

T-Series

Battery-powered Legionella Sensor

Key Features:

- Helps businesses and organizations comply with health-and-safety standards by monitoring pipe temperature for Legionella risks.
- LoRaWAN communication protocol for reliable long-range data transmission.
- Compact, indoor-rated design: **70 x 70 x 25 mm**, unobtrusive **IP30** enclosure.
- Up to 4 cable-tie fastened pipe temperature sensors measuring **40 x 22 x 6.5 mm** on flexible cable. **220 mm** to the first sensor, with **220 mm** spacings thereafter.
- Simple to install.
- Low-power operation with a **3.6 V lithium battery**, offering at least **3.25 years of service life**.
- **Temperature sampled every 30 seconds** and uploaded every 20 minutes reporting minimum, maximum and current temperature during the 20-minute window on each sensor.

Sensor Specifications:

	Range	Accuracy	Notes
Temperature Measurement	-20°C to +100°C, or -40°C to +125°C	±0.5°C ±1.0°C	Accuracy depends on correct installation. Figures shown are for the sensor limits.

Power and Battery:

- **Battery Type:** Lithium Thionyl Chloride (Li-SOCl₂).
- **Capacity:** 2400 mAh, 3.6 V.
- **Estimated Battery Life:** 3.25+ years under typical usage conditions.



Installation and Environment:

- **Mounting:** Indoor installation only (IP30).
- **Dimensions:** 70 x 70 x 25 mm.
- **Weight:** <100 g including radio module, four sensors and cables.
- **Ambient Air Operating Temperature:** -40°C to +85°C.

Storage Temperatures:

	Range
Radio Module	-40°C to +70°C
Pipe Sensor and Cables	-40°C to +150°C

Approvals:

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

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

For more information, visit www.invisible-systems.com