NFEC
www.nfec.cn

地址：南京市江宁经济开发区花园街18号
Add: NO.18 Huayuan Street Jiangning Economic & Technical Development Zone Nanjing P.R. China
Tel：+86 25 8715 0588　　Fax: 86-25-84048086
E-mail: nfec@nfec.cn　　邮编(PC)：211106

GRASP™

REEFER MONITORING **SYSTEM**

冷藏集装箱监控系统

NFEC
www.nfec.cn

专业的船用电器设备制造商
Professional Marine Electrical Equipment

南京兆友电器设备有限公司
Nanjing Friends Electrical Equipment Co., Ltd.

NFEC
www.nfec.cn

Professional
Marine Electrical Equipment

专业的
船用电器设备制造商

目录

01 CORPORATE PROFILE 公司简介

02 SOFTWARE DEVELOPMENT 软件开发

03 REEFER MONITORING SYSTEM 冷藏集装箱监控系统

06 GRASP 3.0™ 系统

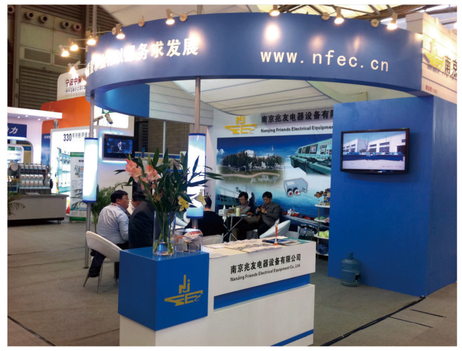
08 Remote Reefer Communication Engine-T 远程冷藏集装箱通讯引擎 - T

10 GRIP™ 数据采集设备

12 WRAD™ 无线冷藏集装箱采集设备

14 Remote Communication Device 远程通讯设备

16 Reefer Monitoring System Achievement 码头冷藏监控系统业绩表



CORPORATE PROFILE / 公司简介

Nanjing Friends Electrical Equipment Co., Ltd. Founded in 1993. In more than 20 years, we always meet the reefer container power supply needs and research and product the socket and plug for reefer container. Based on ISO9001 Quality Management System, we provided good quality production to the domestic and overseas customers. The production made by our company used by vessels, ports and container terminals and has been accepted and approbated by the customers.

To meet the emerging technological needs of the Mobile Refrigeration Industry, we introduce the advanced technology from USA and provide the reefer container monitor system with high technology and high quality.

MANUFACTURING NEW & REPLACEMENT PARTS.

We provided the Mobile Refrigerated Industry with a range of innovative and inventive products. We can provide full range prototype to production service. Products include Dual Data Rate Remote Reefer Container Monitoring Systems, USDA Approved Cold Treatment products, RTD sensors, cable assembly and test services, value added services, chip programming, thermostat design and manufacture. We also offers retrofit designs for refrigeration unit controllers. Focusing on quality products and services at affordable prices, We endeavors to redefine the cost of electronic products available to the industry.

FIELD SERVICE & TECHNICAL SERVICE.

We strive to provide start to finish support for its services and products. Our field service and technical support personnel have onsite experience in refrigeration terminals, onboard seagoing vessels and in maintenance areas. This experience combined with our worldwide partners Lyngsø Marine A/S of Denmark, SAM Electronics GmbH of Germany and Uzushio Electric Co. of Japan ensure a worldwide sales and service support for our reefer container monitoring system GRASP™.

We provide on site and telephone technical services, training courses on site or at our premises, Remote reefer monitoring site surveys, electrical drawings and 3rd party vendor interfaces.

南京兆友电器设备有限公司成立于1993年；20年来，兆友电器始终致力于冷藏集装箱供电设备的研发和制造。我们基于ISO9001质量管理体系向国内外客户提供优质的产品，被广泛应用于船舶、码头、堆场，获得了用户的信任和认可。

为了满足移动制冷产业的新型技术需求，公司引进了美国先进技术提供高技术、高质量的冷藏集装箱监控系统。

制造新部件和替代部件。

我们向移动制冷产业提供了一系列革新发明的产品。我们能够向生产服务提供全范围的原型。产品包括双频冷藏集装箱监控系统、USDA认证冷处理产品、RTD传感器、电缆组件和检测服务、增值服务、芯片编程、恒温器设计和生产。我们同样提供制冷设备控制器的改型设计。在可承受的价格范围内注重产品质量和服务，我们努力重新定义可向行业提供的电子产品的成本。

现场服务和技术服务。

我们努力对其服务及产品提供全程支持。我们的现场服务和技术支持人员具备冷藏码头、海上航行船舶和服务领域的现场经验。这种经验，与我们全球合作伙伴密不可分 - 丹麦 Lyngsø Marine A/S，德国SAM电子有限公司，日本 Uzushio 电子有限公司 - 这种经验确保了我们的冷藏集装箱监控系统GRASP™ 在全球的销售和服务支持。

我们提供现场和电话技术服务、在现场或在我们公司的培训课程、冷藏集装箱监控现场勘测、电气图纸和第三方供应商界面。

NFEC
www.nfec.cn

SOFTWARE DEVELOPMENT / 软件开发

We have comprehensive experience providing independent software development and performance consulting services to customers in the Mobile Refrigeration industry.

We are continuously accessing industry needs and developing new software.

PRODUCT ENGINEERING, DESIGN & CONSULTING.

Today, we lead the industry with the most complete and comprehensive remote monitoring system in the world including software and hardware for ship and shore applications. This includes master and slave modems compatible with the ISO Standard 10368. These modems interface with all the major refrigeration system manufacturers.

