
SEZ


WiRan
inside

SEZO SL

measuring various parameters e.g. temperature, humidity and indoor air quality

sending data to Orange Live Objects platform via LoRaWAN

indoor condition monitoring in different scenarios including sub-zero temperatures

long battery life - up to 3 years on a single battery

PIR (infrared) sensor

USB configuration

built-in accelerometer, magnetometer and motion detector

flexibility & configurability (threshold configuration for all measured parameters)

POTENTIAL USE CASES

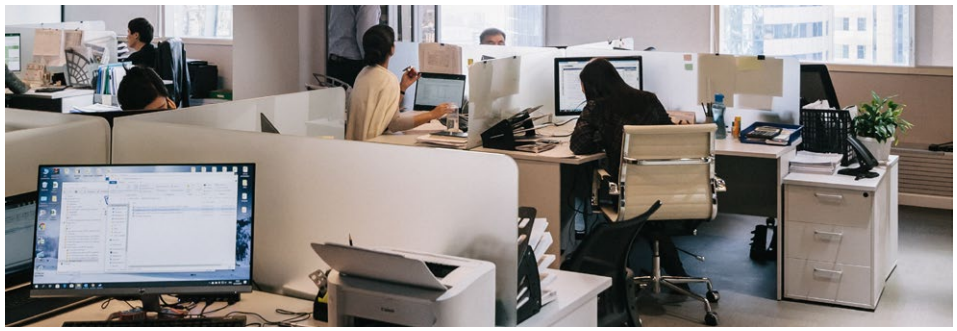
WAREHOUSES

The **SEZO SL** device enables controlling of the environment on the premises to *ensure optimal conditions for storage*. It is especially important in case of *FMCG (Fast Moving Consumer Goods)* such as packaged foods, toiletries or beverages, where the right temperature, as well as levels of humidity or luminosity need to be ensured.

Facility managers leverage **SEZO SL** as a part of the *security system* - the integrated accelerometer enables *measurement of shocks* and/or movements (e.g. of objects such as doors or stored goods) and can potentially decrease response time of facility security (more reliable than CCTV).

SEZO SL is capable of sending data via LoRaWAN to Orange Live Objects platform.

end device | IoT | environment monitoring
health & security | smart building | indoor



OFFICE BUILDINGS

SEZO SL, thanks to its ability to measure such environmental parameters as temperature and humidity, is leveraged by **office managers** to ensure not only comfortable, but also *stable working conditions* for the employees. Each parameter is configurable via USB and can therefore be adjusted to any specific needs.

SEZO SL also allows you to monitor indoor air quality in real time - by bringing your hand close to the device, the color of the LED will determine *the current indoor air quality*. In this way, the device ensures optimal conditions for office workers.

The device has an alarm threshold configuration for all measured parameters and is capable of *sending data via LoRaWAN* to Orange Live Objects platform.

end device | IoT | comfort monitoring
health & security | smart building | indoor

POTENTIAL USE CASES

GREENHOUSES

The **SEZO SL** device is used by *greenhouse owners*.

SEZO SL helps ensuring that a certain *temperature, humidity and light level* within the greenhouse is maintained. This, in turn, helps *preserve a climate within the greenhouse* optimal for the plants requiring such regulated conditions.

Thanks to the high sensitivity of the device and the accuracy of the measurements, *the environment can be very precisely controlled*.

The **SEZO SL** device sends data to the Orange Live Objects platform, which offers *an easy and transparent way to monitor* and analyse the data.

end device | IoT | horticulture | environment monitoring | climate control | indoor

PUBLIC BUILDINGS

SEZO SL is used in public buildings such as *railway stations, libraries and shopping malls* to complement existing control and security systems.

A *motion detector*, which is an integral part of **SEZO SL**, allows to control the number of people staying inside buildings. This allows public institutions to estimate the number of people in a room and prevent overcrowding, thus avoiding the associated danger - for example *in case of evacuation or panic*.

In addition, **SEZO SL** is used by building managers as an alarm system - during building closure hours, **SEZO SL** monitors movement and reports any undesired activity.

SEZO SL is capable of sending data via LoRaWAN to Orange Live Objects platform.

end device | IoT | public spaces | health & security | indoor | indoor

SEZO SL - TECHNICAL SPECIFICATIONS

DESCRIPTION	- Compact low-power sensor device measuring temperature, humidity, luminosity and indoor air quality; equipped with accelerometer, magnetometer and motion detector - LoRaWAN networking technology for long transmission range and very long battery life (up to 3 years on a single battery) - Made for indoor condition monitoring in different scenarios including sub-zero temperatures - USB configuration - Every unit is shipped with individual test report - Integrated with Orange Live Objects Platform
MEASURED PARAMETERS	Temperature, humidity, air pressure, luminosity, indoor air quality, acceleration, magnetic field, motion (PIR)
OPERATING TEMPERATURE	-30 ÷ 60°C
MEASUREMENT RANGE AND ACCURACY	- Temperature: -30 ÷ 60 [°C], typ. ±0.5 [°C], max ±2 [°C] - Humidity: 0 ÷ 100 [%RH], typ. ±4%, max. ±7% @25 [°C] - Air pressure: 300 ÷ 1100 [hPa], typ. ±1 [hPa] max. ±3 [hPa] - Luminosity: 0 ÷ 1000 [lx], typ. ±10%, max ±35% @500 [lx] - Accelerometer: 0 ÷ ±157 [m/s^2] - Magnetometer: 0 ÷ ±49 [gauss] - PIR motion detection: 10 [m] range for human-sized object - IAQ: 0 ÷ 500 [IAQ Index]
COMMUNICATION PROTOCOL	LoRaWAN v1.0.3, Class A device
FREQUENCY AND TRANSMISSION POWER	868 MHz, maximum 14 dBm
DATA TRANSMISSION INTERVAL	Default 15 minutes (configurable) or event-triggered
BATTERY	3.6 [V], 3500 [mAh]
ENCLOSURE	IP40, ABS, four mounting holes
WEIGHT	90 [g]
PRODUCT DIMENSIONS	Body: 74 x 74 x 25.5 [mm]

SEZO

WiRan

About WiRan

WiRan Sp. z o.o. is a B2B company providing R&D services to national and international clients in the space, maritime, railway, industrial and IoT sectors. Our expertise lies in Radio Frequency and Wireless technologies, the development of electronic parts, fast product prototyping, feasibility studies, certifications and EMC testing. Founded in 2002, we are looking back at soon to be 20 years as a HW design office - supporting our diverse clients from the conception through prototyping to product quality development of electronic devices You can find our designs mounted around Tricity (air quality measuring systems), and soon also in space (satellite communication modules), just to name a few.
WiRan offices and laboratories are currently located in Gdynia, Poland.

About SEZO

SEZO is a suite of products that can be best described as long range, customizable IoT solutions. SEZO products are based on LoRaWAN™ and LTE-M / NB-IoT technology and can be customized by clients, based on their needs.