
SEZO

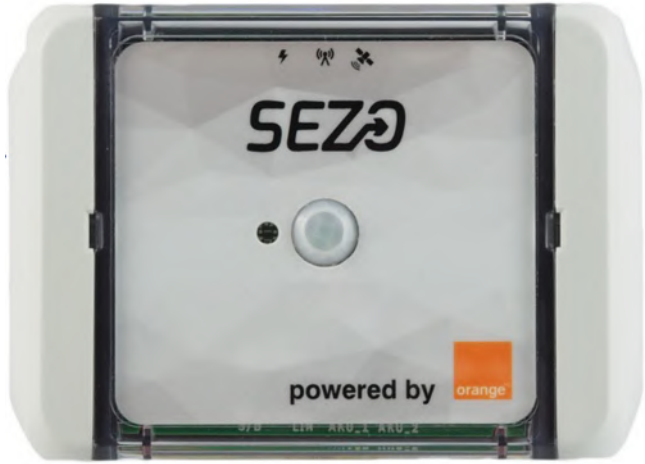

WiRan
inside

SEZO EMR

measuring various parameters i.e. temperature, humidity, atmospheric pressure, sound level, level of light

sending data to Orange Live Objects platform via LTE-M

integrated GPS (establishing location)



battery-powered (3.6V 8000mAh), wireless charging in Qi standard

PIR (infrared) sensor

OTA (over the air) configuration, no cables needed

built-in accelerometer and magnetometer informing about object movement and orientation

flexibility & configurability (threshold configuration for all measured parameters)

POTENTIAL USE CASES

FACILITY MANAGEMENT

SEZO ERM makes refineries and chemical production companies more *secure*.

Facility managers leverage the **SEZO ERM** device to measure shocks and movements of critical facility components and machinery, thanks to the built-in *accelerometer*.

The device can be adjusted to client's individual needs, involving the measurement of *basic environmental parameters,* i.e. temperature, humidity, atmospheric pressure and sound levels. The device has an integrated *alarm threshold configuration*, giving the user the capability to adjust alarm thresholds of all measured parameters (such as light, as well as acoustic intensity).

The device is capable of sending data to the Orange Live Objects platform via LTE-M.

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

PUBLIC INSTITUTIONS

SEZO ERM makes public institutions more *comfortable* and more *efficient.*

Public facilities like libraries, museums or city halls leverage **SEZO ERM** capabilities such as monitoring temperature, humidity, sound level, and illumination to *make the space more comfortable and efficient.* Thresholds for the measured parameters can be set individually through the build-in *alarm threshold configuration.*

The *integrated accelerometer* enables measurement of shocks and/or movements (e.g. of objects such as doors or exhibition pieces) and can potentially decrease response time of facility security (more reliable than CCTV).

The device is capable of sending data to the Orange Live Objects platform via LTE-M.

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

POTENTIAL USE CASES

SCHOOLS

SEZO EMR makes school a *safe and comfortable place* for children and staff.

School management leverages **SEZO EMR** to keep track of the *noise levels on the school premises* to prevent children and staff from being repeatedly exposed to potentially harmful sounds' volume. **SEZO EMR** allows its users to *monitor the temperature* on the premises in order to have control of room conditions and ensure *optimum and stable working and learning conditions.*

The device is **battery-powered**, and can therefore be used *conveniently in various locations*.

The device is capable of sending data via LTE-M to the Orange Live Objects platform.

end device | IoT | schools

health & security | Qi charging | indoor/outdoor

INDUSTRIAL PRODUCTION SITES

SEZO EMR enhances security processes at *industrial manufacturing sites.*

The device is capable of sending data to the Orange Live Objects platform via LTE-M and pulls data from the environment like e.g. sound levels. **SEZO EMR** device is powered by a rechargable, 3.6V 8000mAh battery.

The device has an integrated PIR (infrared) sensor, commonly used in alarm systems and automatic lighting systems, so it can detect the presence of people. The built-in light sensor helps to monitor room lighting.

The device has an *alarm threshold configuration* for all measured parameters.

end device | IoT | industrial

health & security | indoor | outdoor

SEZO EMR - TECHNICAL SPECIFICATIONS

DESCRIPTION	- Compact sensor device measuring environmental parameters, luminosity, noise, with a built-in accelerometer, magnetometer and motion detection - Suitable for indoor and outdoor environment monitoring - LTE-M communication protocol, band B8 and B20 - GNSS geolocation (option) - Integrated with Orange Live Objects Platform
MEASURED PARAMETERS	Temperature, Humidity, Air Pressure, Luminosity, Noise, Acceleration, Motion (PIR)
OPERATING TEMPERATURE	-30 ÷ 60°C
MEASUREMENT RANGE AND ACCURACY	- Temperature: -30 ÷ 60°C, typ. ±0.3°C, max ±1°C - Humidity: 0 ÷ 100%, typ. ±2%, max. ±5% @25°C - Air pressure: 260 ÷ 1260 hPa, ±1 hPa - Luminosity: 0 ÷ 1000 lx, typ. ±50 lx - Noise: 40 ÷ 100dB, ±6dB at voice frequency band - Accelerometer: 0 ÷ ±157 m/s^2 , max. ±7% - Magnetometer: 0 ÷ ±49gauss, max. ±7% - PIR motion detection: at least 5 meters range for human-sized object
COMMUNICATION PROTOCOL	LTE-M; microSIM (eSIM/Soft SIM options)
FREQUENCY AND TRANSMISSION POWER	LTE-M band, maximum 33 dBm
DATA TRANSMISSION INTERVAL	Default 15 minutes or event-triggered (configurable OTA)
POWER SUPPLY	8000mAh battery, Qi wireless charging
ENCLOSURE AND MOUNTING	IP55, polycarbonate, four screw holes
WEIGHT	300g
PRODUCT DIMENSIONS	Length 113 mm, height 80 mm, width 60 mm

SEZO

WiRan

About WiRan

WiRan Sp. z o.o. is a company providing R&D services on a B2B basis 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.

PARP Grupa PFR
Scale Up
brinc
European Funds Smart Growth
Republic of Poland
European Union European Regional Development Fund