

Service Network 服务网络



TOTAL TANK MONITORING & CONTROL SYSTEM

for Marine & Offshore Application

船舶专用液货舱监测及控制系统



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bizSAFE₄



**MODERN AUTOMATION
& ENGINEERING PTE LTD**
现代自动化工程有限公司

MODERN Automation & Engineering Pte Ltd was established in year 1990 with the mission to be the leading provider of Marine/Offshore automation, instrumentation and system manufacturer for the business community we serve globally. We believe in doing things right the first time and responsiveness to meet customer requirements.

With the vast experience of our key staff in the marine automation, instrumentation and servicing business for more than 25 years. Modern Automation started its design and manufacturing programme to meet the fast turn around requirement that is needed by the industry. As "time and tide" wait for no man, we need a system that meet the requirement of International Maritime Organisation (IMO), quality, competitive cost and fast delivery. With these criteria in mind, we successfully manufactured a range of products with Marine Type/ Classification Approval by all major classification bodies.

现代自动化工程有限公司创建于1990年，是一家集科工贸为一体的高科技公司。主要从事海事业、岸外工程业的自动化工程服务。业务包括：自动化系统集成设计；系统制造、安装；产品开发；仪器仪表维修、校验；修船等。亦可根据客户的特殊要求，提供相应的技术咨询、设计、开发、制造、维修、甚至跟船服务等在内的各种服务。

本公司具有雄厚的技术实力。在海事业的自动化领域里，主要技术骨干都具有二十多年的工作经历，拥有丰富的船舶自动化设备的维修、保养、安装经验。本公司亦具有雄厚的技术设计、产品开发能力。熟悉计算机控制技术，熟悉国际上主要自动化产品的编程、集成技术，能在最短的时间内编成满足客户要求的程序和系统集成。本公司自成立以来，不断跟踪国际先进技术，尤其是自动化领域的最新发展。同时紧紧把握国际海事组织、国际主要船级社的最新规定，针对客户的实际需要，有针对性地研制、开发新产品、新技术。

本公司本着以顾客为先的宗旨，想顾客所想，急顾客所急，以自己先进的技术、优质的产品、快捷的服务、有竞争力的价格和真诚的售后服务赢得了广大客户的信赖和支持。请你们相信：现代自动化，永远是你们最可信赖的伙伴！



Marine & Offshore Approved Products/Systems

船舶专用液货舱监测及控制系统

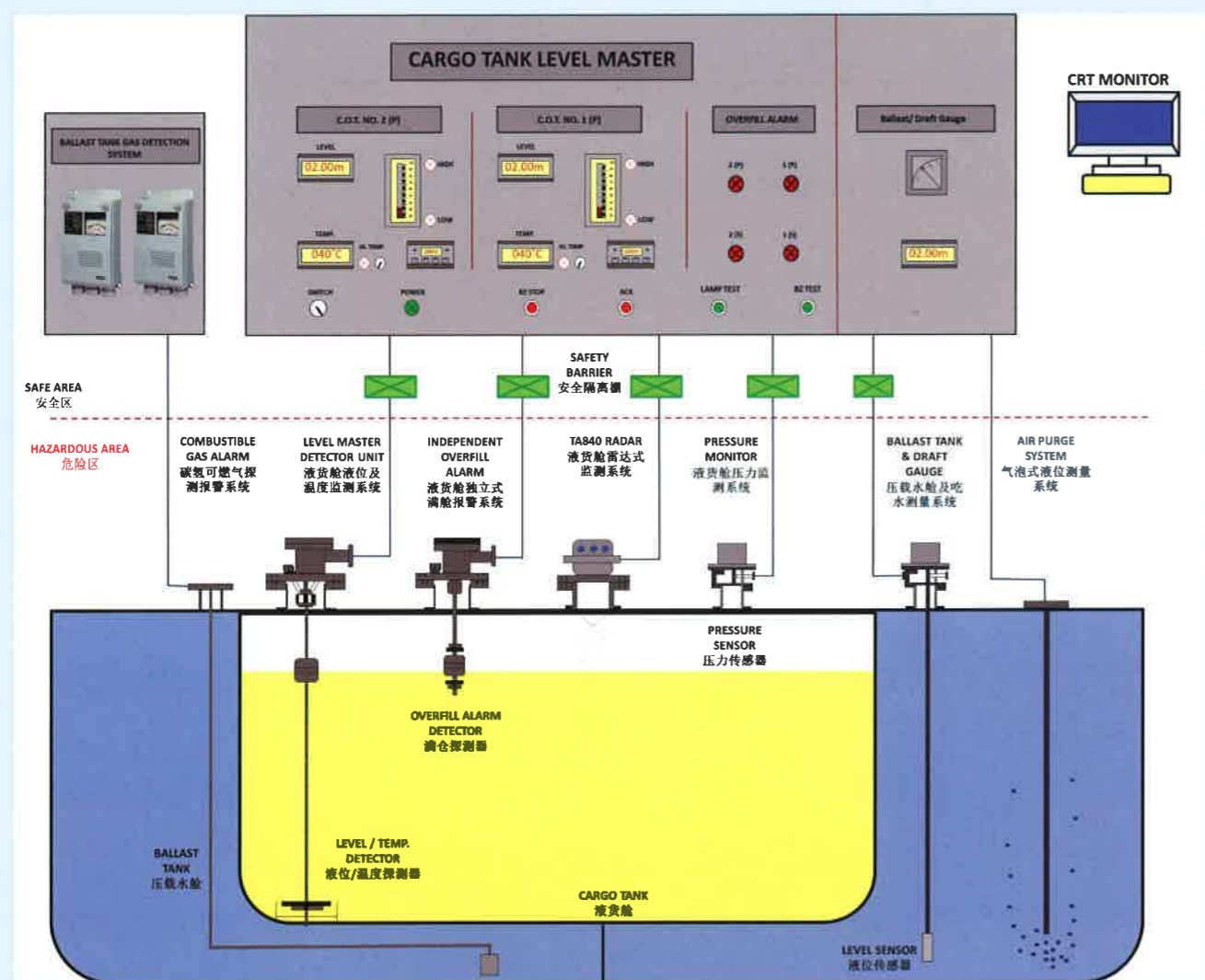
Type / Classification Approval by all major classification bodies

