

SP Thermo

Wireless non-contact infrared thermometer

Temperature without touching

SP Thermo — Wireless non-contact infrared thermometer

Measure the temperature of hot, moving or hard-to-reach objects without contact. SP Thermo reads the object surface with an infrared sensor, reports every change above the threshold at once and sends a regular heartbeat — for years on one battery.

Key features

- Non-contact infrared object temperature
- Ambient temperature in the same reading
- Reports every change above the threshold at once
- LoRaWAN or SP Net gateway, up to 5 km
- Up to 5 years on one battery
- Plug & Play in SmartCloud

Worldwide Helium Network compatibility

Ready to work out of the box

3 years warranty period

Use Cases

Electrical cabinets and switchgear
Aimed at one connection, SP Thermo reads its temperature without touching live parts and reports a rise at once, so a loosening contact is found before it burns.

Motors, bearings and pumps
Non-contact measurement works where a probe cannot be fixed: a rotating shaft, a bearing housing, a conveyor. SmartCloud compares the object with the ambient temperature measured in the same reading.

Food and process control
Check the temperature of products on a line, an oven wall or a heat exchanger without contact and without breaking hygiene.

Hard-to-reach places
Pipelines, tanks and units under the ceiling: the sensor is fixed nearby and looks at the object; data goes over the radio for years without service.

Fix the sensor near the object with a clear view of its surface, register it in SmartCloud — readings start at once; no on-site setup.

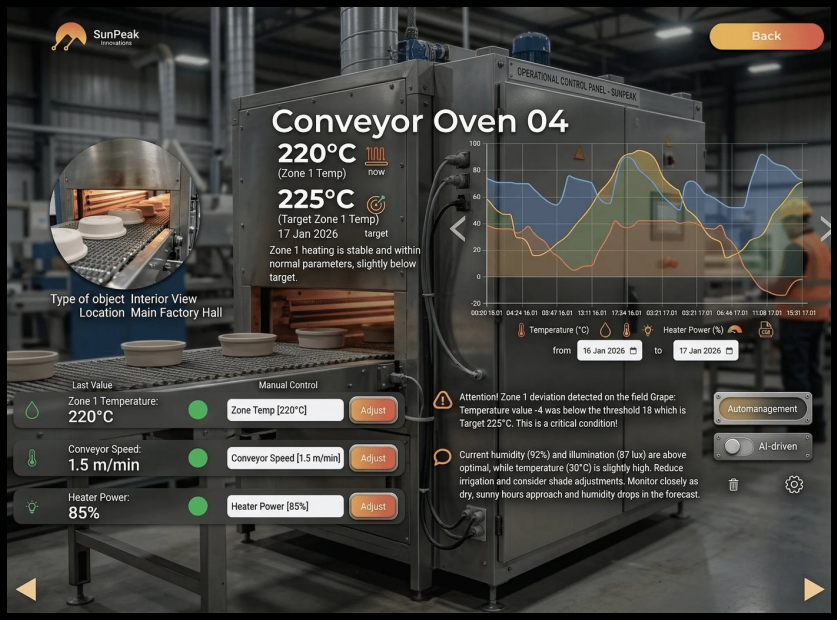
Technical specifications

The warranty period is 3 years from the production date.

Device main parameters

Parameter	Value
Sensor	Infrared thermometer Melexis MLX90614, factory calibrated
Measured values	Object surface temperature and ambient temperature, 0.01 °C in the radio frame
Reporting	Measurement every 10 min, heartbeat every 30 min, a frame at once when the object temperature changes by 0.5 °C or more; all configurable
Radio standard	LoRaWAN 1.0.4 Class A (OTAA/ABP), EU868, or SP Net single-channel gateway
Communication range	up to 5 km (line-of-sight)
Power source	3.6 V 2400 mAh ER14505 Li-SOCl
Battery life	up to 5 years (depends on the reporting profile)
Dimensions	about 100 × 50 × 29 mm including the sensor tube

SmartCloud Ecosystem



Cloud Ready

Plug & Play activation: register the device, aim it at the object — readings appear in SmartCloud right away.

Alarm thresholds

Set high and low limits for the object or for its difference from ambient; SmartCloud raises an alarm and notifies by Telegram or SMS.

Control Logic

Combine SP Thermo with the SP Act relay: switch off a heater or start a fan when the object gets too hot.

History and reports

Charts, exports and reports for audits; the same values can be shown on an SP Screen board next to the equipment.

Control and indication

Measurement and reporting intervals and the change threshold are set in the device profile at provisioning; alarm limits — in SmartCloud.

Service control

One service control (button or magnet spot); the LED shows the network mode and the state of the connection.

Action	Function	Indication
Button or magnet, 1×	Send the current reading now	flash
Power-on	Joining the network	mode colour blinking, 3× on success
First downlink	The network answered, the clock is synchronised	2× green

Integration and support

Integration with standard LoRaWAN systems

The device is compatible with any standard LoRaWAN network. DevEUI and AppKey are printed on the device label.

Payload description

Uplink: a 7-byte header (device ID 720, firmware ID, frame ID, battery, number of records) followed by records of 9 bytes each — time stamp (u32), status, object temperature and ambient temperature (i16 each, 0.01 °C, 0x8000 = sensor error). Decoding is built into SmartCloud; for a custom integration use the SmartCloud API.

Field	Size	Description
Header	7 bytes	Device ID 720, firmware ID, frame ID, battery, records
Time	4 bytes	Record time stamp
Status	1 byte	Sensor status flags
T object	2 bytes	i16, 0.01 °C; 0x8000 — sensor error
T ambient	2 bytes	i16, 0.01 °C

Top-level integration

To bring the data into your own system, use the SunPeak Innovations ecosystem as a complete measurement and network package and take the data via REST API, WebHook or WebSocket. Connection instructions are in the SmartCloud platform.

Quality documents

Every SP Thermo passes visual inspection and a functional test before it ships. For each serial number the product passport with the final inspection report and the technical specification are available at the verification page — scan the QR code on the device passport or enter the serial number.

Verify by serial number

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