MultiSense™ & WatchM App

Plug & Play Monitoring Solution, Using Sensors and Mobile App

The MultiSense and WatchM create a solution for monitoring the quality of transportation and storage throughout the supply chain.

Innovative and compact, the MultiSense device includes a range of internal embedded sensors, and enables the monitoring of a wide range of supply chain operational parameters with a single device.

The MultiSense can transmit real time sensors' data using different threshold settings, or alternatively store the sampled data when there is no receiver available, and send it to a dedicated hub or mobile application upon detection.

Whether deployed solo or as part of a sensor network, MultiSense devices can greatly enhance your supply chain visibility and reduce unnecessary operational costs, while improving customers' satisfaction.

Watch**M**

Highlights

- Sensor-based asset and logistics management, sensing temperature, relative humidity, light, impact, movement, orientation change (pitch & roll), magnetic (door/window open/close status), and more
- Real-time monitoring and event-based alerts and violations
- Easy to program sampling intervals, sensor thresholds and alarm settings
- Easily integrated with a third party SW platform via Cellocator's cloud to cloud API
- 2.4GHz short range RF based, the common protocol used in the IoT industry
- Long-life, easy to replace coin battery
- Compliance with IP67 and EN12830 / EN13485 standards
- NIST calibration upon request
- Mobile app & SDK

Use Cases

Supply Chain & Chain of Custody

The MultiSense can provide reports indicating when and where the cargo changed hands, and track any points of interest or areas in which the cargo was located. Additionally, smartphones or tablets can communicate with the MultiSense devices in trucks, stores, warehouses or any other physical location, enabling the identification of the goods' owner during the logistics chain, which in turn, ensures the delivery of goods to the correct destination.

Asset Management and Security

To help prevent the theft of cargo and goods, smartphones or tablets can be used for communicating with multiple MultiSense devices and provide information such as: trailer and cargo location, open/closed door detection, open/closed package detection, package disappearance detection, goods movement, shock, and pitch/roll orientation angle for the transportation of fluids or nail to nail fine-arts delivery.

Pharmaceuticals Delivery & Storage

MultiSense devices assure the required environmental conditions - including temperature and humidity - are maintained from the moment the shipment leaves the factory, through its storage and shipment until it reaches its destination. The MultiSense also identifies the cargo owner during the logistic route and where and when the cargo shifted hands.

Food and Beverage Delivery & Storage

The MultiSense helps prevent food and beverages from being compromised or spoiled. Thanks to the real-time tracking and monitoring of locations, and the tracking of temperature and humidity for perishable goods during their delivery and storage, logistics managers can take the relevant on-the-fly action when deviations from the set temperature or humidity thresholds occur.
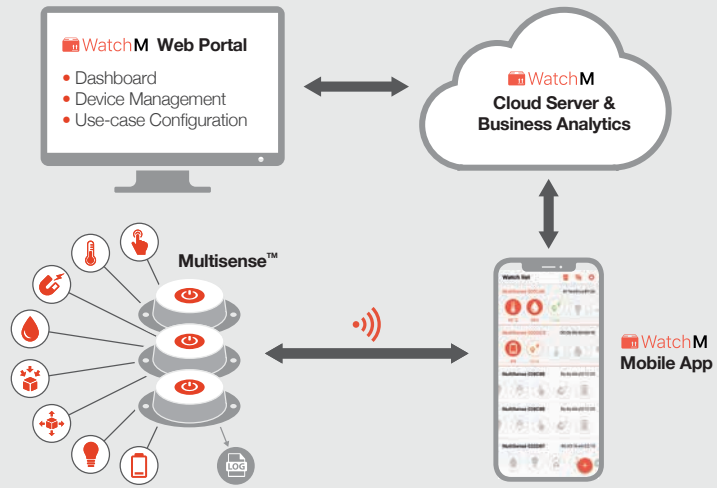
System Configurations

Cellocator offers three system configurations when the MultiSense is used with dedicated mobile applications:
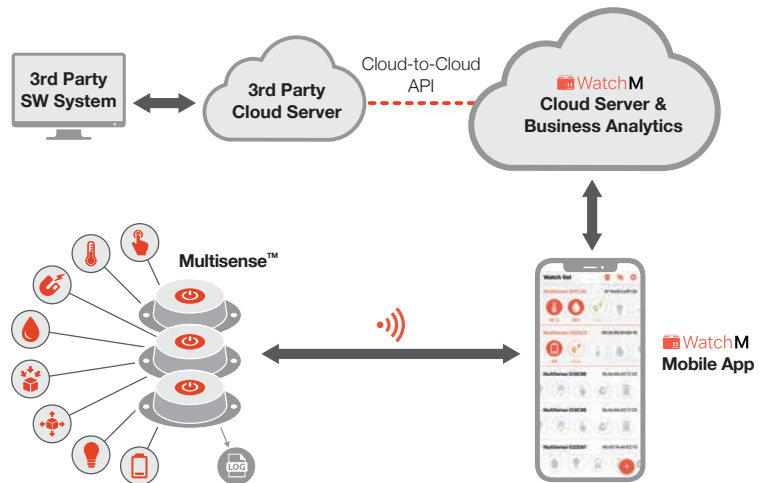
WatchM Platform End-to-End Solution