下列产品已通过国际主要船级社的型式认可和产品认证。

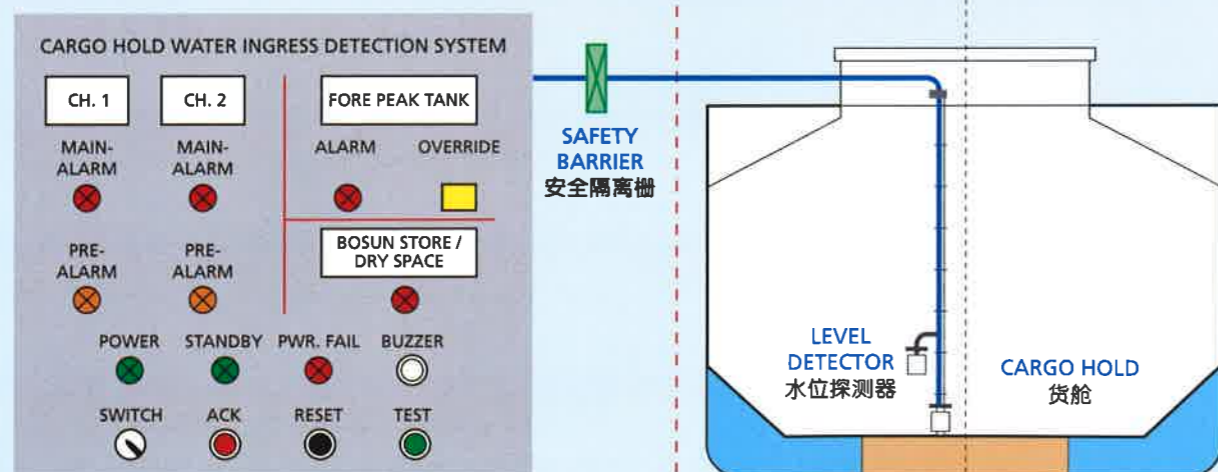
- 1) Cargo Tank Level & Temperature Monitoring System
液货舱液位与温度监测系统
- 2) Cargo Tank High Level & Overfill Alarm System
液货舱独立式高液位及满舱报警系统
- 3) Cargo Tank Pressure Monitoring System
液货舱压力监测系统
- 4) Cargo Hold Water Ingress Detection & Alarm System
货舱进水探测报警系统
- 5) Cargo Oil Pump Temperature Monitoring System
货油泵温度监测报警系统
- 6) Pump Room Gas Alarm – Combustible, H2S and Oxygen
货泵舱可燃气体探测报警系统
- 7) Pump Room Bilge Alarm System
货泵舱舱底水位报警系统
- 8) Boiler Automatic Combustible Control System (A.C.C.)
锅炉自动燃烧控制系统(A.C.C.)
- 9) Ballast Tank & Draft Gauging System
压载水舱及吃水测量系统
- 10) Ballast Tank Combustible Gas Alarm
压载水舱可燃气体探测报警系统
- 11) Vapour Emission Control System – Pressure & Oxygen
背压控制系统 - 压力及氧气
- 12) Bridge Navigation Watch Alarm System
驾驶室警报系统
- 13) Anemometer/ Anemometer Repeater with Audio & Visual Alarm
风速风向仪
- 14) Radar Type Tank Level Gauging System
液货舱雷达式监测系统
- 15) Manifold Pressure Monitoring System
装卸接管压力监测系统
- 16) Fire Detection System
火灾探测系统
- 17) Oil-in-Water Analyzing System in Hazardous Area/
Oil-in-Water Analyzing System for Water Discharge in Hazardous Area
油水分析系统（危险区）

