

REFCON 6

The safest way to transport refrigerated cargo



REEFER MONITORING SYSTEM


EMERSON
Climate Technologies

Stay cool all the way

Perfect control of reefer containers and cargo. Always!

REFCON 6 is the next-generation control system that remotely monitors the conditions of reefer containers – during transportation onboard the containership and during storage at the container terminal.

REFCON 6 is more intelligent, more reliable and more innovative than any reefer monitoring system you've ever seen. Developed on the latest Microsoft .NET platform and showcasing an array of smart features, REFCON 6 truly meets the needs of container transportation today and in the future.

Innovation when it's best

As a market leader we've always set almost impossible standards for ourselves. It fuels our innovative spirit and enables us to bring some great products to market. But at Emerson Transportation Solutions we also place great value on partnership with our customers. We listen to the professionals, because you know your daily challenges better than anyone else, and because you bring the benefits of our systems to the entire cold supply chain.

This combination helps us create technologies such as the unique REFCON 6 and take reefer monitoring to a new level. Full control, optimal efficiency and reliability, easy to use. It's made for you, so we know you'll like it!

Monitoring a must

Why monitor the reefer containers when manual inspection has worked for decades, you may think. Automated monitoring of the delicate cargo you transport or hold in transit, ranging from perishable fruit and chilled meat to deep-frozen tuna and controlled atmosphere commodities, is a competitive advantage that can't be overlooked.

Your customers simply expect safe transportation of their cargo and transparency in shipping operations. What's more, it holds significant financial and environmental benefits for you, too. With REFCON 6 you get improved operational efficiency, reduced operating and energy costs and increased personnel safety from day one.

REFCON 6 makes it possible

REFCON 6 automatically monitors an entire vessel or container terminal. Two-way communication between an operator and every single reefer container can take place 24/7, and all data are logged for event history and documentation purposes. REFCON 6 makes sure that the cargo is never left unattended. It's control made simple and easy.

REFCON 6 sets the highest industry standards. On the following pages you can read much more about its benefits, features and functionality.



DID YOU KNOW

REFCON 6 is compatible with reefer containers worldwide – on the vessel and at the container terminal – because:

- We have delivered more than 650,000 remote monitoring modems (RMM) which equals close to 54% of the global fleet of reefer containers
- 18 out of the world's top 20 shipping lines have REFCON installed on their vessels
- The majority of the world's top container ports have REFCON installed in their operations centre
- A handheld device secures documentation from reefer containers with out modem
- REFCON 6 delivers proven performance with 1500+ reefer containers communicating simultaneously
- REFCON 6 complies with industry standard ISO 10368:2006 Freight thermal containers - Remote condition monitoring

Why just inspect when you can be in control

Take control with REFCON 6 Reefer Monitoring System

Manual inspection of reefer and cargo conditions is a time-consuming and risky job. And sometimes people make errors.

Why not take control instead and let REFCON 6 do the job for you? It can keep an eye on thousands of reefer containers at the same time. And it will let you know immediately, if there is anything wrong, or if the cargo is at risk. Real-time status information and specific alarms allow you to address problems timely and correctly. With the touch of a button, you get all the documentation you need.

Standard or customized solution

REFCON 6 can be configured to match your exact needs for special information, alarms, event logs and much more. The customization possibilities of the basic software package are many. But if basic just isn't enough, add-on modules and advanced applications are available.

Control the entire fleet and chain with Global Management Server

Data from local REFCON 6 systems are consolidated and stored by the Global Management Server. Centralization of data on a secure, cloud-based web server makes it possible for shipping lines and container terminals to establish automated remote monitoring of all reefer containers, covering their entire journey from producer to final destination.

Also, sharing of online reefer data, such as real-time temperature and location, with your own organization and with your partners in the cold supply chain increases transparency in operations and secures best practices all round.

A matter of efficiency

REFCON 6 helps you improve your business through better, safer and more cost-efficient operations. By implementing REFCON 6 in your operations you achieve:



Improved cargo quality

Alerts you of problems before potential cargo damage



Improved documentation

Records reefer container data and generates reports automatically



Reduced operational costs

Eliminates time-consuming manual inspections.



Reduced human errors

Verifies planning parameters and alerts you of any mismatch



Improved personnel safety

Minimizes time spent in reefer areas or bays.



Energy savings & CO2 reductions

Minimizes cargo loss in cold supply chain and makes overall processes and operations more efficient



“Cargo damage due to wrong temperature set point has been reduced by 95% after utilization of REFCON”.

