

New Temperature-Sensing Tag for Food Shipments

A U.K. startup has developed a new active RFID tag to monitor the internal temperature of trucks and truck trailers used for food distribution and storage.

By Jonathan Collins

May 11, 2006—Looking to leverage an RFID security system already installed in thousands of European trucks, a U.K. company has launched a new tag to enable the monitoring of the internal temperatures of trucks and truck trailers used for food distribution and storage.

Purple Reality, a startup aimed at developing machine-to-machine communication equipment and systems, has launched its first tags with built-in temperature sensors. The active tags have been designed to communicate with truck-mounted readers developed by sister company TrackM8. Both companies were formed by International Projects Ltd. (IPL), a research-and-development firm developing telematics and machine-to-machine technology.

Formed in 2003 by IPL, TrackM8 (pronounced "Track Mate") develops and sells aftermarket vehicle-monitoring systems that record and transmit data about the condition of the vehicle—such as location and speed—over GPRS cellular data networks. Since 2004, the company has offered an RFID reader that works in conjunction with its TrackM8 units to allow a vehicle to start only if the driver is carrying a contactless card with the correct battery-powered RFID tag. The tag transmits its unique ID number every 10 seconds, and the in-vehicle TrackM8 unit communicates to a central database over a GPRS cellular data network to ensure the ID number is the correct one to drive the car.

Now, Purple Reality is trying to leverage the RFID reader in its sister company's offerings to provide temperature tracking. The company's new hermetically sealed RD200-T tag measures 50 by 42 by 8 millimeters (1.96 by 1.65 by 0.31 inches) and is designed for installation in trucks transporting temperature-sensitive goods. Once per minute, the 433 MHz tag transmits its unique ID number, along with the current temperature reading inside the trailer, to the Purple Reality RDXT4 reader integrated into the TrackM8 unit installed in the truck. The TrackM8 unit then transmits that data via the cellular data network. The tag's battery life is a minimum of three years.

Each tag transmission includes historical temperature data from the previous one-, four-, eight- and 24-hour periods. This data can be shared with interested parties, who can immediately act upon any deviation from the required temperature—for instance, by either recalling the load or rejecting it at its destination.

"Deploying and using the RD200-T wireless tags is a lot cheaper than having to wire up a trailer with wired temperature sensors," says James Page-Chatton, director of sales at Purple Reality, which is based in Tarrant Hinton, Dorset. The tag's read range is up to 10 meters.

According to the company, it costs £70 to add an RFID reader and driver tag to the TrackM8 telematics unit,

which ranges from £500 to £1,000. The RD200-T tags are priced at £70 apiece. So far, approximately 5,000 vehicles have RFID-enabled TrackM8 units. Courier companies, councils and company car fleet managers, as well as private individuals, have installed the TrackM8 system in Europe and around the world, including London-based courier and passenger transportation firm Lewis Day.

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