Cargo Tank Level, Temperature & Pressure Monitoring System

液货舱液位、温度、压力监测系统



CARGO HOLD WATER INGRESS DETECTION 货舱进水探测报警系统



Cargo Tank Level, Temperature & Pressure Monitoring System

液货舱液位、温度、压力监测系统

TECHNICAL SPECIFICATION

LEVEL DETECTOR	
Measuring Principle	Magnetic Float with Reed Switch
Measuring Range	40 meters
Accuracy	±10mm
Specific Gravity	0.5 and above of liquid in tank
Operating Temperature	-40°C to +125°C
Enclosure	IP 56
Safety Approval	Intrinsically Safe, EEx ia IIC
Material of Construction	Flanges & Guide Pipe - SS316 Float - SS316L

TEMPERATURE SENSOR	
Measuring Principle	Two-Wire, IC Temp. Transducer
Measuring Range	-55°C to +150°C
Accuracy	±2°C

PRESSURE SENSOR	
Measuring Principle	Two-Wire, Piezoresistive Sensor
Measuring Range	-2000 to +4000mmH ₂ O
Accuracy	±30mmH ₂ O

OVERFILL LEVEL ALARM - 98%	
Measuring Principle	Magnetic Float with Reed Switch
Accuracy	±5mm
Alarm Level	95% and 98%
Operating Temperature	-25°C to +70°C
Enclosure	IP 56
Safety Approval	Intrinsically Safe, EEx ia IIC
Material of Construction	Flanges & Guide Pipe - SS316 Float - SS316/316L

TYPE APPROVAL	
Classification Societies	NK Type Approved and All class approved.

技术参数

液位探测器	
测量原理	磁浮干簧开关
测量范围	40 meters
测量精度	±10mm
介质比重	0.5 以上
操作温度	-40°C 至 +125°C
防护等级	IP 56
安全等级	本质安全, EEx ia IIC
材料	法兰及导管 - 不锈钢316 浮子 - 不锈钢316L

