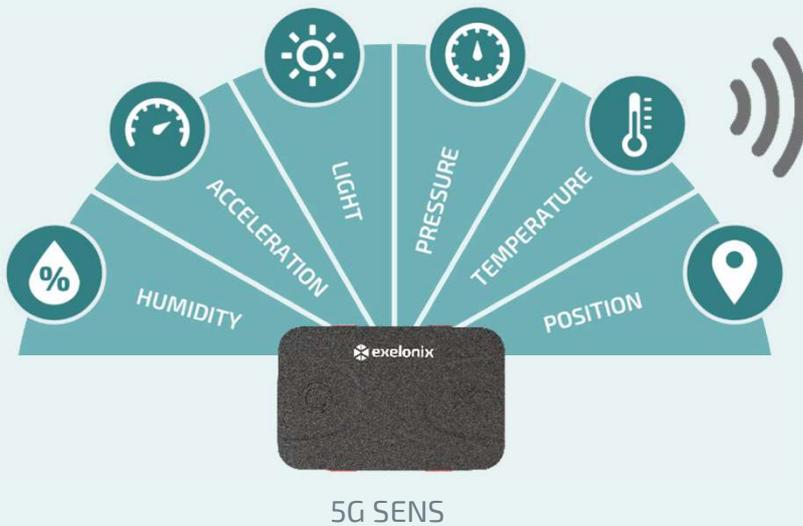
Cloud Backend

Clip Holder*   USB-C Charger

5G SENS

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)

NB-IoT

LTE-M

GSM

Location Services
GNSS (GPS, Galileo)
QuecLocator* (positioning via cellular base stations)

Local Connectivity:
Bluetooth Low Energy Rx
Bluetooth Low Energy Rx/TX*

Bluetooth SMART

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
Accelerometer: 3 - axis
Orientation: 0 to 360 degrees around x and y
Temperature: -10 °C … 70 °C ± 1 °C
Humidity: 5% - 95% RH ± 5%
Barometer: 260 to 1260 hPa ± 1 hPa
Ambient light*: 0 - 68k lux

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

Option on request

Configurations

5G|SENS

Features	GOOD	BETTER	BEST
Connectivity			
NB-IoT	X	X	X
LTE-M	X	X	X
GSM	-	X	X
Localization			
Cell ID	X	X	X
GNSS	X	X	X
QuecLocate*	-	-	X
Sensors			
Acceleration	X	X	X
Temperature	-	X	X
Humidity	-	X	X
Air Pressure	-	-	X
Light Sensor	-	-	X
4 External GPIO Ports	-	-	X
Housing	IP40	IP40	IP40
Security			
Authentication	-	-	X
E2E Encryption	-	-	X

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.

* Options on request

Estimated Battery Life
more than 2000 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