ELSYS.se

ERS series Datasheet

LoRaWAN™ wireless room sensor

ERS
- Temperature
- Humidity
- Motion
- Light

ERS-CO2
- Temperature
- Humidity
- Motion
- Light
- CO2

ERS-sound
- Temperature
- Humidity
- Motion
- Light
- Sound (peak + average)

ERS-desk
- Temperature
- Humidity
- Light
- Desk occupancy

ERS-eye
- Temperature
- Humidity
- Light
- Room occupancy

ERS-lite
- Temperature
- Humidity

LoRa Alliance Certified

Supported channel plans

US902-928, EU863-870, AS923, AU915-928, KR920-923

All Elsys sensors are equipped with NFC for easy configuration by an Android smartphone. With our application "Sensor Settings", you can change sample rate, data rate, encryption keys, triggers, activation and much more. These settings can also be done OTA from server.

Elektroniksystem i Umeå AB
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Product data

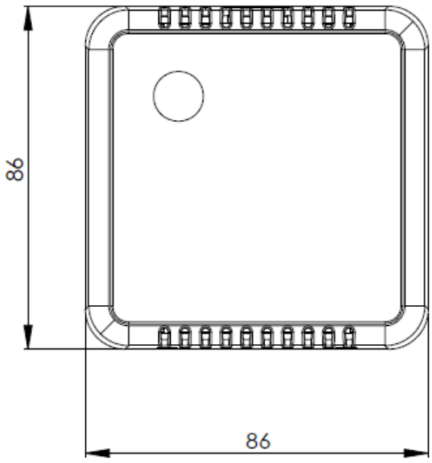
Weight W/O batteries

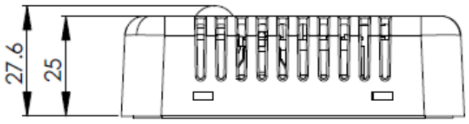
ERS, ERS-eye, ERS-desk, ERS-lite: 60 g

ERS-CO2: 80 g

ERS-Sound: 70 g

Measurements





Typical battery weight

EVE ER14505: 19 g/pcs

ERS, all versions except ERS-lite uses one or two batteries. ERS-lite uses one battery.

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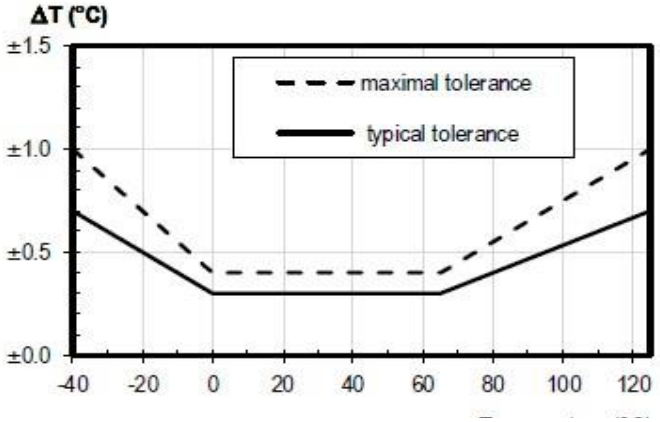
Sensors

Temperature

Resolution: 0.1°C

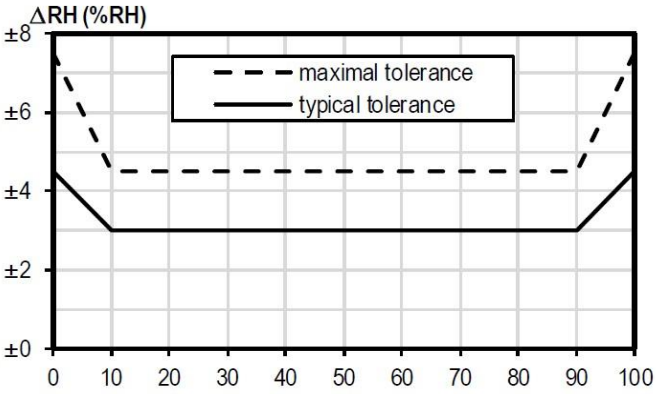
Accuracy: See figure



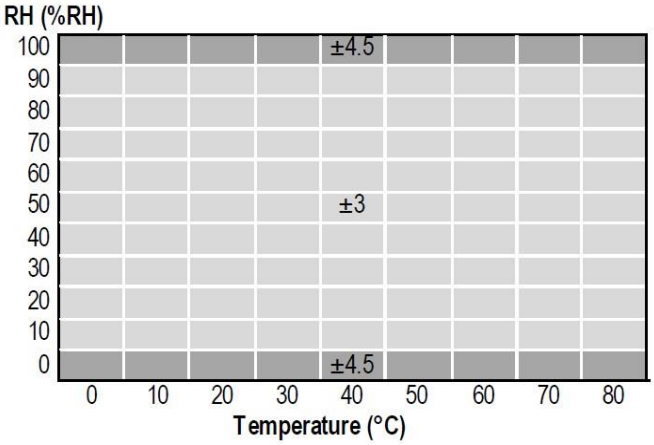
Humidity

Resolution: 0.1% RH

Accuracy at 25°C: See figure



Accuracy of humidity over temperature: See figure.