- WatchM is Cellocator's business-Centric application for logistics managers and last mile drivers.
- It tracks the cargo's location and condition in real-time, creating a transparent delivery experience.
- Combined with the WatchM cloud and web panel, enables you to maintain proof of delivery, quality of transportation and chain of custody.
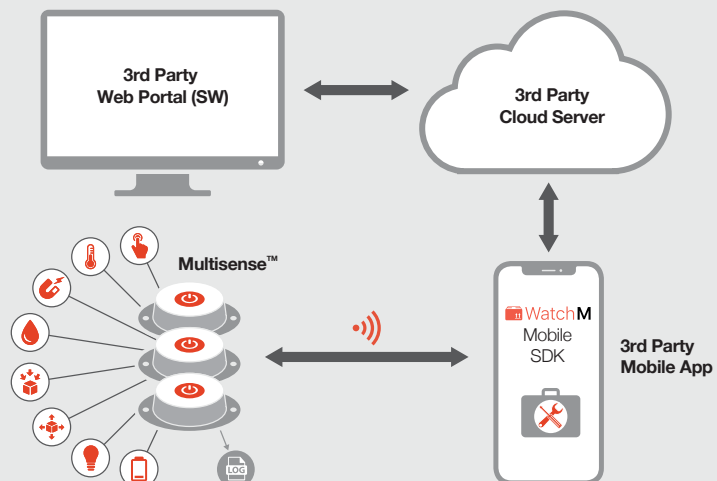- Ensure full control of the supply chain.

WatchM App with Interface to 3rd Party SW/Platform

- Use your own SW/Platform and define your own look and feel to present the MultiSense data, generate reports and alerts.
- Use Cellocator's MultiSense devices and WatchM mobile app.
- Use Cellocator's WatchM cloud to cloud API and service, to speed up your time to market.

3rd Party SW/Platform

- Use your own SW/Platform to present the info and generate reports and alerts.
- Build your own app to specifically answer your logistics and operational requirements, using WatchM mobile SDK.
- Use Cellocator's MultiSense devices to monitor the data.

Communication	
Short range RF	2.4GHz wireless communication

Power	
Internal Battery	3V Lithium coin battery CR2450
Max Power Output	8mW

Sensors		
Temperature	MultiSense typical accuracy: 0°C to 85°C: ±0.5°C -25°C to 0°C: ±1.0°C -30°C to -25°C : ±2.0°C Resolution: 0.1°C	MultiSense TH typical accuracy: -10°C to 85°C: ±0.3°C -15°C to -10°C: ±0.4°C -25°C to -15°C: ±0.5°C -30°C to -25°C: ±0.6°C Resolution: 0.1°C
Accelerometer	3D, Impact with threshold up to 8g	
Humidity (MultiSense-TH)	Typical accuracy 0%-80% ±3% RH, Resolution 0.1% RH	
Light	Effective range 1-512 lux	
Magnetic	10-30mm range	

Logger	
Internal storage	Up to 3,000 samples

Environment		
	Regular Coin Battery	**XT Coin Battery**
Temp, operation	-10°C to +60 °C	-30°C to +85 °C
Temp, storage	-40°C to +85°C	-40°C to +85°C
Humidity	95% non-condensing	
Ingress Protection	IP67	
Shock, Vibration	Shock resistance according to EN 60068-2-27, vibration according to EN12830	
Mounting	2 screws or nylon tie-wraps and/or double-sided adhesive	

Certifications	
FCC	FCC regulation tests
CE	CE (EMC, Safety, R&TTE)
UL	UL regulation tests
IEC 60529 – IP67	IEC 60529 – IP67 regulation tests
EN12830:1999	Temperature recorders for the transport, storage and distribution of chilled, frozen, deep-frozen/quick-frozen food and ice cream. Tests performance and suitability. Response time t90: 10 minutes MultiSense -TH designation: T/D/1 MultiSense designation: -30°C to 40°C – T/D/1 40°C to 85°C – T/D/2
EN 13485:2002	Thermometers for measuring the air and product temperature for the transport, storage and distribution of chilled, frozen, deep frozen/ quick-frozen food and ice cream - Tests, performance, suitability. MultiSense -TH designation: T/D/0.5 MultiSense designation: -30°C to 40°C – T/D/1 40°C to 85°C – T/D/2
NIST calibration	NVLAP accredited calibration as per ISO/IEC 17025 as per TSCL - under process

Dimensions & Weight	
Dimensions	58.5 x 46 x 15mm
Weight	~19 gr (without battery)

For more information please contact Cellocator - A PowerFleet® Brand
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by PowerFleet®