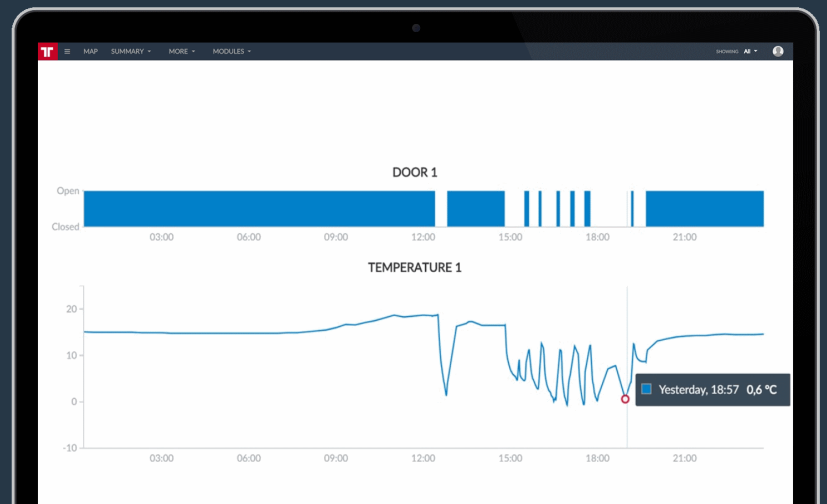


Remote cargo temperature monitoring

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 incorrect 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 a vital and mandatory requirement for many industries. In fact, a temperature-monitoring system is now a standard specification item for temperature-controlled transport and is legislated in many countries.

With Frotcom, you can monitor the temperature of your cargo. Just select one of two solutions: a wireless sensor you can easily install and use in rigid units or detachable trailers without the hassle of installation wiring, or a basic wired sensor, for vehicles where the sensor can be installed in the same compartment where the GPS tracker is.

Either way, Frotcom's temperature monitoring is the perfect complement to the existing thermograph you possibly already have in your semi-trailer. It will sample the temperature and send that information directly to the Frotcom Data Center. In fact, Frotcom can even interface directly to some thermographs, without the need to install additional temperature sensors.

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.

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.

Each temperature sensor measures the temperature using a resistance thermometer. The internal resistance to the sensor's electrical current depends on its temperature. The higher the temperature, the higher the resistance and vice versa. This effect is then used by a coupled electronic circuit that converts changes in resistance into changes in output voltage.

Once the sensor is transmitted wirelessly to an input on the Frotcom GPS/GPRS device (option A) or wired to that input (option B), changes in voltage are detected, converted to temperatures and communicated to the Frotcom Data Center.

Accurate to within $\pm 0.5^{\circ}$ C. Once the sensor is paired to the in-cab Frotcom vehicle unit, temperatures are monitored wirelessly, and breaches detected and immediately communicated to the Frotcom Data Center.

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 the temperature of the cargo during transportation



Devices and accessories

Wireless temperature sensor

Model: WTS-1

The wireless temperature sensor is very easy to install. It transmits the temperature of the cargo compartment via radio frequency.

Wired temperature sensor

Model: TS-1

The temperature sensor reports the temperature of the cargo compartment in the vehicle or semitrailer.

Other related features you might be interested in

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

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