

# T-Series Battery-Powered Precision Temperature Sensor

## Key Features:

- Precision temperature sensor with single or dual wired probes.
- Available with or without calibration certification.
- LoRaWAN communication protocol for reliable long-range data transmission.
- Simple to install.
- Low-power operation with a **3.6 V lithium battery** - at least **4 years of service life**.
- **Temperature sampled every 30 seconds** and uploaded every 20 minutes.
- Compact, indoor-rated design: **145 x 70 x 45 mm**, unobtrusive **IP50** enclosure. Probes are available in the following combinations (other probes available on request):

Product Code	Number of Probes	Length (metres)
SPT-1	1	0.5
SPT-3	1	2.0
SPT-5	1	3.0
SPT-2	1	4.0
XPT-2	2	4.0

## Sensor Specifications:

	Range	Accuracy	Notes
Temperature Measurement	-90°C to +150°C	Class A	±0.15°C or better over -50°C to 150°C. Accuracy can be certified down to -90°C if required.
Sensor Type	PT100, 4 wire		



## Power and Battery:

- **Battery Type:** Lithium Thionyl Chloride (Li-SOCl<sub>2</sub>).
- **Capacity:** 2400 mAh, 3.6 V.
- **Estimated Battery Life:** 4 years under typical usage conditions.

## Installation and Environment:

- **Mounting:** Indoor installation only (IP30).
- **Dimensions:** 145 x 70 x 45 mm (145 x 90 x 45 mm incl. glands for cables).
- **Probe:** Length 40 mm, radius 4 mm.
- **Weight:** < 260 g (radio module and 2 x 4 m probes).
- **Ambient Air Operating Temperature:** -40°C to +85°C.

## Storage Temperatures:

	Range
<b>Radio Module</b>	-40°C to +70°C
<b>Sensor and Cables</b>	-40°C to +150°C

## Approvals:

- EN 61326-1: 2013
- ETSI EN 301 489-3 V2.1.1
- ETSI EN 301 489-17 V3.2.4
- EN 61010-1:2010

## Data and Connectivity:

- **Protocol:** LoRaWAN for secure, long-range, low-power data transmission.
  - **Supports:** OTAA, ABP and ADR
  - Adaptive frequency hopping and dynamic channel selection.

Region	Frequency Band	Supported Channel Plan
<b>Europe</b>	EU868 (863 – 870 MHz)	<b>16 Uplink/downlink channels including primary channels:</b> 868.1 MHz, 868.3 MHz, 868.5 MHz
<b>USA</b>	NA915 (902 – 928 MHz)	<b>64 uplink channels:</b> 902.3 MHz to 914.9 MHz <b>8 downlink channels:</b> 923.3 MHz to 927.5 MHz
<b>Australia</b>	AU915 (915 – 928 MHz)	<b>64 uplink channels:</b> 915.2 MHz to 927.8 MHz <b>8 downlink channels:</b> 923.3 MHz to 927.5 MHz

For more information, visit [www.invisible-systems.com](http://www.invisible-systems.com)