温度传感器	
测量原理	二线制芯片温度传感器
测量范围	-55°C 至 +150°C
测量精度	±2°C

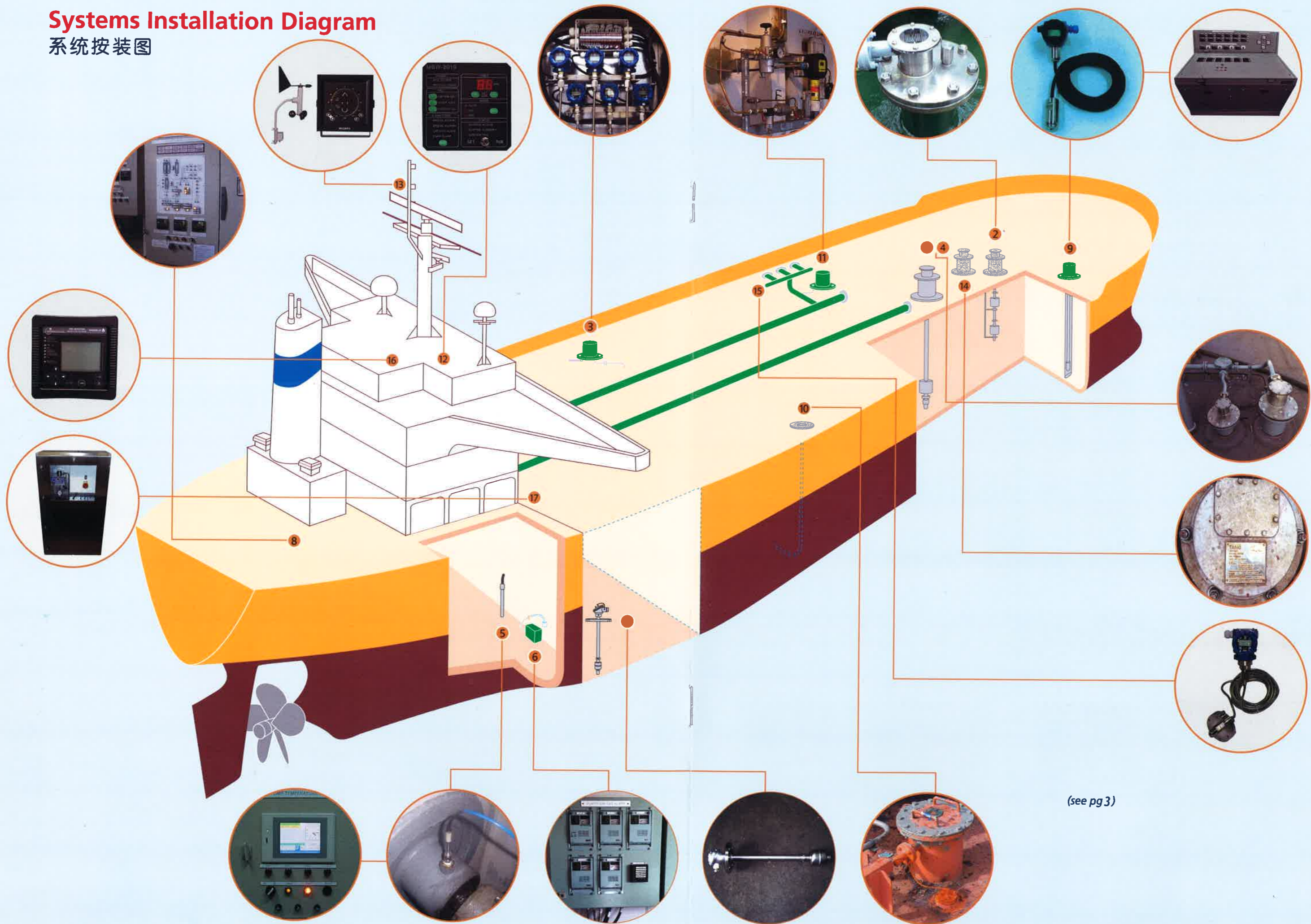
压力传感器	
测量原理	二线制应变电路阻片传感器
测量范围	-2000 至 +4000mmH ₂ O
测量精度	±30mmH ₂ O

满舱探测器 - 98%	
测量原理	磁浮干簧开关
测量精度	±5mm
报警值	95% 及 98%
操作温度	-25°C 至 +70°C
防护等级	IP 56
安全等级	本质安全, EEx ia IIC
材料	法兰及导管 - 不锈钢316 浮子 - 不锈钢316/316L

型式认可/认证	
船级社	日本船级社型式认可和主要船级社船检证书

Systems Installation Diagram

系统安装图



(see pg 3)

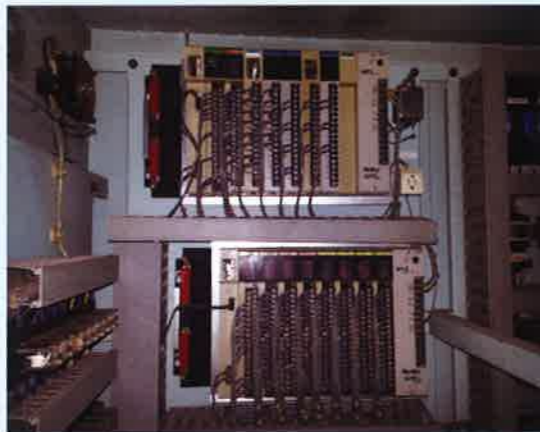
Turnkey Product / Project:

改装专案

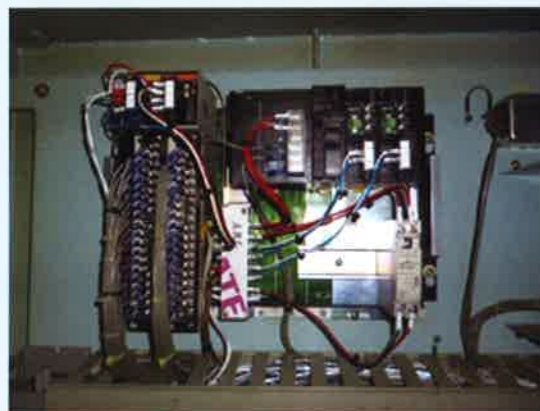
- 1) Complete Boiler Automatic Combustion & Feedwater System for Servicing and Retrofitting
锅炉自动化控制系统
- 2) MGO Modification
MGO 改良系统
- 3) Upgrade of Boiler/ IGS PLC
锅炉/惰气系统PLC的升级系统

