

ERS NB-IoT/LTE-M Series

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-M
- 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 85 % RH (non-condensing)
Operating Altitude	0 – 2000 m
Pollution Degree	Degree 2
Usage Enviroment	Indoor
Storage Temperature	-40 – 85 °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
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Supported transport layer protocols	UDP
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Supported application layer protocols	LwM2M, UDP
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Supported devicemanagement protocols	LwM2M
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Device Logging Function

Sampling Interval	Configurable via NFC and downlink configuration
Data Upload Interval	Configurable via NFC and downlink configuration

Sensor Characteristics

Temperature Range	0 to 50 °C
Temperature Resolution	0.1 °C
Temperature Accuracy	±0.2 °C
Humidity Range	0 – 85 % RH
Humidity Resolution	0.1 % RH
Humidity Accuracy	± 2 % RH at 25 °C
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
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
ERSLITE-LTE	ERS Lite - Temperature and humidity sensor
ERSCO2-LTE	ERS CO2 - Temperature, humidity, CO2, light, and motion sensor

Product Information

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

Document Revision History

Version	Description	Date
1.0	First version	2025-10-09