

Real-time wireless control for all your re-
frigerated container
traffic.

Real competitive
advantage for your
terminal operations.



BENEFITS

- Off the shelf
- Low infrastructure
- Less than two weeks to deploy
- Wireless RFID solution - no modems needed
- Real-time visibility of temperature & other cargo condition data
- Automatic alerts & alarms remote temperature & setpoint control
- Remote pre-trip capability
- Full trip history download

TOTAL INTEGRATED SOLUTION FOR REEFER CONTAINER MANAGEMENT

From fruit to fish, meat to medicine, poultry to pharma, globalization and containerization of the trade in perishable goods mean more reefer box traffic for more ports and terminals than ever before. The new business opportunities are significant. So are the operational challenges.

Combining advanced monitoring and control software with a breakthrough application of wireless RFID technology, the Reefer Container Monitoring System (RCMS) from IDENTEC SOLUTIONS gives you the power to automatically track, control and record the condition of all the reefer containers in your facility – remotely and in real time.

RCMS increases visibility and helps optimize operational performance with a proven, off the shelf solution for proactive reefer box management:

- View and manage temperatures and other critical condition parameters with two-way monitoring and control software
- Avoid undetected reefer failures and respond rapidly to events with real-time alarms
- Eliminate the need for powerline modems with low infrastructure wireless hardware
- Get up and running in just 5-10 days
- Reduce capital outlay with managed service options

Both for high and low volume operations, RCMS offers a simple yet powerful solution for effective management of temperature-controlled container cargoes.

A SIMPLE SOLUTION TO A COMPLEX CHALLENGE

Features	Advantages	Benefits
<p>Patent-pending RFID-based wireless tags connect to standard reefer serial port for real-time two-way monitoring and control of temperature and controlled atmosphere</p> <p>RFID readers in reefer box storage area transmit monitoring and control data between tags and RCMS software via wireless LAN or Ethernet</p> <p>User interface software provides graphical views and reports to monitor and control multiple parameters: Container ID and serial number * Software version * Controller mode * Set point * Ambient temperature * Supply temperature * Return temperature * Alarms in queue * Most recent alarm activities * Door open activities</p> <p>Real time alarms and notifications instantly alert users to failures or deviation from set conditions</p> <p>Allows users to remotely change set points and reset alarms</p> <p>Automatically pre-trips single or multiple reefer boxes with a mouse click</p> <p>Supports easy data logger download and upload</p>	<p>Simple 'plug and play' operation for virtually all reefer box types* - no need for units to be fitted with ISO modems</p> <p>Minimal terminal infrastructure compared with power-line remote monitoring systems</p> <p>Operational in two weeks or less for rapid ROI</p> <p>Less cost and time intensive than manual reefer inspection</p> <p>Eliminates the risk of manual data entry errors</p> <p>Easy-to-learn remote monitoring software</p> <p>Real-time visibility to reefer box status helps improve perishable cargo quality, safety and traceability</p> <p>Real-time alarms enable fast incident response and correction</p> <p>Identifies any 'hot boxes' entering the terminal which require extra electricity for cool-down</p> <p>Provides an unbroken chain of information for terminal operators, carriers and cargo owners</p>	<p>Gain full operational control and visibility for all your reefer box traffic</p> <p>Do more with less – increase staff productivity and reduce on-the-ground labor</p> <p>Improve customer satisfaction through early detection and resolution of reefer incidents</p> <p>Help your customers achieve full cold chain traceability</p> <p>Protect your reputation and revenue stream with a complete event and activity history for every reefer container handled through your facility</p> <p>Minimize damage and loss claims and avoid higher insurance premiums</p> <p>Improve energy management and ensure correct billing for electricity usage</p>

A REVOLUTIONARY NEW APPROACH TO REEFER CONTAINER MONITORING: TOTAL VISIBILITY AND CONTROL AT YOUR FINGERTIPS

Designed to automate the data collection and business processes associated with refrigerated container management in complex marine and intermodal terminal environments, the Reefer Container Monitoring System (RCMS) from IDEN TEC SOLUTIONS represents the next generation in 'plug and play' wireless reefer monitoring and control.

The handling of temperature-controlled container cargoes places unique operational demands on ports and terminals. Reefer boxes need a high level of care and constant surveillance to preserve the integrity of their perishable contents. Any break in the cold chain can compromise product quality, shelf life and retail value and may ultimately result in cargo loss, leading to customer disputes,

claims and higher insurance premiums.

Temperatures, and in a growing number of cases controlled atmospheres, must be precisely maintained at the set level during reefer container handling and storage operations. Swift action must be taken to resolve any deviations or failures.