Our engineering department provides a full range of services from design and development to manufacturing and end user assistance. We provide equipment specification assistance and OEM factory production line inspections. Our capabilities include microprocessor and analog hardware, embedded software and mechanical design to ensure a user-friendly and functional design. Our engineers will work closely with our customers to ensure complete satisfaction by providing after sale assistance wherever needed.

我们在向移动制冷行业内客户提供独立软件开发及绩效咨询服务方面具备全面的经验。

我们一直持续不断的评估行业需求并开发新的软件。

产品开发、设计及咨询。

今天，凭借世界上最完备和全面的远程监控系统，包括船舶和岸上应用软件和硬件，我们引领行业。这包括了与ISO标准10368兼容的主从调制解调器。这些调制解调器能够与所有的主要冷藏系统制造商界面结合。

我们的工程部门提供从设计、开发到制造以及对终端用户协助的全方位服务。我们提供设备规格协助和OEM工厂生产线检测。我们的能力包含微处理器和模拟硬件、嵌入式软件和机械设计，以确保界面友好且功能齐全。无论何处有需要，我们的工程师都将与我们的客户紧密协作，通过提供售后协助确保客户的完全满意。

REEFER MONITORING SYSTEM
冷藏集装箱监控系统

GRASP™

MEETING THE TECHNOLOGICAL NEEDS OF THE MOBILE REFRIGERATION INDUSTRY SINCE 1981.
自1981年起满足移动冷藏工业的技术要求。

We delivered the industry's first Remote Reefer Monitoring system in 1985. Since that time, The GRASP system has remained technologically generations ahead of our competition while being recognized as the most functionally complete, user friendly system available today. GRASP™ is the only system that meets all of the ISO 10368 specifications including simultaneous Wide Band and Narrow Band communication.

The company is a world leader in the development and supply of Remote Reefer Monitoring systems and components. Our GRASP™ reefer monitoring system is the most advanced system available in the market. The company is also the leader in the repair and refurbishment of electronic controllers including Thermo King, Carrier, Sabroe, Mitsubishi, and others.

在1985年，我们提供了第一套工业用冷藏箱监测报警系统。从那时起，GRASP™ 系统就一直保持着与竞争对手的技术优势，并且被公认为目前市场上功能最齐全的，最容易操作的系统。GRASP™ 是目前能够满足所有 ISO 10368 规则的同时包含了宽波信息传输和窄波信息传输的系统。

我们在冷藏集装箱监控系统和监控元件领域是世界级的领导者和供应商。我们的GRASP™ 冷藏箱监控系统是目前市场上最先进的最具特色的系统。我们在冷藏箱电子控制单元的维修方面也非常有经验。我们所维修的电子控制单元包括Thermo King, Carrier, Sabroe, Mitsubishi等等。

ISO 10368 DUAL DATA RATE POWER CABLE TRANSMISSION (PCT)	ISO 10386 规则双频电力载波传输（PCT）
MASTER / SLAVE MODEMS (4-PIN)	主/次级模块 (4-PIN)
TERMINAL / VESSEL EQUIPMENT	港口/船舶系统
SITE SURVEYS	现场检验
CONSUL TATION & TRAINING	咨询和培训

The GRASP™ Reefer Container Monitoring System enables just one operator at a centrally located computer to monitor an entire container terminal or vessel. The system allows two way communication of data between the operator and every reefer container. The GRASP TM system records all required data in a detailed log and a complete history for each reefer is available.

If the system recognizes any problems an alarm is signalled. Container location, temperature parameters and other information concerning each reefer container can be transferred from the vessel's central computer to the terminal's computer adding greatly to the efficiency of the operation.

Installing the GRASP™ System on a ship or in a terminal will ensure that refrigerated products are monitored carefully and complying with the shipper's specifications.

GRASP™冷藏箱监控系统使得一人监控容易而轻松。该系统在操作者和冷藏箱之间使用两种通讯方式，详细而且完整的纪录下冷藏箱的所有的运行参数。

当系统监测到任何问题时就会发出报警信号。冷藏箱的位置，温度参数和其他相关信息可以从船用电脑发送到码头电脑，使得管理更加高效。

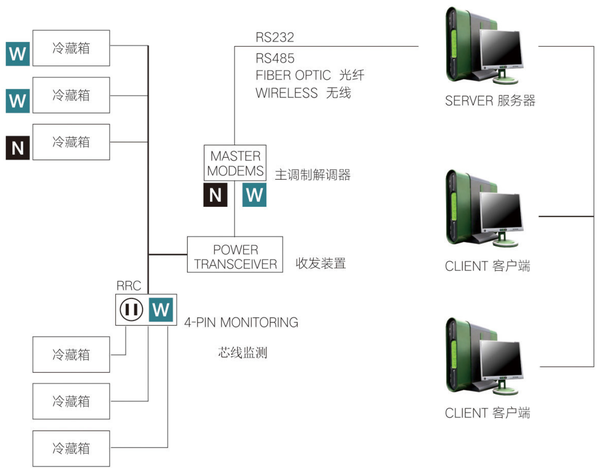
在船上或码头上安装GRASP™系统可以更好的保证冷藏货物的安全，满足船东和货主的要求。

THE GRASP ADVANTAGE
系统优点

GRASP™ is designed with a single master modem utilizing true simultaneous communication as per ISO Standards. This results in the following advantages when compared to similar systems available from other vendors:

GRASP™系统按ISO标准设计，将即时通讯优化在同一主模块中，这就使得该系统和目前市场上的其他同类产品相比有以下优势：

Uses less hardware	使用更少的硬件
Easier to install	安装简单
Easier to maintain	维护方便
Quicker response times	更快的响应时间
Greater flexibility	非常灵活
Easier to expand	易于扩展



