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# REFCON 6 quick introduction

Ships version: 4002-020 2015.08.31 – subject to change without notice



### Customer benefits



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 & CO<sub>2</sub> reductions Minimizes cargo loss in cold supply chain and makes overall processes and operations more efficient



#### Benefits

How does it work

How to use

2

## Communication path must be OK all the way



To have the full benefits of your REFCON system, it is very important that the highest possible number of reefer containers are communicating on the PCT (Power Cable Transmission).

To achieve this, the electronics – modem, controller etc – on every single container must be maintained, so you have a perfect communication path.

Check the Performance Bar and related lists in REFCON for containers not communicating correctly.

Good advice: Check how many spare RMM units you have onboard. It might be necessary to increase this number in order for you to have more containers communicating.

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#### Benefits

How does it work

How to use

## Components in a REFCON system



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#### Benefits

How does it work

How to use

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# Typical vessel layout



Good advice: If your REFCON is connected to the vessel main alarm system, you should at least once per year verify the alarm output by closing down the REFCON program.

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#### Benefits

How does it work

How to use

### **REFCON 6 overview**



Good advice: You can design exactly which views you want to see and how they are placed. Many users choose to have the Alarm Summary and the Container Plan open side by side.



## The performance bar

- The Performance bar helps you to handle the monitoring of containers in custody.
- Ideally you reach 100% monitoring and no alarms, in which case you will be granted a smiley.
- REFCON advice which containers do have a modem available, but needs some maintenance
- In case of critical system alarms, which makes the REFCON not able to monitor at all, you will see a large red alarm block instead



Good advice: It is always possible to achieve the 100% monitoring, by the means of the RDC, so use the handheld to collect data from non-communicating containers.





Good advice: In the User's Description, you can make your own description of the placement of the RMM masters, then it becomes much easier to find them in case they need maintenance.

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### **REFCON** user help

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You find the User Help in the menu

Here you also find a print-friendly PDF version under Documentation About REFCON.... Or you simply press (F1) View License Settings... Third party software... Or you select the question mark in the upper right corner of any active window 💕 REFCON 6 ÷. 9  $\diamond$ ⇒ Hide Back Forward Home Contents Index Search Fa + + COPELAND Introduction to REFCON 6 The Alarm System The REFCON Monitor User Authentication 🍥 The Container List The Container Plan Key subjects in this topic: Related topics: The Alarm System √ √₄ ⊟ ? X Overview Alarm Summary The Container Details Alarms generated by the controller Alarm propagati Print and Export Reservation regarding alarm text strings Special reefers Historic data logging Alarms generated by REFCON Container handling mode (ships only) Data Transfer for Global Mor Alarm handling Temperature setpoint supervis Planning data import Acknowledging a container's alarms Possible loss of power alarm The Planning System Comm Alarms for missing or wrong ID REFCON Data Collector User generated alarms Operating the RDC Mark I Alarm Options setup Deerating the RDC+ The Email Notification function 📚 Digital input/output signals Overview Modern Troubleshooting A vital part of REFCON is the Alarm System. Please look at the following sketch: 📚 Understanding and Maintain 🃚 The REFCON Manager REFCON Which brings you direct to Independent Alarm System alarm generation the correct page in the Optional in the container Alarm extension controllers Alarm manual (context sensitive) Alarm: handling Alarm ----Data generation Hardware supervision Parameters, inhibit There are in fact three main parts: · Alarm generation = the decision that an alarm must be given. Alarms are generated in two places, the container controller and REFCON a = maintaining a list of actual alarms and event loog

File

Tools Settings Help

User Help (F1)...

Documentation |





- REFCONsetup (rights to make changes to setup)
- (have rights to all actions in REFCON) AllRightsRole ٠

## Import Baplie file

Where to find import of Baplie file

### What to do

- 1. Export file from loading computer.
- Place file on shared folder on c:\import on REFCON main PC.
- 3. Select "Read file" in REFCON.
- 4. Select "Browse and Read".
- 5. Find and select file on shared drive or in above folder.