Food safety and security concerns, plus increased use of containers to ship high-value pharmaceuticals and sensitive medical supplies, raise the stakes still further. The growing demand for origin-to-destination traceability of carriage conditions adds another dimension to the challenge, as reefer container trades and port calls expand worldwide.

Previously, port and terminal operators have been presented with two main choices:

- A personnel-heavy and time intensive approach with in-house or third-party staff on the ground to check reefer box status and capture reporting data
- Investing in infrastructure for remote power-line monitoring (PLM) of ISO modem-equipped reefer boxes

And, with an average 10-30% of reefer boxes on the terminal at any one time not fitted with the appropriate modems, even PLM-equipped facilities are not immune to the need for manual inspection.

RCMS changes the game

Combining advanced graphical software with a breakthrough application of wireless RFID technology, RCMS gives you the power to monitor, record and actively control the health and vital signs of virtually all the reefer boxes in your facility – remotely and in real time.

The innovation at the heart of the system is the iQ350 WAM RFID tag, a purpose built wireless sensor with two-way communication capability. The tag talks directly with the reefer unit's microprocessor controller via the standard external serial port for immediate, live monitoring operations.

No need to depend on your customers to supply modem-equipped reefer boxes. No need for power-line and master PLC infrastructure at your terminal. No need for staff on the ground to check reefer data. Just plug and run for instant operational control and actionable information.

As soon as tags connect to the reefer serial port, they begin to broadcast container ID and refrigeration performance data. This information is captured by RFID readers mounted across reefer storage areas, which communicate with each tag and transmit data in real time to and from the RCMS user interface software.

The powerful, easy-to-master RCMS software has all the graphical views and reports needed to remotely monitor and control reefer units right across the terminal.



controlled atmosphere parameters, including ambient, supply and return air temperatures and set point. Alarms can be set and monitored, with visible alerts on the user interface screen or via email.

Commands can be sent to the reefer to automatically change set points, start pre-trips, clear alarms and perform full data downloads. Central control from the RCMS software allows multiple reefer boxes to be pre-tripped with the click of a mouse, improving operational productivity and efficiency.

Terminals can also share data with their customers via the internet, giving shipping lines or cargo owners the comfort of real-time status updates for their valuable reefer assets and cargoes.

Out of the box, into action: fast to deploy & easy to integrate for rapid ROI

RCMS is a proven, off the shelf application which can be used out of the box with no modification. With minimal infrastructure involved, terminals can be up and running with the full system in two weeks or less – giving immediate operational benefit and rapid return on your investment.

With open interfaces and easy integration tools, RCMS can be deployed as a stand-alone solution or in conjunction with terminal operating systems or other process automation technologies. For customers seeking a more tailored approach, RCMS is highly adaptable, offering rapid development capabilities for fast and easy modification to meet your specific needs.

Reduce capital costs with our managed service option

The RCMS software license can be purchased for direct installation on desktop or laptop computers, or delivered on-demand via the internet for a monthly service fee. Tags and readers can also be bundled into the monthly service contract, giving users the

option of converting some or all of their capital investment into an operating expense.



Extend your reefer box visibility along the cold chain

With the addition of a GPS/GSM controller, RCMS can be used to monitor reefer box shipments from origin to destination – by road, by rail and on vessels. Ports and terminals can offer this as a value-added service to customers for in-transit shipment visibility. Carriers and logistics companies can also take advantage of the system for their own operations.

Real-time perishable cargo condition data from origin to destination

Relied on in the distribution of critical goods such as blood plasma, IDENTEC SOLUTIONS' environmental monitoring application provides real time visibility and control for perishable cargoes - in storage and in transit. Wireless sensors travel with the cargo from origin to destination, gathering real-time data on temperature, humidity, shock and vibration conditions. With web-based interfaces for viewing real-time data, plus alerts and notifications, users gain critical information to safeguard the integrity of their precious commodities.

Harness the power of the IntelliPORTS Alliance

RCMS is part of the IntelliPORTS initiative, bringing together the expertise of IDEN TEC SOLUTIONS and its channel partners to provide a complete range of wireless asset management and process automation solutions for ports, shipping and intermodal operations.

Leveraging the SensorSMART™ platform, the IntelliPORTS open alliance delivers innovative applications and technologies for real-time tracking, locating and management of equipment, cargo and people, both in facilities and along the transport chain. Marine and intermodal operators across the world are now using IntelliPORTS products to:

- Improve asset visibility and utilization
- Increase operational control and performance management
- Enhance safety and security
- Expand equipment and cargo availability

ONE PLATFORM. MANY APPLICATIONS. TECHNOLOGY TO MAKE IT ALL WORK SIMPLY AND EASILY.

To find out more about how you can harness the power of IntelliPORTS contact portsales@identecsolutions.com



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