W REEFER with WIDE BAND MODEM 装载宽波Modem的冷藏箱

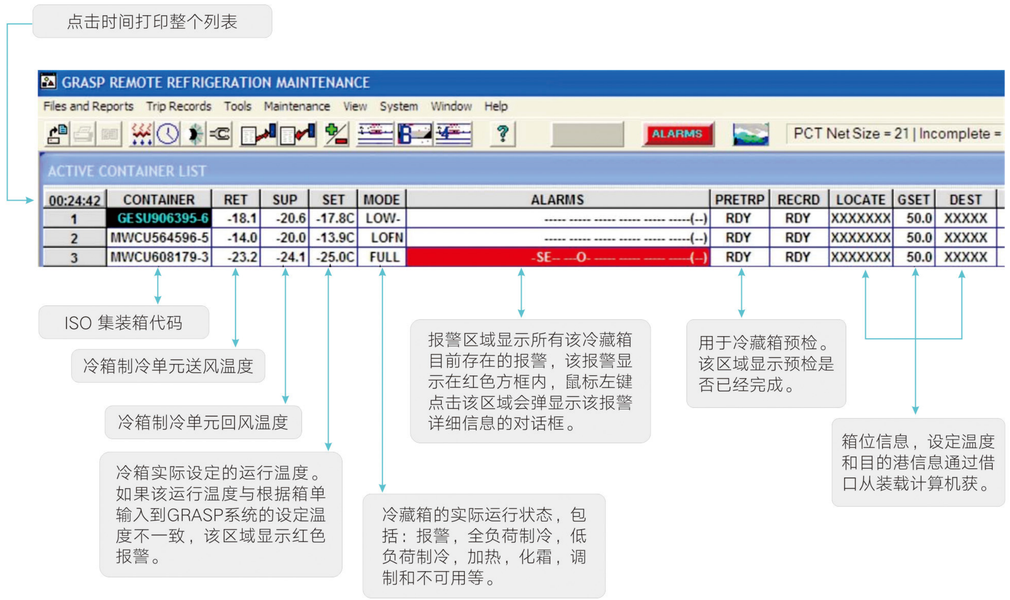
N REEFER with NARROW BAND MODEM 装载窄波Modem的冷藏箱

THE GRASP FEATURES / 系统性能

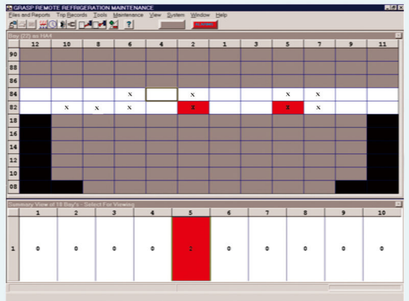
Supervision of Temperatures, incl.USDA	温度监测，包括USDA信息
Up/Download of trip records	上下传运行记录
Print trip records	打印运行记录
Defrost command	化霜命令
Interface to loading and host computers	到装载计算机和上位机的接口
Simultaneous communication	即时通讯
Cost effective remote PTI	遥控预检
Trip records manager	运行记录管理
Setpoint change	改变设定温度
Header entry	冷藏箱抬头信息输入
Simple and affordable installation	简单易行的安装
Simple operation	操作简便

GRASP™ is compatible with refrigeration equipment manufacturers such as Mitsubishi Heavy Industries, Carrier Transicold,Thermo King Corporation, Klinge Corporation, Daikin and Sabroe.

GRASP™可以和绝大多数厂家的冷藏箱如三菱，开利，冷王，大金，约克等等。



箱位浏览



冷箱历史记录报告

GRASP RELATED PRODUCTS / 相关产品

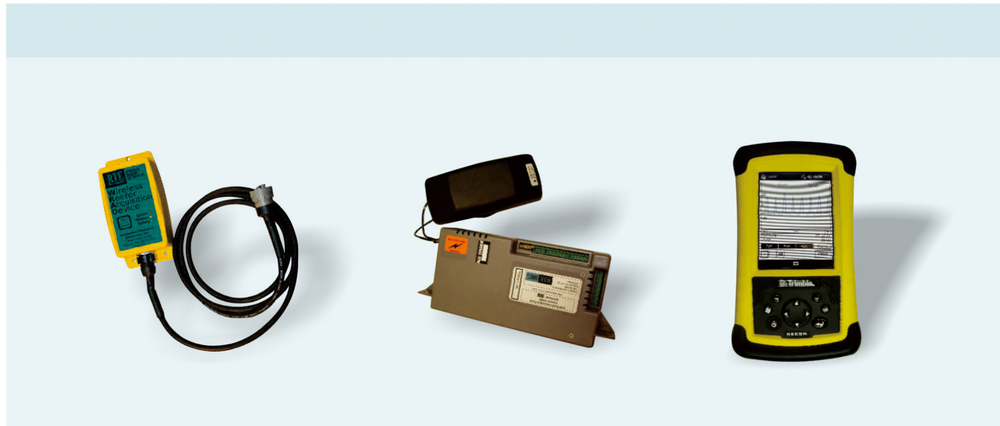
We are providing the most technologically advanced ISO 10368 compatible power cable modem available today. Modems developed by RTE have the most functionality, most transmission power, and best noise immunity in the industry.

The Remote Communication Device (RCD) is an important component in a Remote Reefer Monitoring system. The RCD provides the interface between the monitoring system and the actual reefer unit. The RCD allows the user to monitor the operating condition of the reefer, change the operating parameters, and retrieve historical data.

远程通讯装置(RCD)在冷藏箱远程监控系统中起着非常重要的作用，它是冷藏箱监测系统和冷藏箱控制单元之间的接口。通过RCD装置，用户可以监测冷藏箱的实际运行状态，设定运行参数，查阅历史纪录。

目前，我们可以提供具有高科技的符合ISO10386标准的动力载波模块。是目前工业领域里在功能，收发功率和抗干扰方面最好的模块。

GRASP 3.0™



The GRASP 3.0™ system is the next generation of our monitoring and recording software. GRASP 3.0 consist of a MS SQL Database, a Communication Server, and our Man Machine Interface. GRASP 3.0's modular design allows the flexibility to add combinations of RTE's PCT, RRCE, and WRAD communication platforms under a common database and MMI.