“Claims have been reduced by 70% with the Global Management Server’s quick information function”.

European Shipping Line

“REFCON enabled us to continue with the same staff levels despite 20% more live reeper yard storage, preventing the employment of a further 6 technicians to service the additional 1000 reeper plugs 24/7”.

Terminal Manager, large Asian Terminal



REFCON 6 Reeper Monitoring System

There are some very good reasons to why you should choose REFCON 6 – either as a new system installation or as an upgrade of your existing REFCON monitoring system:

Intelligent, reliable and innovative

REFCON 6 is designed for trouble-free and transparent reeper monitoring. Running on a .NET platform compatible with Microsoft Windows operating systems, REFCON 6 offers easy installation on standard computers as well as superior system reliability.

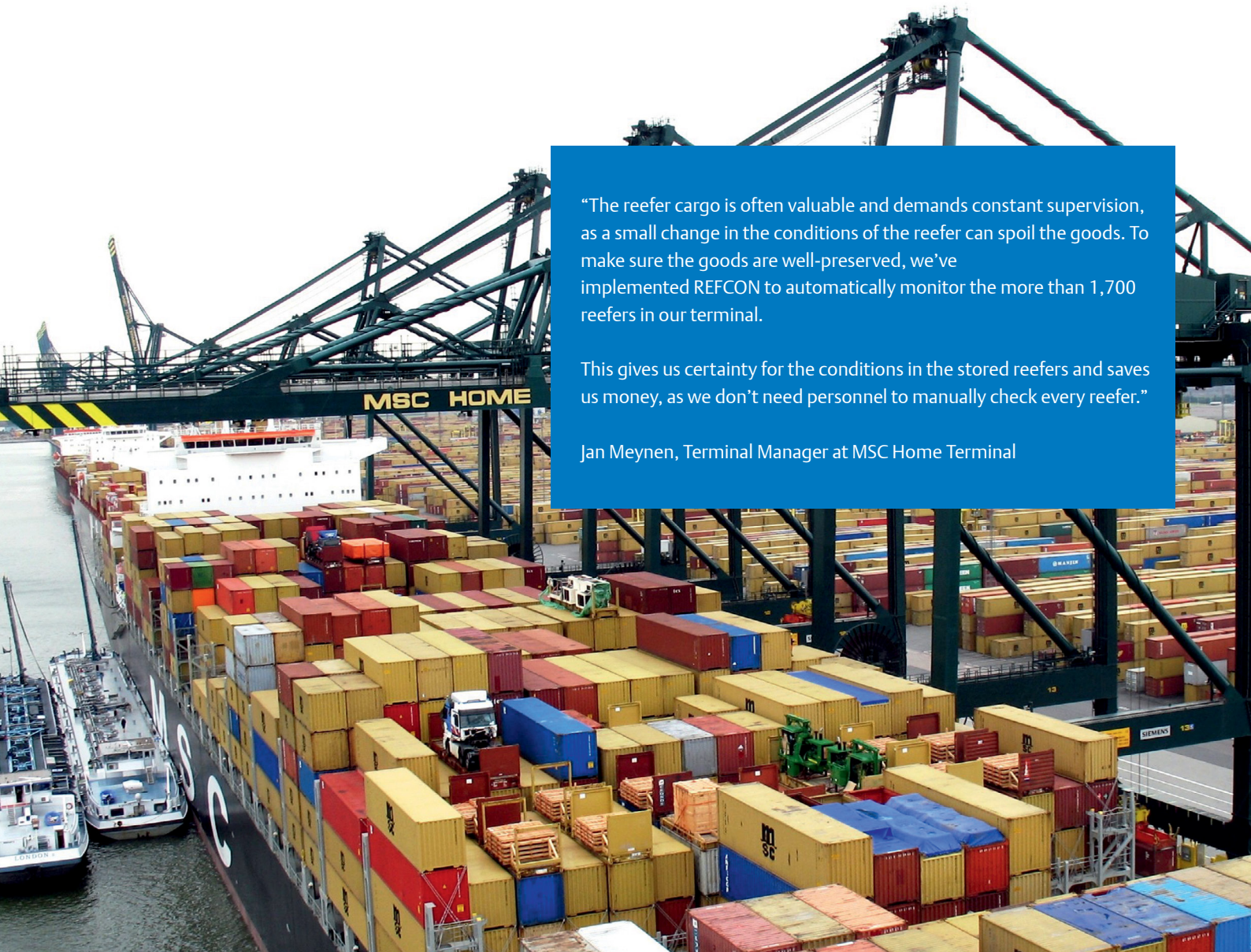
Designed for and by you

With REFCON 6, the information you need is never more than a few clicks away. The user interface is developed in close cooperation with our customers’ superusers to ensure that the design

resembles the user’s normal workflow, and makes interaction as simple and efficient as possible. The performance bar helps you perform your job even smarter, emphasizing tasks and containers that need your attention. Customized lists and views can easily be created to match the individual user’s exact needs.