	ዷ Manual (53 hours ago) 🛛 🗨		
*	Click Manual (5 min. ago)	or	ዿ Manual (53 hours ago) 두
			Read
	🥙 Read planning data file		
	Select the "Browse and Read" button to o	choose a	and read a planning data file.
	Last read file:		
			Brows
			Read now

**Good advice:** In the REFCON setup, you can specify a folder where REFCON automatically imports updated Baplie files. This means you only have to export it from the loading computer – remember to use an identical file name each time.



# Alarm summaries



**Good advice:** With the user's note field, you can type in your own comments regarding a container, so you can give advices to colleagues or make a reminder for yourself.

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### Container plan

### Where to find Container Plan





Good advice: When moving the mouse over each container, you will see a tool tip, which gives the most important information about this container.



# Using the container lists



Good advice: You can create your own list by pressing the "+" symbol and then select "Add/remove Columns" in List menu and/or "Edit Filter" - Now you can make the list exactly after your needs.

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	Where is your hardware
all columns)	
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changes	
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is list	
	Import Baplie file
	Alarm handling
	Container plan
	Container list
	Historic logs
	Printing
	RDC/Logman
	Global monitoring server
solete.	
	Updates
	Support

Overview

Performance h

## Historic container logs

Where to find Historic logs

	User Admi	nistrator					
	Container	History					
🍠 Hourly Cor	ntainer Data						
вмои	921548	36		Swi	tch to UTC	Print/E	Export
Date (LMT)	Time (LMT)	SP Exp. (°C)	Setpoint (°C)	Supply2 (°C)	Return2 (°C)	Defrosting	Online
2011-11-05	23:00:08	-25.0	1				No
	22:00:08	-25.0					No
	21:00:08	-25.0	-25.0	-28.0	-26.0	No	Yes
	20:00:09	-25.0	-25.0	-27.0	-25.0	No	Yes
	20:00:08	-25.0	-25.0	-27.0	-25.0	No	Yes
	19:00:07	-25.0	-25.0	-25.0	-25.0	No	Yes
	18:00:07	-25.0	-25.0	-25.0	-25.0	No	Yes
	18:00:06	-25.0	-25.0	-25.0	-25.0	No	Yes
	17:00:06	-25.0	-25.0	-28.0	-26.0	No	Yes
	16:00:06	-25.0	-25.0	-28.0	-26.0	No	Yes
	15:00:06	-25.0	-25.0	-29.0	-26.0	No	Yes
	14:00:06	-25.0	-25.0	-28.0	-26.0	No	Yes
	13:00:06	-25.0	-25.0	-27.0	-26.0	No	Yes

-25.0

-25.0

-25.0

-25.0

-25.0

-25.0

File Tools Settings Help

BMOU9215486 BMOU9216230 BMOU9217431 BMOU9218150
BMOU9220693 BMOU9501772 BMOU9502681 BMOU9503040 BMOU9506809 BMOU9742229

Hereafter you can print or export as .PDF or .XLS file
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-25.0

-28.0

-28.0

-25.0

-25.0

-28.0

-26.0

-26.0

-26.0

-25.0

-25.0

-26.0

Good advice: Historic container logs are per default kept for 36 months. You can change the setting in REFCON setup (password protected).

-25.0

-25.0

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-25.0

-25.0

-25.0

111

12:00:07

11:00:07

10:00:07

09:00:08

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#### COPELAND



X

Online^

Yes

Yes

Yes

Yes

Yes

Yes

>

No

No

No

No

No

No

### How to print

- You find Print/Export in the file menu ٠
- Or you press (CTRL+P) •
- Or you select the print icon in any active window •

Eile View	Background	a 📭 🧮 🗷   👋 º	100%	- <b>≪</b>   K < → →	📭 🐀 🕫	i   🖹 - 🖂	-   🙁 🗸	
	Lars Maersk	ι.	Setpo	oints differ	list	20	Page 1 of 19 11-10-19 14:44:36 LMT	
		Standard Info	Manifest	Temp	erature		Miscellaneous	
	Location	ContainerID	Contents	Temp, SP Exp.	Temp SP	Supply	Temp.SP match	
	021682	SEAU8631407		-11,1	0,0	0,0		
	021684	MCHU8622808		-11,1	-18,0	-11,1		
	021686	PONU8085313		-11,1	0,6	-11,1		
	030882	TTNU2471435		-11,1	4,3	-15,4		
	030884	TGHU2140903		-11,1	14,0	13,9		
	030884 030886	TGHU2140903 MAEU6728541		-11,1 -11,1	14,0 0,0	13,9		



