ERS Series NB-IoT/LTE-M

Cellular Wireless Sensor



The **ERS NB-IoT/LTE-M Series** of sensors are universal cellular indoor climate sensors. The sensor measures, depending on model, temperature, humidity, light intensity, CO2-level, sound-level, volatile organic compounds (VOC), occupancy and detects motion.

ERS NB-IoT/LTE-M is a battery-powered device and is designed to be wall-mounted. The sensors are equipped with NFC (Near Field Communication) for easy configuration with an NFC-enabled smartphone.

Product features

- Cellular connection via NB-IoT and/or LTE Cat-M1
- Remote FW and settings update
- Temperature sensor
- Humidity sensor
- Light sensor
- Motion sensor (PIR)
- Occupancy
- CO2-sensor
- VOC-sensor
- NFC for configuration
- Discrete and minimalistic design
- Traffic Light Indication

Applications

- Indoor environment measuring
- Smart buildings
- Workplace management
- Room occupancy

Device specifications

Mechanical specifications	
Weight	125-135 g including batteries depending on model
Dimensions	86 x 86 x 26 mm
Enclosure	PC + ABS
Protection class	IP20

Operating conditions	
Temperature	0 to 50 °C
Humidity	0 to 95 % RH (non-condensing)
Operating Altitude	0 – 2000 m
Pollution Degree	Degree 2
Usage Enviroment	Indoor
Storage Temperature	-15 °C – 70 °C

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Device Power Supply	
Battery Type	3 x 3.6V AA Lithium Batteries
Expected Battery Life	Up to 10 years (Depending on model, configurations and environment)

Radio / Wireless	
Wireless Technology	LTE Cat-M1, NB-IoT NB1, NB-IoT NB2
Wireless Security	AES-128
Supported bands	3, 8, 20
Bandwidth	1,4 MHz (LTE-M), 200 kHz (NB-IoT)
RF Transmit Power	23 dBm maximum
Compliance	LTE 3GPP (rel. 14) GCF Power class 3 (23 dBm) GCF Power class 5 (20 dBm) PTCRB Power class 3 (23 dBm) PTCRB Power class 5 (20 dBm)
Device management	LwM2M version 1.1
Supported transport layer protocols	UDP
Supported application layer protocols	LwM2M, ELTP
Supported device management protocols	LwM2M

Device Logging Function	
Sampling Interval	Configurable via NFC and downlink configuration
Data Upload Interval	Configurable via NFC and downlink configuration

Sensor Characteristics	
Temperature Range	-40 to 125 °C
Temperature Resolution	0.1 °C
Temperature Accuracy	±0.2 °C
Humidity Range	0 – 100 % RH
Humidity Resolution	0.1 % RH
Humidity Accuracy	± 2 % RH
Light Range	0 – 65535 lx (lens dependent)
Light Resolution	1 lx
Light Accuracy	± 10 lx or ± 10 % whichever is greater (lens dependent)
CO2 Range	400-10000 ppm
CO2 Resolution	1 ppm
CO2 Accuracy	400-5000 ppm: ±30 ppm, ±3 % of reading (15-35 °C, 0-80 % RH) 5001-10000 ppm: ±10 % of reading (15-35 °C, 0-80 % RH)
Sound Range (Average)	31 – 75 dB SPL
Sound Range (Peak)	59 – 100 dB SPL
Sound Resolution	1 dB
Sound Accuracy	± 5 dB

VOC Range	TBA
VOC Resolution	TBA
VOC Accuracy	TBA
Heat Map Viewing Angle (Eye)	60°x60°
Heat Map Accuracy (Eye)	± 2.5°C

User Interface	
LED	Functionality configurable via NFC and downlink configuration
App Support	Elsys Sensor Settings

Conformity	
EMC	2014/30/EU
RED	2014/53/EU including RED 3.3 (EN18031-1/-2)
LVD	2014/35/EU
RoHS	2011/65/EU + 2015/863

Country of origin	
Product & Firmware Development	Sweden
Plastic casing	Sweden
Production	Sweden, Latvia, Lithuania

Ordering Information

Art. No.	Description
ERS-LTE	ERS - Temperature, humidity and motion sensor
ERSLITE-LTE	ERS Lite - Temperature and humidity sensor
ERSCO2-LTE	ERS CO2 - Temperature, humidity, CO2, light, and motion sensor
ERSCO2LITE-LTE	ERS CO2 Lite - Temperature, humidity and CO2 sensor

Product Information

Art Function	ERS Lite	ERS CO2 Lite	ERS	ERS CO2	ERS Sound	ERS Eye	ERS VOC
Temperature	×	×	×	×	×	×	×
Humidity	×	×	×	×	×	×	×
Motion (PIR)			×	×	×	×	×
CO2		×		×			
Sound					×		
Occupancy						×	
VOC							×
Traffic Light			×	×	×	×	×
NFC	×	×	×	×	×	×	×
Battery slots	3	3	3	3	3	3	3

Document Revision History

Version	Description	Date
1.0	First version	2025-10-09