Total system integration

All our reeper solutions: modems, local and global monitoring systems and special applications are designed to work flawlessly with one another. Day and night they store, exchange and analyze data for the benefit of your operations. REFCON 6 interfaces with vessel planning systems, terminal operating systems and even your own applications.



“The reefer cargo is often valuable and demands constant supervision, as a small change in the conditions of the reefer can spoil the goods. To make sure the goods are well-preserved, we’ve implemented REFCON to automatically monitor the more than 1,700 reefers in our terminal.

This gives us certainty for the conditions in the stored reefers and saves us money, as we don’t need personnel to manually check every reefer.”

Jan Meynen, Terminal Manager at MSC Home Terminal



REFCON Data Collector+ (RDC+)

If the reefer container isn’t equipped with a modem, the RDC+ handheld device can supply data to REFCON 6.



Global Management Server

REFCON 6 integrates seamlessly with the Global Management Server, allowing improved local operations and data analyzing/sharing on global level.



REFCON 6
Reefer Monitoring System



Remote Monitoring Modem (RMM+)

2/3 of all reefer containers are equipped with a modem. It’s there - take a look inside your reefer container.

State of the art communication infrastructure

Inductive, capacitive and wireless infrastructure solutions to overcome any challenge in the electrical and physical layout of a terminal or vessel.



REFCON 6 packed with features

System foundation

- Full ISO10368 support
- Extended support for Thermo King, Carrier, Daikin, and Star Cool reefer containers
- Compatible with multiple Microsoft Windows operating systems (.NET)
- Multiple REFCON monitors with Microsoft ClickOnce Deployment installation
- Operation protection by password authentication
- Extended Data Interchange (EDI) with vessel planning system (Baplie, Loadstar, Seacos, etc. formats)
- Interface to terminal operating systems (support for Navis, Jade, Cosmos and in house developed systems)
- Multiple master systems to secure redundancy and support of unlimited number of containers monitored simultaneously
- Custom configurable lists and filters
- Context sensitive online user manual

Basic modules

- Performance bar highlighting container monitoring performance
- Alarm lists with manufacturer specific alarm codes and clear alarm text
- Event lists with change-control trail and advanced filters
- Container lists with configurable readings such as temperature set point, return, supply, humidity, USDA cargo sensors
- Container details including hourly log of historical readings for each individual container
- Graphical overview of historical logs
- Automatic or configurable container plan with graphical overview of reefer containers
- Remote operations: change container ID, change set point and start manual defrost
- Print and export of all lists (csv, pdf or email)
- Set user generated alarm and highlight specific containers, i.e. high value cargo

Optional modules

- Alarm notification via digital outputs (interface to external systems)
- Master clock interface (time zone control via ship's master clock)
- REFCON Data Collector+ (RDC+) for monitoring and documenting containers non-compliant with ISO10368
- Handheld LogMan for retrieval of data recorder logs, firmware upload and settings of reefer container controllers
- REFCON data service: generic data exchange interface to third-party systems
- Email routing of system or container alarms
- Interface to Global Management Server*
- Online system performance analyzer*
- Notification of malfunctions: defective modem, outdated controller firmware, incorrect container ID or controller time*
- Automatic software updates* (one year free software update included)

**requires Internet access*

Want to know more - check www.myREFCON.com

Compatible and up-to-date software

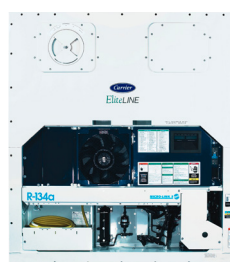
REFCON 6 is compatible with all reefer manufacturers' control equipment – and, naturally, we are always up-to-date with their latest software.

The reefer container market is ever dynamic. At present REFCON 6 supports:

THERMO KING



CARRIER



DAIKIN



STAR COOL



EmersonClimate.com

For more information about REFCON 6 visit **EmersonClimate.com/TransportationSolutions**

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