You can also setup print jobs that runs automatically e.g. every day at 16:00

🎙 Create new print/exp	ort job		
Enter a unique job title:	every day at 16:0	10	
Select the Container List:	Special reefers		
Select the job target type:	Printer		
Select printer:	\\c5175s001\C502	23P027	
Select paper orientation Portrait  O Landscape			
Select timing type			
Once Recurring	limited 💿 Ro	ecurring un	limito
Select job start date:	2011-10-05 🔹	and time:	16:
Select job end date:	2011-11-02 🔹	and time:	14:
Select time interval:	24 😌 hours	0 🤤	min
Test now			ΟK
		_	

Good advice: In the preview window you can select between a lot of output formats, such as local printer, .PDF file, .csv file or .xls file.



# RDC+ / LogMan

One handheld device – two functions



### LogMan II Interfaces to LogView

- Download/retrieval and transferring of logs to computer for subsequent analysis and/or storage using the LogView software.
- Set-up of container data such as container ID, date and time, trip start date, etc..
- Update of controller firmware in reefer containers.
- Compatible with Thermo King, Carrier, Daikin, Mitsubishi and Starcool containers.



#### RDC+ Prepare inspection Interfaces to REFCON

Monitor the containers which do not communicate via powerline.

- The RDC shows you the list of non-communicating containers in a convenient walk-route.
- The container ID, location and temperature setpoints are transferred to the RDC for easy verification.
- It is possible to type in setpoint, supply and return temp, comments and alarms, and many other measures for documentation purposes.

Good advice: By using the RDC in combination with your REFCON system, you have full documentation of the containers in your custody - the same data are also transferred to the Global Monitoring Server.







# Global monitoring server

### **END-TO-END CONTAINER COMMUNICATION**



### Is your vessel connected?

- Check your owner's instruction if REFCON data shall be transmitted to Global Monitoring Server
- REFCON GMS hourly log files must be transfered from folder C:\GMSLogif
- Data are sent via ship's own mail server
- Files are already packed (zipped)
   just sent them as they are
- Recommended to sent all files in this folder at least every 24 hours
- Files must be sent to gms.logif@reefers-online.com

   or mail address instructed by owner



### Updates

All REFCON systems are delivered with 1 year free upgrade.

However, as your REFCON system is not online to the Internet, you need to manually check for updates.

### What to do

Note down which REFCON version you have (This you can see in the About box)

- 1. Find a computer with Internet access
- 2. Go to www.myrefcon.com/support/refcon-6-system/
- 3. Select the correct update file, which matches your current REFCON version
- 4. Download file to USB stick
- 5. Open REFCON Manager (Supervision tab) and stop REFCON
- 6. Select "Updates" tab
- 7. Select "Update from media"
- 8. Import update file from USB stick

<ul> <li>Enable automatic update checking</li> <li>Update status</li> <li>Online-updating expires: 6. juni 2019</li> <li>Status: REFCON is up-to-date.</li> <li>Messages:</li> </ul>	Supervisio	n Administration	Remote Monitor Confi	guration Updates
Update status Online-updating expires: 6. juni 2019 Status: REFCON is up-to-date. Messages:	🗹 Ena	able automatic upo	date checking	Chec
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Messages:	Stat	us:	<b>REFCON</b> is up-to	-date.
	Mes	sages:		

**REFCON Manager** 

Good advice: By keeping your REFCON updated, you are sure that all new reefer containers are correctly displayed in the REFCON system.



### Support

Visit our website at copeland.com/en-us/tools-resources/online-product-information for the latest technical documentation and updates.

#### For Technical Support call 833-409-7505 or email ColdChain.TechnicalServices@Copeland.com

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Good advice: At any contact to our support department, please have following information ready; Vessel Name, New building number, REFCON software version.

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