Light

Range: 4-2000 LUX

Resolution: 1 LUX

Accuracy: +- 10 LUX

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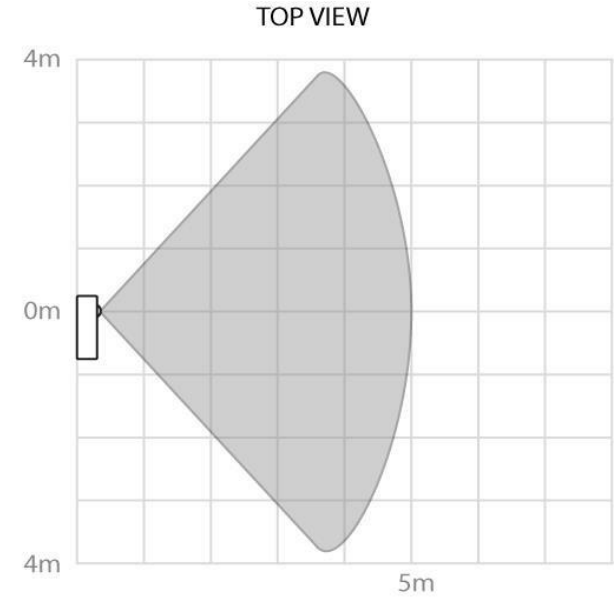
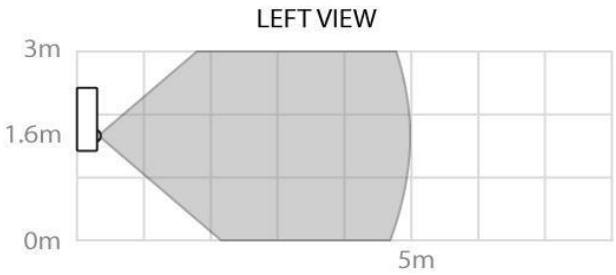
Motion (PIR)

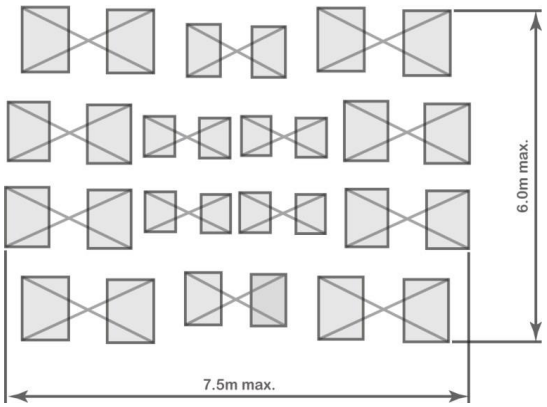




Notice

There is a blanking time of 30 seconds of the PIR triggering after each PIR trig and after each transmission. This is to reduce the risk of self-triggering from internal events that could disturb the high sensitivity PIR circuits.

Detection pattern



CO2

Range: 0 - 10000ppm

Accuracy: ±50ppm ±3% of reading

Noise: 14 ppm @ 400 ppm, 25 ppm @ 1000 ppm

Notice

The CO2 sensor has an internal automatic calibration routine. This routine calibrates the sensor to set 400 ppm to the lowest value that has been read in the last period of approximately 8 days. This means that in an 8 day period, the sensor must be exposed to fresh (well ventilated) air at least once for the calibration to work. The sensor can also be manually calibrated.

Sound

The sound sensor has dBa filtering. For large orders, sensitivity and filtering can be changed.

Average value range: 35-70 dBspl

Peak value range: 65-99 dBspl

Resolution: 1dB

Accuracy: +-5dB

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ERS-desk

The desk sensor has an additional IR temperature sensor for body temp measurement. The occupancy logic is embedded is the ERS-desk. The sensor is supposed to be mounted under the desk with the IR-temp sensor pointed towards the user. See picture.

ERS-eye

The ERS-eye has an additional sensor and embedded logic for detecting presence in a room.
The ERS Eye uses a Panasonic Grid-EYE® infrared sensor. This sensor has an 8x8 temperature matrix with a FOV of 60°, and a range of 5m for detecting humans. The Grid-eye sensor should be directed towards the desired occupancy detection area.

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