

# Remote cargo temperature monitoring

For transportation of temperature-sensitive goods.

Need to **monitor the temperature** of your cargo? Frotcom has the solution.

*You find out at the delivery point that the temperature inside the refrigerated compartment was too high during part of the trip, which you did not detect on time. The customer checks the temperature curve registered by the thermograph in your semi-trailer and does not accept the order. You now have a truckload of rotten frozen food.*



## How we help

**Monitoring the temperature during transportation is vital and mandatory for many industries. In fact, a temperature-monitoring system is now a standard for temperature-controlled transport and is legislated in many countries.**

With Frotcom, you can monitor the temperature of your cargo. Just select one of three solutions: 1) a wireless sensor you can easily install and use in rigid units or detachable trailers without the hassle of installation wiring; 2) a cabling wired sensor, for vehicles where the sensor can be installed in the same compartment where the GPS tracker is; or 3) interfacing directly to the temperature loggers used in the refrigerated trailers.

Frotcom will sample the temperature and send that information directly to the Frotcom Data Center. You will be able to set alarms and generate reports based on the information received from the temperature sensor, enabling you to react quickly and potentially save your cargo if the temperature fluctuates beyond what it is supposed to be.

With Frotcom you can monitor all the cargo compartments independently. Up to ten sensors per vehicle or trailer are supported, and a different temperature range can be defined for each one, when setting up the temperature alarms.

## Benefits

### Act immediately

You will receive immediate alerts when the temperature fluctuates beyond what it is supposed to be.

### Comply with legislation

Make sure your company complies with the applicable temperature-control legislation.

### Quality Customer Service

Avoid angry customers whose goods were damaged by being subjected to the incorrect temperature.

### Save money

Avoid having to replace rotten goods or to indemnify your customers; Frotcom gives you real protection against perishable goods being lost due to incorrect temperatures.

*"With Frotcom it is possible to optimize transportation, increase the safety of the products transported and control the temperature of perishable products."*

Casimiro Ferreira  
Director at Sonae - Portugal

## How it works

**One or more temperature sensors are installed in your vehicles' cargo compartments.**

Temperature is measured digitally then output the value measured in degrees Celsius. There is no additional conversion and, because digital transmission is used, there are no signal losses to cause inaccuracies, allowing for errors below  $\pm 0.5^{\circ}\text{C}$ . Both wired (1-Wire) or wireless (BLE) sensors have a small form factor that facilitate their installation.

With BLE (Bluetooth Low Energy) sensors, Frotcom is able to monitor temperature in trailers even when only the trucks have GPS tracker units installed, no matter which truck is attached.

**The GPS tracker is connected to the temperature logger or the reefer control unit.**

Alternatively, the GPS tracker can be connected to the temperature logger or even to the reefer control unit. This way, Frotcom will present the same temperatures measured by the logger, with sensors that have been calibrated. Connecting to the reefer allows for the reading of set points defined in the reefer control unit.

**Temperature data is processed on Frotcom Data Center**

The temperatures measured are sent to the Frotcom Data Center where they are stored and compared to user defined thresholds to trigger alarms when the value is outside the desired range.

## Main features

- **Total temperature management**
- **Total protection of frozen and perishable goods, as well as livestock on long journeys**
- **Immediate warnings in case the temperature is out of range; the driver is warned and can correct the situation in due time**
- **Temperature evolution charts in Frotcom can be used as proof that the temperature was within the correct range**

## Monitor cargo temperature during transportation



## Devices and accessories

### Wireless temperature sensor

**Model:** EYE-Sensor

The Bluetooth Low Energy (BLE) temperature sensor is IP67-rated to protect against dust and temporary submersion and is very easy to install. It transmits to the GPS tracker via radio signals the temperature of the cargo compartment in the truck or the trailer.

### Wired temperature sensor

**Model:** TS-2

The wired temperature sensor reports the temperature of the cargo compartment in the vehicle or semitrailer to the GPS tracker.

### Carrier reefer cable

Easy-to-connect cable to monitor data from Carrier reefers.

## Other related features you might be interested in

- Vehicle access control system
- Remote vehicle immobilization
- GPS vehicle tracking and sensor monitoring
- Fleet alarms

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