

Wireless Temperature Sensor and Logger

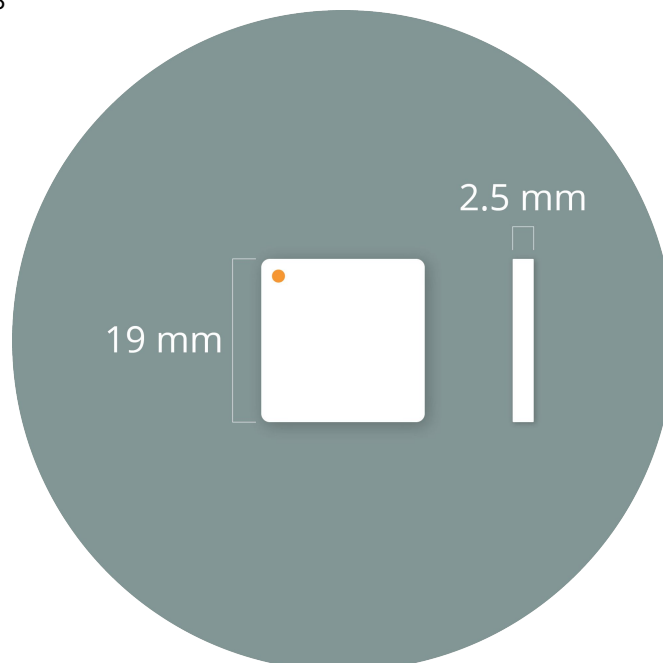


The Wireless Temperature Sensor and Logger measures the surrounding temperature and wirelessly transmits the result to a Cloud service through a Cloud Connector (Gateway) using SecureDataShot™ technology. The device can be configured as a data logger reading temperatures at specified intervals and uploads the readings every 15 minutes. The logging interval can be configured from 30 seconds to 15 minutes.

The Wireless Temperature Sensor and Logger has touch functionality for simple installation and use.

Features

- 0.05 °C / 0.1 °F resolution, 0.4 °C / 0.9 °F absolute accuracy at 25 °C / 77 °F
- Logging intervals:
 - 15 minutes (no logging)
 - 30 seconds (max logging)
- Long lifetime, up to 15 years
- Robust design, IP68
- Touch functionality
- 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



Specifications

Operating Conditions	
Temperature range	-40 to 85 °C / -40 to 185 °F
Recommended temp. range	-25 to 50 °C / -13 to 122 °F
Humidity at 25 °C	0 to 100% relative humidity
Recommended Storage Conditions	Cool and dry, near normal room temperature
Construction Material	Sealed, IP68 Impact modified acrylic film
Typical Dimensions ⁽³⁾ Typical Weight ⁽³⁾	19 x 19 x 2.5 mm (±0.2 mm) 2.0 g (±0.3 g)
Lifetime	Up to 15 years at 25 °C / 77 °F ⁽¹⁾
Certifications and Compliance	EU: CE, WEEE, Batteries directive US: FCC ID: 2ATFX-100541 IC: 25087-100541
Radio range	
Standard Mode	25 m indoor ⁽²⁾ , up to 300 m free-space ⁽²⁾
High Power Boost Mode	Up to 1000 m free-space ⁽²⁾
Wireless Communication	SecureDataShot™, EU: 868 MHz SRD/ISM band, US: 915 MHz ISM band
Temperature resolution	0.05 °C / 0.9 °F resolution, 0.4 °C / 0.9 °F worst case absolute accuracy at 25 °C / 77 °F

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 -40 °F	-25 °C -13 °F	25 °C 77 °F	50 °C 122 °F	85 °C 185 °F
Sensor lifetime recommended temperature range ⁽¹⁾		5 y	15 y	7 y	
Sensor lifetime full temperature range ⁽³⁾	1 w ⁽³⁾ / 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 ±1.8 °F	±0.4 °C ±0.7 °F	±0.4 °C ±0.7 °F	±0.9 °C ±1.6 °F

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 every 15 minutes, operating at 25 °C 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 backside tape is excluded

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