GRASP 3.0 offers a full XML interface for integration with TOS system as well as other 3rd party software. GRASP 3.0 HTTP interface allows monitoring via internet.

GRASP 3.0 is a fully functional system that allows monitoring and remote control via RTE's various monitoring options. The MMI is powerful and intuitive allowing the user to download trip records, PTI reefers, and much more.

By using the XML interface, the user can load booking setpoints, parking/ stowage locations and much more. GRASP 3.0 has a full temperature history log as well as event logs for user actions as well as Connects/Disconnects.

Our GRASP TM reefer monitoring system is the most advanced system available in the market.

GRASP 3.0™ 系统是我们的监控和记录软件的下一代产品。GRASP 3.0由一个MS SQL数据库、一台通信服务器以及我们的人机界面组成。GRASP 3.0的模块设计允许RTE的PCT、RRCE和WRAD在一个公用数据库和MMI下灵活组合。

GRASP 3.0提供一个完整的XML界面，能够与TOS系统整合，也能够与其他第三方软件整合。GRASP 3.0 HTTP界面能够通过互联网进行监控。

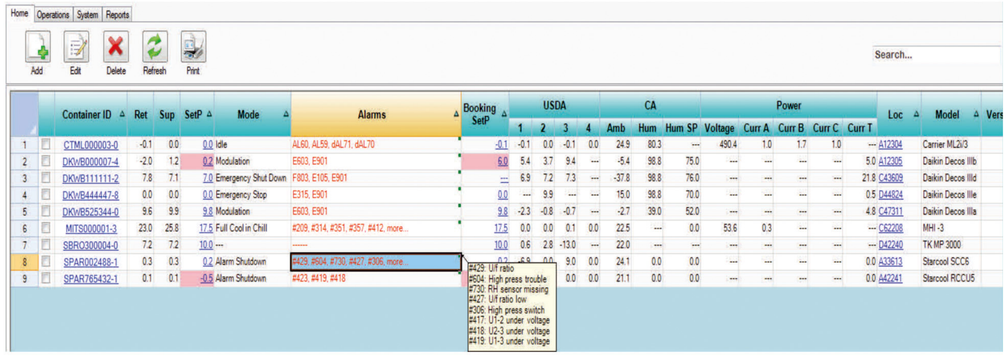
GRASP 3.0系统功能齐全，能够通过RTE的各种监控选项实现监控及远程控制。MMI功能强大且直观，允许用户下载行程记录、冷藏箱预检费，以及其他多种功能。

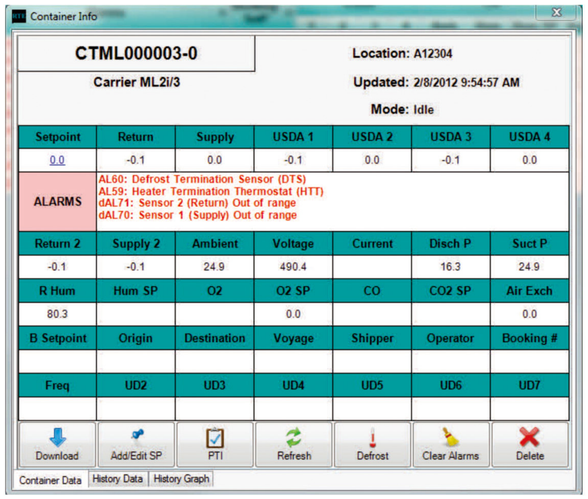
使用XML界面，用户能够登记预设点、停车/存储位置及其他信息。GRASP 3.0拥有全范围温度历史日志以及事件日志，便于用户的操作以及连接/断开。

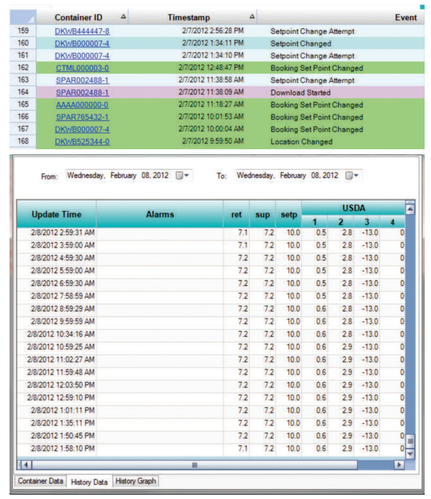
我们的GRASP冷藏集装箱监控系统是市面上最先进的产品。

GRASP 3.0 Features / 特点

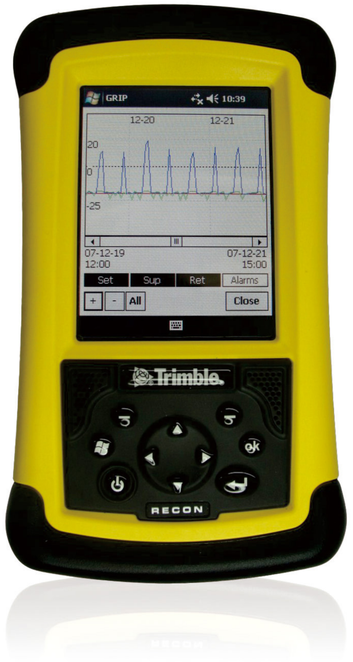
• Collection and Display of operating parameters ,when available, such as:	• 可用时，运行参数的搜集及显示，例如
Temperatures — Return, Supply, Ambient, USDA	温度 — 返回、供给、环境
CA Information — Humidity, Oxygen	CA信息 — 湿度、氧气
Power Information — Current, Voltage, Frequency	电力信息 — 电流、电压、频率
• Clear text description of alarms using manufactures code and text.	• 使用生产代码和文本清除警告文本说明。
• Downloads of Temperatures, Events, Alarms, PTI, USDA logs.	• 温度、事件、警告、PTI、USDA日志的下载
• Remote control of Setpoints, PTI, Defrost, CA	• 与定点、PTI、除霜、CA的远程控制
• XML interface for TOS and Loading Computer	• TOS和加载计算机的XML界面
• MS SQL Database	• MS SQL 数据库
• XML over http Client Interface	• http用户界面上的XML
• Graphical display of History and Downloads	• 历史及下载的图形显示







