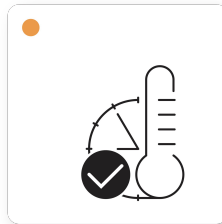


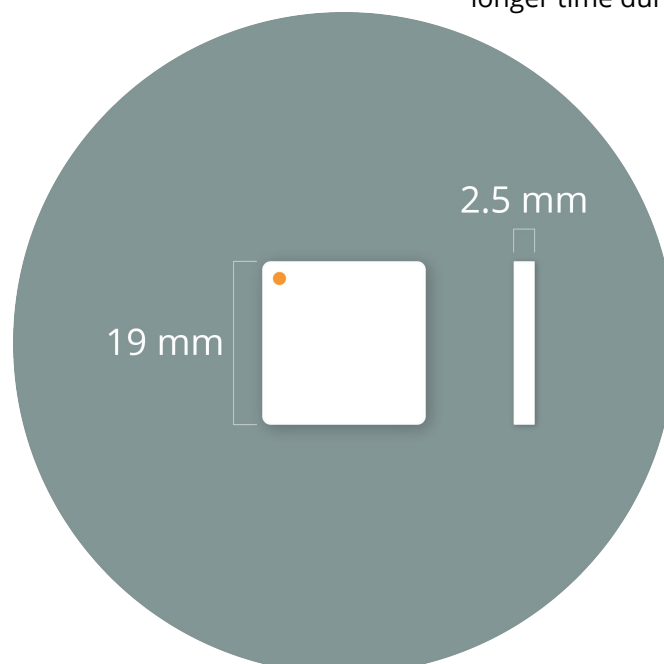
# EN 12830 Temperature tracking Sensor



The EN 12830 Wireless Temperature tracking Sensor measures the surrounding temperature and wirelessly transmits the result to a Cloud Connector (a gateway) via SecureDataShot™ technology. The Cloud Connector, placed outside cooled rooms, will relay the temperature reading to a Cloud service. The readings are performed at 5.5 minute heartbeat intervals. The Wireless Temperature Sensor has touch functionality for simple installation and use.

## Features

- Accuracy class 0.5 in range 0 °C to 55 °C
- Accuracy class 1 in range -25 °C to 55 °C
- Touch functionality
- Long lifetime, up to 5 years in default configuration and standard environment
- Robust design, IP68
- Radio transmit power: 1 mW
- Applicable at altitudes < 2000 MAMSL
- Certified for **Storage** application domain
- Wireless range 25 m typical indoor, similar to a WiFi network with an advanced WiFi router
- Wireless range line of sight up to 300 m in standard mode and up to 1000 m in high power Boost Mode
- Software verification level (according to WELMEC 7.2): Class III
- Data is stored for 30 days in the Cloud (i.e. users must ensure external storage of data for longer time durations if required)



## Specifications

Operating Conditions Temperature range Accuracy	-40 to 85 °C, recommended range -25 to 55 °C non condensing EN12830 Class 0.5 in range 0 °C to 55 °C, Class 1 in range -25 °C to 55 °C
Recommended Storage Conditions	Cool and dry, near normal room temperature
Construction Material	Sealed, IP68 Impact modified acrylic film
Typical Dimensions <sup>(4)</sup> Typical Weight <sup>(4)</sup>	19 x 19 x 2.5 mm (±0.2 mm) 2.0 g (±0.3 g)
Lifetime	Up to 5 years <sup>(1)</sup>
Certifications and Compliance	CE, EN 12830, WEEE, Batteries directive
Radio range Standard Mode High Power Boost Mode	25 m indoor <sup>(2)</sup> , up to 300 m free-space <sup>(2)</sup> Up to 1000 m free-space <sup>(2)</sup>
Wireless Communication	EU: 868 MHz ISM band, SecureDataShot™
Temperature	0.05 °C resolution, ± 0.4 °C absolute accuracy at 25 °C 0.04 °C/year worst case long term drift

## Sensor performance parameters

The Wireless Temperature Sensor performance is temperature dependent. The sensor battery will have reduced current drive capabilities at low temperatures resulting in increased recovery time and reduced range in Boost Mode. Self discharge of the battery will reduce the lifetime significantly at high temperatures.

Temperature dependency	-40 °C	-25 °C	0 to 7 °C	50 °C	85 °C
Sensor lifetime recommended temperature range <sup>(1)</sup>		3 y	4 y	5 y	
Sensor lifetime full temperature range <sup>(3)</sup>	1 w <sup>(3)</sup> / 3 y				4 mo
Typical communication recovery time (fresh battery)	1 min		0.5 s		
Typical communication recovery time (close to depleted battery)	10 min				
Absolute temperature accuracy		±1.0 °C	±0.4 °C	±0.4 °C	±0.9 °C

Water: The Sensor is waterproof, but should not be used in applications where the sensor is submerged. Long time exposure to water will result in water penetration and reduced sensor lifetime.

Magnetism, electric fields: The sensor shall not be exposed to strong magnetic fields. Magnets should not be used for mounting the sensor, as this will make the sensor unresponsive. Strong electric field fluctuations (e.g. fluorescent lamps and switching transformers) may trigger false touch events.

Environmental factors: The sensor is designed to handle heavy stress, but exposure to environmental factors such as strong sunlight, mechanical stress, solvents and extensive temperature variations will impact lifetime.

### Footnotes

(1): Assuming a radio transaction nominally every 5.5 minutes and maximum every 15 minutes, operating at room temperature in default configuration. Lifetime will vary based on operating environment and rate of transmissions.

(2): Based on standard ITU-R P.1238 (indoor) and ITU-R P.525 (free-space). Lifetime in Boost Mode is shorter than in Standard Mode.

(3): The sensor will become unresponsive and stop reporting if placed at very low temperatures for extended periods of time. The sensor will resume operation when temperature is increased

(4): The backside tape is excluded

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