



SensGuard DS18B20

Wireless Temperature Sensor
with External Probe

Description

The SensGuard DS18B20 is an industrial wireless temperature sensor designed for remote temperature monitoring in environments ranging from **-30°C to +120°C**.

Equipped with a high-performance external digital sensor probe, this model is ideal for measuring temperatures inside liquids, machinery, ventilation ducts, and hard-to-reach locations. The sensor is powered by two AAA batteries, providing an operational lifetime of up to **5 years**. Batteries are user-replaceable, allowing for easy on-site maintenance.

Data collected by the sensor is securely transmitted over an encrypted radio channel to a compatible SensGuard gateway for real-time tracking and cloud integration.

Key Features

- **Wide Measurement Range:** Reliable monitoring from -30°C to +120°C.
- **Long Battery Life:** Up to 5 years of operation using two standard AAA batteries.
- **User-Replaceable Power:** Simplifies long-term maintenance without requiring factory servicing.
- **Secure Transmission:** Fully encrypted radio link using AES-128 standard.
- **On-Board Diagnostics:** Dedicated network diagnostic button and status LED.

Typical Applications



Commercial Refrigeration:
Temperature monitoring in supermarkets, food display cases, and walk-in freezers.



Industrial Processes:
Temperature tracking in process pipelines and machinery.



Cold Chain & Warehousing:
Temperature logging in cold rooms, warehouses, and storage facilities.



Data Centers:
Thermal monitoring of server racks and equipment rooms.



HVAC & Ventilation:
Real-time air duct and environmental temperature monitoring.



Museums & Galleries:
Climate control for sensitive exhibits and archival storage.

Operating Instructions

Powering the Sensor On/Off

To prevent battery drain during transit and storage, the sensor is shipped in a powered-off state.

- **Power On:** Press and release the **JOIN** button.
- **Power Off:** Press and hold the **JOIN** button for 10 seconds.

Device Registration & Configuration

Measurement collection requires a compatible SensGuard gateway (e.g., SensGuard TCP LR X2).

Follow these steps to register the sensor:

1. Power on the sensor by pressing and releasing the **JOIN** button.
2. Log into the SensGuard cloud portal at my.sensguard.lv and navigate to the **Connection** section.
3. Launch the **Connection Wizard** and follow the step-by-step setup instructions.
4. Once registered, the sensor becomes fully operational within five minutes (the sync time required for the gateway to apply the new hardware configuration).

Network Connection Diagnostics

You can verify the connection status at any time by pressing and releasing the **JOIN** button on the sensor body. The onboard **STATUS** LED indicator will display the current network state:

LED Pattern	Network Status
Two short flashes	No connection to the gateway, or the sensor has not been registered in the system.
One long flash	Successful connection to the gateway and the SensGuard cloud system.

Mounting Options

The sensor is designed for quick, non-destructive installation:

- **Double-Sided Adhesive Tape:** The sensor is mounted exclusively using high-bond industrial double-sided tape. This allows for rapid and secure placement on smooth surfaces (such as plastic, metal, glass, or painted walls) without the need for drilling or additional hardware.

Technical Specifications

Parameter	Specification
Sensor Element	DS18B20 Digital Sensor
Measurement Range (Probe)	-30°C to +120°C
Operating Temperature (Sensor Body)	-20°C to +55°C
Measurement Resolution / Step	0.1°C
Measurement Accuracy	±0.5°C (across the entire range)
Probe Material	Stainless Steel (SUS304)
Probe Cable Length	1.0 m (<i>longer options available upon request</i>)
Measurement Interval	5 minutes
Wireless Frequency	868 MHz (ISM Band)
Transmission Power (TX Power)	+14 dBm (25 mW)
Communication Range	Up to 150 m (clear line-of-sight)
Data Encryption	AES-128
Battery Type	2 × AAA (1.5V, Lithium recommended for sub-zero temperatures)
Battery Life	Up to 5 years (at default measurement interval)
Enclosure Protection Rating	IP54
Dimensions (Sensor Body)	67 × 67 × 25 mm

Compliance & Certifications

The SensGuard PT100 is designed and manufactured in accordance with major regulatory standards:

- **CE Mark:** Fully compliant with relevant European Union directives.
- **RoHS:** Built with environmentally friendly, lead-free components.

Ordering Information

Model / Part Number	Description
SensGuard DS1820	Wireless Temperature Sensor with External Probe (1 m probe)
SensGuard TCP LR X2	Wireless Gateway / Data Collector (LAN)



SensGuard

SENSE OF SECURITY



[+371 67553110](tel:+37167553110)



office@sensmax.lv



www.sensmax.eu



t.me/sensmax



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