GRIP™



The GRIP™ data acquisition device is the latest addition to GRASP™ Remote Reefer Monitoring system product family.

GRIP™ is a hand held computer based system that allows the user to manually monitor temperatures as well as download trip records and operating data from various reefer types.

GRIP™ can be used as a standalone system or can be used in conjunction with the GRASP™ Remote Reefer Monitoring system. When used with GRASP™ , the data collected via GRIP™ can be synchronized using a standard cradle or WiFi if available. This allows the user to take advantage of the GRASP™ reporting features and data storage for all reefer data. GRIP is also available with short range RF for automatic monitoring of reefers fitted with the RTE WRAD or GRCD system.

GRIP™ is compatible with devices with ARMv4-compatible processors running the Microsoft Pocket PC 2003, Windows Mobile 5 or newer operating system. This allows users to select their own hardware or we can supply the complete package.

GRIP™数据采集设备是GRIP™冷藏集装箱监控系统产品系列的最新版本。

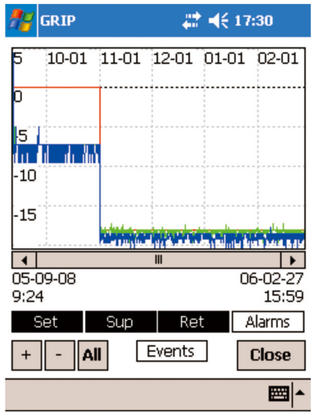
GRIP™为手持计算机系统，用户可使用该系统对各类冷藏集装箱进行手动温度监控以及下载行程记录和运行数据。

GRIP™可作为独立系统使用，也可与GRASP™冷藏集装箱监控系统联合使用。当与GRASP™联合使用时，通过GRIP™采集的数据可使用一个标准支架或可用的WiFi进行同步。这样就能够使用户利用GRASP™报告功能及数据存储功能处理所有冷藏集装箱的数据。

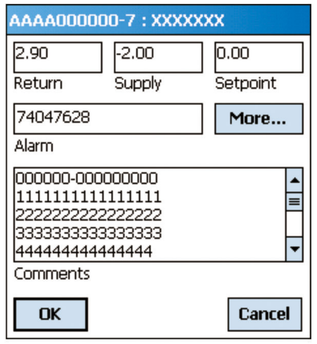
GRASP™能够与运行Microsoft Pocket PC 2003、Windows Mobile 5或更新操作系统的ARMv4兼容处理器的设备兼容。这样使得用户能够自行选择硬件，或者由我们提供整套设备。

RTE's GRIP™ Data Acquisition System allows the user to :
用户能够使用RTE的GRASP™数据采集系统：

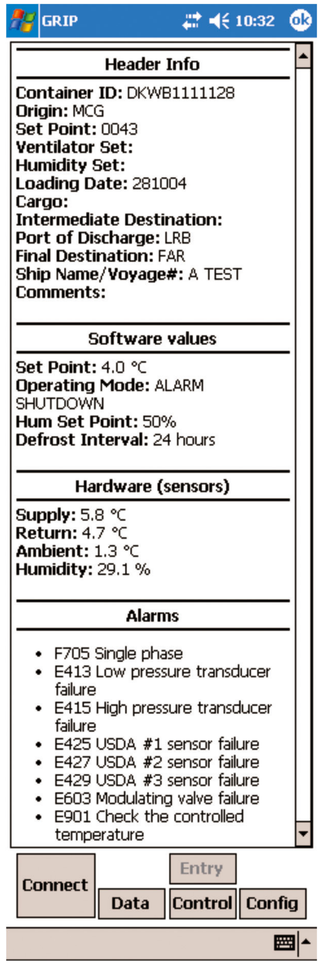
• Collect operating parameters via the reefer DataPort.	• 通过冷藏集装箱数据端口采集运行参数。
• Manually enter temperatures for electronics storage and processing.	• 手动输入温度便于电子存储及处理。
• Download temperature and event records.	• 下载温度及事件记录。
• Enter Header information.	• 输入报头信息。
• Integrate collected data with the GRASP TM Reefer Monitoring System.	• 将搜集的数据与GRASP Tm冷藏集装箱监控系统整合。
• Change reefer parameters such as:	• 更改冷藏集装箱参数，例如：
Setpoint	预设点
Defrost Interval	除霜间隔
In-Range Parameters	范围内参数
Shut Down Mode	关机模式