Modification PLC from C1000H to CJ2M

Before Upgrading



After Upgrading



Automation Engineering Services

自动化工程服务

Providing excellence automation services for the following system :-
对于以下系统中提供卓越自动化服务

- 1) Cargo Tank Gauging System, Pressure System, High Level Alarm
液货船,液位,高液位报警,吃水测量
- 2) Oil Discharge Monitoring System
排油监控
- 3) Inert Gas System/ Inert Gas Generator & Oxygen Analyzer
惰性气体系统
- 4) Design Control Panel by P.L.C.
采用PLC程序控制器
- 5) Hydraulic Remote Control Valves System
阀门摇控
- 6) Fire and Smoke Detection System
火灾报警系统
- 7) Alarm Monitoring System
报警系统
- 8) Combustible Gas Alarm for Pump Room, Ballast Tank, Void Space
可燃气体探测报警系统,压载水舱,货泵舱
- 9) Calibration and Issue of Certificate for All kind of Portable Gas
固定式/便携式气体探测器
- 10) Detectors, Pressure/ Temperature Calibrator, Portable Level Gauging & Etc.
阀门摇控系统 - 由液压执行器/气动执行器
- 11) Design and Fabrication Of Cargo / Ballast Control Console
气动式液位计,吃水计
- 12) Pneumatic Tank Level Gauge, Draft Gauge
气动式变送器/控制器/控制阀
- 13) Viscosity Control System (Pneumatic or Electronic Type)
粘度控制系统 (气动或电子式)
- 14) Oil Content Meter Calibration
油水分离探测
- 15) Alarm Monitoring System
报警监控系统

Products - Sales & Service

产品 - 销售及维修

AZBIL/YAMATAKE

Pneumatic/Electronic Type
Controller, Transmitter & Control Valve
气动/电子式-控制器, 变送器和控制阀



Pressure, Temperature & Differential Type
压力, 温度和差压式

DECKMA HAMBURG GmbH

Oil-In-Water Monitor (Marine Type Approved)
油水检测仪 (船级社型式认可)



15 ppm Bilge Alarm Monitor
油水报警仪

TOKA

Fixed & Portable Type Gas Detector
固定和便携式可燃气体检测器
(NK Type Approved - 日本船级社型式认可)



Combustible & Oxygen Gas Detector
可燃气体和氧气检测器

Daiichi Nihon

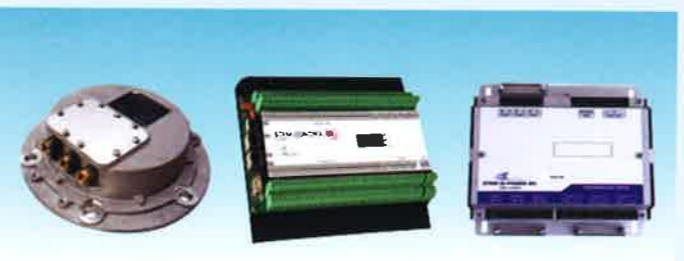
Oxygen Analyzer - for Inert Gas System
氧气成份分析仪-用于惰气系统



Zirconia Ceramic Type - Oxygen Analyzer
氧化锆类型-氧气分析仪

France Marine

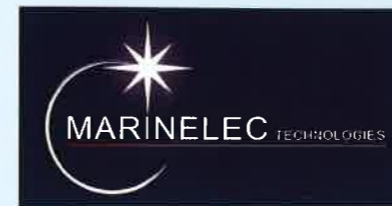
Radar Type Tank Level Gauging System
液货舱雷达式监测系统



TA840

Products - Sales & Service

产品 - 销售及维修



MODERN

Alarm Module,
Pressure Transmitter, Float Switch
报警仪

SPRIANO

Pneumatic / Electronic Type
Controller, Transmitter & Control Valve
气动/电子式-控制器, 变送器和控制阀

HYODA

Cargo Pump Distance Thermometer
温度传感器



Fire Detection & Monitoring System



G2000 Ambient Oil Mist Detector System
G1000 Smoke Density Monitor
G3500i Inert Gas Oxygen Analyzer



M-1600 MD-1016 DPM



Pressure, Temperature & Differential Type
压力, 温度和差压式



Cargo Pump Distance Thermometer
温度传感器