

Samworth Keeps Cool With RFID

The U.K. food maker and distributor is using an RFID system that allows truck drivers to check the temperature of refrigerated goods during transit.

By Claire Swedberg

Oct. 18, 2006 Samworth Brothers Distribution, a division of British sandwich, pastry and dessert company —[Samworth Brothers Group](#), is using an RFID system that allows truck drivers to keep an eye on the temperature of goods during transit. The SecureTemp system, from [OEM Group Ltd.](#), provides drivers a digital screen that displays the temperature inside the truck trailer at all times.

"This device is the first line of defense for our drivers to see if there are any issues with the temperature integrity of his load while in transit," says Samworth's fleet manager, Graeme Hawker.

Samworth Brothers Distribution's fleet of 100 refrigerated trucks and trailers transports meats, salads, desserts and other perishable items produced by its sister divisions, as well as third parties, to retailers throughout the United Kingdom. To maximize shelf life, these perishable items must remain between 0 and 5 degrees Celsius at all times.

Prior to the RFID system's implementation, the distributor had no way to alert a driver automatically to a problem with the refrigeration unit. "Before the system was fitted, the drivers were instructed to check their trailer temperatures during their journey by looking at the various temperature gauges fitted to the trailer," Hawker says. This meant drivers had to carry out physical checks during breaks, when the vehicle was parked. By that time, it was often too late to save a load, which averages \$60,000 in value.

The SecureTemp system includes a small, battery-powered RFID transmitter with a computer chip, antenna and temperature sensor in a polypropylene housing installed in the trailer, as well as a four-digit LED display unit in the truck. The transmitter has an operating range of 100 meters, according to OEM Group, and sends out a 433 MHz signal about once per minute, broadcasting the air temperature of its surroundings. Powered by the cab's 24-volt electricity supply, the display shows the temperature of the transmitter's sensor. If the temperature exceeds a preset limit, the display flashes the temperature reading and emits an audible alarm that runs for 15 seconds. The unit stops flashing only when the temperature has been corrected.

To keep sensor transmissions from being picked up by multiple displays, the system includes a locking feature. When first turned on, a display unit searches for a transmitter's signal. Once the display unit receives the signal, that transmitter's unique ID number is locked to that display unit, says Steve Tickner, senior product manager for OEM Group. At that point, the transmitter and display are mated to one another, unless the display module stops receiving transmissions for more than two minutes. In that case, it will enter a search mode until it picks up a signal sensor.

The SecureTemp system allows operators to view temperature data remotely via the Internet, Tickner explains, though Samworth is not currently using this feature. "We do this by using GPRS hubs, which are located at the site [where trucks are loaded or unloaded], and they pick up the transmitters when in range and

display the temperature," he says.

Samworth installed its SecureTemp system on all its refrigerated units and trailers in May 2005, but has not expanded its installation plans since then. According to Hawker, because the system is working effectively, Samworth does not intend to make any changes. "The system is working well, and up to now we have experienced no major equipment failures," he notes. "The complete system takes approximately 30 minutes to fit—simple, but effective."

With SecureTemp, Hawker adds, "We keep the temperature integrity of our customers' perishable products, and we can react to a breakdown situation immediately—again, protecting our customers' product."

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