Graphical display of temperature log
温度日志图形显示



Manual data entry
手动数据录入

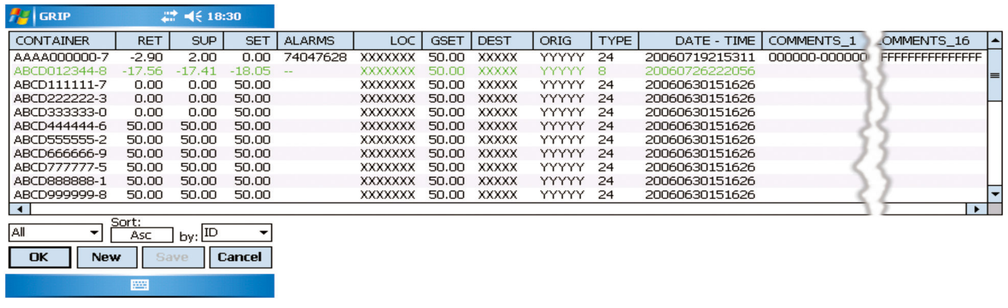


Operating data via DataPort
通过数据端口运行数据

Specifications / 规格

Runs on ARMv4 compatible processors.	可在ARMv4兼容处理设备上运行。
Requires PocketPC 2003, Windows Mobile 5 or newer operating system.	需要PocketPC 2003, Windows Mobile 5或更新的操作系统。
Software available on CF, SD card or disk.	软件可存储在CF卡、SD卡或磁盘中。
XML data interface.	XML数据界面
Compatible with Carrier, Thermo King, Daikin, and StarCool.	与开利、冷王、大金和马士基星冷兼容。

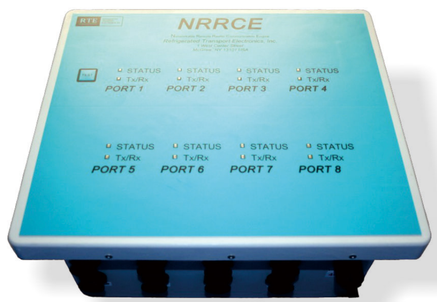
Synchronize with GRASP™
与GRASP™同步



CONTAINER	RET	SUP	SET	ALARMS	LOC	GSET	DEST	ORIG	TYPE	DATE - TIME	COMMENTS_1	...OMMENTS_16
AAAA000000-7	-2.90	2.00	0.00	74047628	XXXXXXX	50.00	XXXXX	YYYYY	24	20060719215311	000000-000000	FFFFFFFFFFFFFF
ABCD012344-8	-17.56	-17.41	-18.05	--	XXXXXXX	50.00	XXXXX	YYYYY	8	20060726222056		
ABCD111111-7	0.00	0.00	50.00		XXXXXXX	50.00	XXXXX	YYYYY	24	20060630151626		
ABCD222222-3	0.00	0.00	50.00		XXXXXXX	50.00	XXXXX	YYYYY	24	20060630151626		
ABCD333333-0	0.00	0.00	50.00		XXXXXXX	50.00	XXXXX	YYYYY	24	20060630151626		
ABCD444444-6	50.00	50.00	50.00		XXXXXXX	50.00	XXXXX	YYYYY	24	20060630151626		
ABCD555555-2	50.00	50.00	50.00		XXXXXXX	50.00	XXXXX	YYYYY	24	20060630151626		
ABCD666666-9	50.00	50.00	50.00		XXXXXXX	50.00	XXXXX	YYYYY	24	20060630151626		
ABCD777777-5	50.00	50.00	50.00		XXXXXXX	50.00	XXXXX	YYYYY	24	20060630151626		
ABCD888888-1	50.00	50.00	50.00		XXXXXXX	50.00	XXXXX	YYYYY	24	20060630151626		
ABCD999999-8	50.00	50.00	50.00		XXXXXXX	50.00	XXXXX	YYYYY	24	20060630151626		

Remote Reefer Communication Engine-T

远程冷藏集装箱通讯引擎 - T



We introduce the Remote Reefer Communication Engine with tethering (RRCE-T).

The RRCE-T is ideal for terminals that have rack systems as well as vessels.

The RRCE-T comes with 4 (RRCE-T4) or 8 inputs (RRCE-T8). This device connects to the reefer dataport and allows remote monitoring and control of the reefer data and parameters.

Standard data collected includes Setpoint, Return, Supply, and USDA temperatures as well as Alarms, Voltage, and Current. Depending on the reefer type additional parameters are monitored.

As with the rest of the RRCE family, the RRCE-T allows the user to download trip data, change the Setpoint, and perform Pre-Trip inspections.

The RRCE-T has a flexible topography. The devices can be monitored via WiFi or LAN connections or a combination of both. The RRCE-T can also be integrated into the reefer receptacle as well.

The GRASP system provides an XML interface for TOS integration. RTE's new family of RRCE products provides solutions for all of your monitoring needs. We provide wireless, GSM/GPS, handheld, and powerline monitoring devices.

