

CONTAINER, CHASSIS, AND TRAILER TRACKING

Temperature Sensor

Intelligent, Long-Life, Rugged, and Zero Maintenance
Multi-Sensor for Total Commodity Visibility

Description

The **Temperature Sensor** is a factory-sealed, IP69K rated, standalone, wireless temperature logging/broadcast sensor with integrated accelerometer and magnetic (door close/open) sensors, featuring long battery life. It is designed to mount inside cold chain storage and transportation environments or be packaged with commodities, to provide end-to-end temperature remote visibility and high-frequency history.

The Temperature Sensor functions within a wide temperature range, operating from -30°C to $+85^{\circ}\text{C}$, and ensures accuracy of $< \pm 1^{\circ}\text{C}$ between -25°C and 85°C , with a minimum resolution of 0.1°C . With the ability to store up to 3,000 readings between log uploads, this sensor guarantees reliable data retention. Its rugged design adheres to EN 60068-2-27 for shock resistance and EN 12830 for vibration resistance, ensuring durability in demanding environments.

The Temperature Sensor employs 2.4 GHz wireless technology for seamless communication with Powerfleet's range of logistics management products. It can also connect with any other hub that supports 2.4 GHz communication, including smartphones, tablets, and OEM hubs.

It not only tracks commodity/asset temperatures, but also monitors the environment and operating conditions in which the commodity is currently located or handled via internal accelerometer and magnetic (door close/open) sensors.

The Temperature Sensor connects with Powerfleet's Gateways to provide real-time event reporting, which in turn integrate with Unity, our SaaS-based fleet intelligence platform that ingests, processes, and consolidates data from every asset, vehicle, and person. Through advanced data intelligence, Unity unifies business operations.

Key Features

- Real-time environment and operation sensing functionality includes temperature sensing/logging, motion/impact, orientation, and door open/closed) status
- ~5-years of maintenance free operation
- Rugged enclosure for high impact areas (including sunlight and chemical protection)
- Set it and forget it - no maintenance and no battery replacement required
- Easy to install



Independent sample and broadcast configuration



IP69K compliant (protected against close-range high-pressure water, high temperature water spray downs)



Stores up to 3,000 data samples



Designed to Revolutionize Your Operations

The **Temperature Sensor** provides a wide range of commodity and operating environment sensing and monitoring features to revolutionize your operations:

- Ensure GDP and food safety operation
- Avoid compliance issues
- Ensure commodity temperature visibility
- Capture operating environment details
- Drive continuous improvement
- Shrink operating costs
- Mitigate liability
- Increase customer satisfaction

Technical Specifications

BLE

BLE Technology	BLE 5.1 /2.4GHz. by Nordic nRF52833
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Power

Internal Battery	ER14505 primary battery, 3.6V Lithium-Thionyl Chloride, AA size, 2500mAh
Consumption	75uA at Temperature sampling and transmitting every 1 min

Environmental

Temp, operation	-30°C to +85°C (Depending on battery type)
Temp, storage	-40°C to +85°C (Depending on battery type)
Ingress Protection	IP69K
Vibration, Impact	Shock resistance according to EN 60068-2-27 Vibration according to EN 12830
Power transients	Unit passes all relevant environmental regulation tests

Certifications

Communication	FCC, CE
Regional	EN 13485 and EN 12830 - Temperature recorders for transporting, storing, and distributing chilled, frozen, deep-frozen/quick-frozen food and ice cream. Tests performance and suitability. Response time: maximum 5 min. Class 0,2: $\pm 0,2^{\circ}\text{C}$ suitability for storage (S) and/or transport (T);

Data Retention

Memory	Up to 3,000 Temp Samples
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Technical Specifications (cont'd)

Size

Dimensions	111 x 46.3 x 28.6 mm (L x W x H)
Weight	90 gr

Installation

Mounting	Nylon/metal tie-wraps, 2 screws and/or two-sided adhesive
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Features

Movement	3D, $\pm 2g/\pm 8g$ range, 12 Bit representation, 1mg/4mg resolution <ul style="list-style-type: none">• Vibration sensing with programmable threshold• Free-fall sensing with programmable threshold• Impact sensing with threshold up to 8g
Temperature Sensor	Operating range: -40°C to 85°C Accuracy ($^{\circ}\text{C}$): -40°C to 0°C ; TYP $\pm 0.1^{\circ}\text{C}$; MAX $\pm 0.3^{\circ}\text{C}$ 0°C to 50°C ; TYP $\pm 0.1^{\circ}\text{C}$; MAX $\pm 0.2^{\circ}\text{C}$ 50°C to 85°C ; TYP $\pm 0.1^{\circ}\text{C}$; MAX $\pm 0.3^{\circ}\text{C}$ Resolution: 0.1°C
Magnetic Sensor (for open/close door or window detection etc.)	10-30mm range an optionally provided magnet. Used to detect door open/closed and/or power "On"/"Off"

Powerfleet (NASDAQ: PWFL; TASE: PWFL) is a global leader of internet of things (IoT) software-as-a-service (SaaS) solutions that optimize the performance of mobile assets and resources to unify business operations. Our data science insights and advanced modular software solutions help drive digital transformation through our customers' and partners' ecosystems to help save lives, time, and money. We help connect companies, enabling customers and their customers to realize more effective strategies and results. Powerfleet's tenured and talented team is at the heart of our approach to partnership and tangible success. The company is headquartered in Woodcliff Lake, New Jersey, with our Pointer Innovation Center (PIC) in Israel and field offices around the globe. For more information, please visit www.powerfleet.com.