我们引入了配有叠接功能的远程冷藏集装箱通讯引擎（RRCE-T）。

RRCE-T最适合具备箱架堆装系统的码头和船舶。

RRCE-T配有4 (RRCE-T4)或8个输入(RRCE-T8)。该设备与冷藏集装箱数据端口连接，并允许对冷藏集装箱数据和参数进行远程监控和控制。

标准数据采集包括预设点、返回、供给和USDA温度以及警告、电压和电流。根据冷藏集装箱的类型，也会对附加参数进行监控。

正如RRCE系列的其他产品一样，RRCE-T允许用户下载行程数据，更改预设点，并执行出行前检验。

RRCE-T具备灵活的拓扑结构。可通过WiFi或LAN连接，或者二者相结合的方式对设备进行监控。也可将RRCE-T集成到冷藏集装箱储槽中。

GRASP系统为TOS集成提供了一个XML界面。RTE的RRCE新产品系列向所有的监控需求提供了解决方案。我们提供了无线、GSM/GPS、手持和电力线监控设备。

WRAD

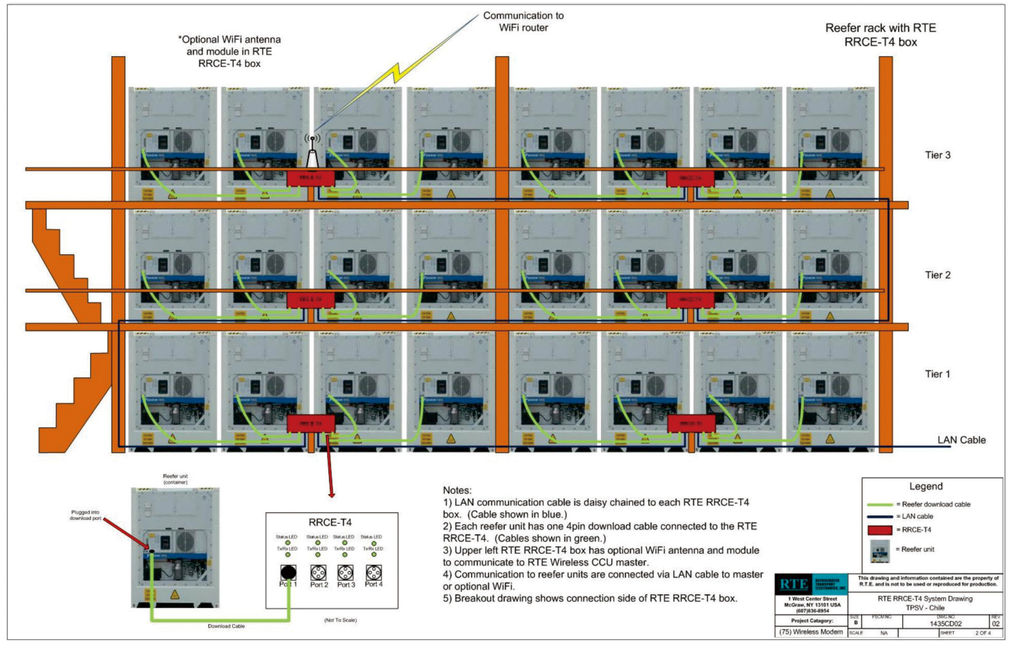
RRCE-Z-C-G

GRIP

Remote Reefer Communication Engine allows the user to remotely :

远程冷藏集装箱通讯引擎使用户能够远程 :

Change the Setpoint	更改预设点
Download trip receords	下载形成记录
Monitor temperatures and alarms	监控温度及警告
Initiate Defrost	启动除霜
Set trip record headers	设定行程记录报头
Activate Automatic Pretrip Inspection	激活自动出行前检验
Set the controller clock	设定控制器时钟



WRAD™

The WRAD™ Wireless Reefer Acquisition Device is the latest addition to GRASP™ Remote Reefer Monitoring system product family.

WRAD™ is a wireless option that allows remote monitoring and control of reefer units. WRAD™ can be used as a stand alone system or in conjunction with the GRASP powerline monitoring system. WRAD comes as either a battery powered removable device or can be permanently installed in the reefer unit. WRAD™ requires minimal hardware infrastructure and therefore suitable for small depots and vessels in addition to large terminals.

The user software is WEB based allowing remote users to monitor critical cargos. Built in XML interface allows for easy data access to 3rd party systems.

WRAD™ technology is based on the IEEE 802.15.4 standard using MESH networking.

WRAD™ is compatible with all reefer types.

WRAD™无线冷藏集装箱采集设备，是除GRASP™冷藏集装箱监控系统产品系列之外的最新产品。

WRAD™是通过无线的方式，远程监控和控制冷藏集装箱设备。WRAD™可作为单独的系统使用，也可与GRASP电力监控系统配合使用。WRAD可配置为电池供电的可移除设备，或永久安装到冷藏集装箱设备中。WRAD™仅需基本的硬件基础设施，因此除大型码头外，也适合小型仓库和船舶。

用户软件基于网络，能够使远程用户监控重要货物。内嵌的XML界面允许第三方系统便捷的进行数据访问。

WRAD™使用MESH网络，基于IEEE 802.15.4标准。

WRAD™与所有冷藏集装箱型号兼容。

WRAD™ Data Acquisition System allows the user to :
WRAD™数据采集系统允许用户：

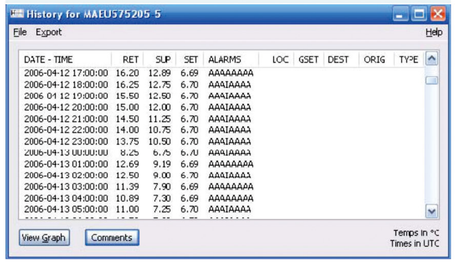
• Collect operating parameters via the reefer DataPort or Modem port	• 通过冷藏集装箱数据端口或调制解调器端口采集运行参数
• Allows 2-way communication for monitoring and control	• 允许2-路通讯进行监控和控制
• Download temperature and event records	• 下载温度和事件记录
• Temporary or permanent installation	• 临时或永久安装
• Minimal infrastructure required	• 仅需基本基础设施
• Change reefer parameters such as:	• 更改冷藏集装箱参数，如：
Setpoint	预设点
Defrost Interval	除霜间隔
In-Range Parameters	范围内参数
Shut Down Mode	关机模式

Specifications / 规格

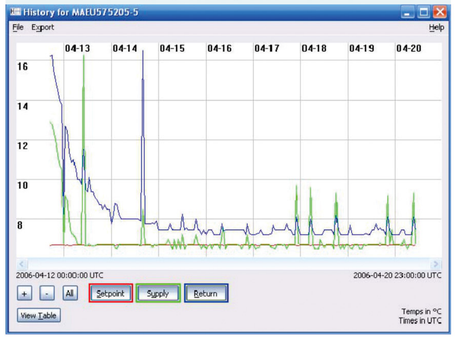
- WEB Based User Interface.
- Conforms to IEEE 802.15.4 Standard
- IP 67 Enclosure
- 30 Day Operation before recharging
- XML interface and SQL database

- 基于网络的用户界面
- 符合IEEE 802.15.4标准
- IP 67外壳
- 30天运行，无需充电
- XML界面及SQL数据库

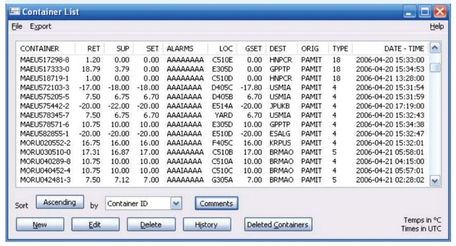
Container History 集装箱历史



Graphical display of temperature 温度图形显示



Container Net List 集装箱网络表



Remote Communication Device
远程通讯设备

We provide the most technologically advance ISO 10368 compatible powerline modem available today. Modems developed by the company of USA are engineered to meet the harsh requirements of seagoing transportation.

We and our partner of USA are the only manufacturer of powerline modems to provide both technologies specified by the ISO 10368 standard, thus allowing customers to have a choice to mix technologies based on their requirements.

The Remote Communication Device (RCD) is an important component in a Remote Reefer Monitoring system. The RCD provides the interface between the monitoring system and the actual reefer unit. The RCD allows the user to monitor the operating parameters and retrieve historical data.

The industry's first Remote Reefer system delivered in 1985. Since that time, GRASP™ system has remained technologically generations ahead of our competition while being recognized as the most functionally complete, user friendly system available today. GRASP™ is the only system that meets all of the ISO10368 specifications including simultaneous Wide Band and Narrow Band communication.

我们提供现今最先进技术的ISO 10368兼容电力调制解调器。由美国公司开发的调制解调器符合严酷的远航运输要求。

我们和美国合作伙伴是唯一一家能够提供ISO 10368指定的两种技术的电力调制解调器生产商，因此允许用户根据他们的要求选择配制技术。

远程通讯设备在冷藏集装箱监控系统中是一个重要的部件。RCD提供了监控系统和实际冷藏集装箱设备之间的交互。RCD允许用户监控运行参数并检索历史数据。

1985年交付了行业内首个冷藏集装箱监控系统。自此，GRASP™系统一直保持了技术上的竞争领先优势，同时被视为现今功能最为完备、最为人性化的系统。GRASP™是包括同步宽频带和窄频带通讯中仅有的、能够符合所有ISO 10368规格的系统。

Remote Communication Device allows the user to remotely :
用户能够对远程通讯设备进行远程操作 :

Change the Setpoint	更改预设点
Download trip records	下载行程记录
Monitor temperatures and alarms	监控温度及警告
Initiate Defrost	启动除霜
Set trip record headers	设定行程记录报头
Activate Automatic Pretrip Inspection	激活自动出行前检验
Set the controller clock	设定控制器时钟

Remote Communication Devices Feature :
远程通讯设备特点 :

Compatible with all ISO 10368 powerline monitoring systems.	与所有ISO 10368电力监控系统兼容。
Easy to read LED's that let the user know if the RCD is working properly.	方便读取的LED使用户了解RCD是否工作正常。
Subjected to the most comprehensive and rigorous environmental and electrical testing in the industry.	满足行业内最广泛和最严厉的环境和电气测试。
Available in both Wide Band and Narrow Band technologies for most reefer types.	大多数冷藏集装箱型号均可使用宽频带和窄频带技术。
Base RCD operates with most reefer types thus eliminating the need to inventory different models.	基础RCD能够配合多数冷藏集装箱型号，因此可摆脱库存不同型号的需求。

Remote Communication Devices are compatible with :
远程通讯设备与以下型号兼容 :

Carrier Micro Link 1,2,2i,3	开利Micro Link 1,2,2i,3
Daikin Decos 2, 3, 4a, 3b, 3c, 3d, 3e	大金 Decos 2, 3, 4a, 3b, 3c, 3d, 3e
Thermo King uP, uPA, uPA+, uPD, MPC2000, MP3000	冷王uP, uPA, uPA+, uPD, MPC2000, MP3000
Mitsubishi MMCCIII, MMCCIIIA	三菱MMCCIII, MMCCIIIA

Specifications / 规格

MODEL NUMBER: 型号编码	Wide Band—1H24060X, 1H24100X for MPC2000, MP3000 宽频带 - MPC2000, MP3000为1H24060X, 1H24100X for Narrow Band—1H25080X 窄频带 - 1H25080X
OPERATING TEMPERATURE: 工作温度	-40 TO 85˚C -40 至 85˚C

Reefer Monitoring System Achievement

冷藏箱智能控制系统业绩表

国内码头			
序号	码头名称	码头位置	时间
1	香港内河码头 River Trade Terminal (RTT)	香港 中国	2015
2	宁波北仑第二集装箱 Ningbo Beilun Port 2nd Container Terminal	宁波 中国	2016
3	青岛自动化码头 QQCTI	青岛 中国	2016
国外码头			
4	布宜诺斯艾利斯港 Exolgan	阿根廷	2012
5	鹿特丹世界门户码头 Rotterdam World Gateway Terminal	荷兰	2013
6	和记黄埔墨西哥 HPH Mexico	墨西哥	2013
7	迪拜港务卡拉奇港 DP World Karachi(QICT)	巴基斯坦	2013
8	阿拉斯加航运西雅图 Seattle Y1 & Y5	美国	2014
9	Assan Port	土耳其	2014
10	罗马国际货柜码头 SPA	意大利	2014
11	圣安东尼奥国际码头 San Antonio Terminal	智利	2014
12	迪拜港务拉普拉塔港 Rio de la Plara	阿根廷	2015
13	蒙德拉阿达尼码头 Adani Port	印度	2016