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# ABB

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ABB MDmax ST Low Voltage Switchgear Licensed Panel Builder

ABB MDrail-E 动力配电及控制箱/柜授权制造商  
ABB MDrail-E Power Distribution & Control Panel Licensed Panel Builder



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# 广州海亿电气有限公司

## Guangzhou Haiyi Eelectric Co., Ltd.

安全航行 电气护航  
SAFE NAVIGATION ELECTRIC ESCORT

## COMPANY PROFILE

公司介绍

## 安全航行 电气护航

公司简介  
COMPANY  
INTRODUCTION

广州海亿电气有限公司专业从事船用高低压电器成套设备、控制设备，以及自动化系统等相关产品的设计开发、生产制造和调试服务，是ABB在华南区唯一的MDmax ST盘柜授权制造商，公司相关产品已获得了ABS、DNV、CCS、BV、LR、RMRS、KR、NK、RINA等国际知名船级社的认可，广泛应用在豪华旅游船、客轮、江海滚装船、推拖轮、工程船、油船、海洋石油平台等，是国内领先的船舶电气配套企业。

Guangzhou Haiyi Electrical Co., Ltd. specializes in the design, development, production, manufacturing, and commissioning services of marine low-voltage and high-voltage electrical equipment sets, control equipment, and automation systems. Haiyi Electric is the sole manufacturer authorized by ABB for MDmax ST cabinets in the Southern China. The company's products have been approved by well-known international classification societies such as ABS, DNV, CCS, BV, LR, RMRS, KR, NK, and RINA. They are widely used in luxury tourist boats, passenger ships, river-sea roll-on/roll-off ships, tugboats, offshore vessels, oil tankers, and offshore oil platforms, the company is one of the leading marine electrical equipment suppliers in China.

产品：船用中低压配电板、应急配电板、分配电箱、充放电板、岸电箱、电工实验板、各类控制箱、组合起停屏、绝缘监测装置、电站自动化管理系统、机舱监控系统、阀门遥控系统、液位遥测系统、主机遥控系统等船用高低压成套设备和自动化系统。

Products: Marine medium and low-voltage distribution boards, emergency distribution boards, distribution boxes, charging and discharging boards, shore power boxes, electrical experiment boards, various control boxes, combined starting screens, insulation monitoring devices, power station automation management systems, engine room monitoring systems, valve remote control systems, liquid level remote measurement systems, engine remote control systems, etc. Marine medium and low-voltage complete sets of equipment and automation systems.

企业愿景  
CORPORATE  
VISION

科技智能，智慧船舶，引领海洋高端电气装备。

Technology-driven, intelligent ships, leading the way in high-end marine electrical equipment.

企业口号  
CORPORATE  
SLOGAN

安全航行，电气护航

Safe Navigation, Electric Escort

企业文化  
CORPORATE  
CULTURE

**技术创新：**海亿电气致力于技术创新，建立一支高素质的研发团队，不断在船舶电气领域进行技术创新和研发，如智能化技术、节能环保技术等。确保公司在竞争中保持领先地位。

**Technological Innovation:** Haiyi Electric is committed to technological innovation and has established a high-quality R&D team. We continuously conduct technological innovation and research in the field of ship electrical equipment, such as intelligent technology and energy-saving and environmental protection technology. This ensures that the company maintains a leading position in the competition.

**质量至上：**海亿电气注重产品质量，建立了严格的质量管理体系。从原材料采购到产品生产、检验、销售等各个环节都严格把关，确保产品的性能与质量符合国际和行业标准。

**Quality First:** Haiyi Electric pays great attention to product quality and has established a strict quality management system. From raw material procurement to product production, inspection, and sales, all links are strictly monitored to ensure that the performance and quality of the products meet international and industry standards.

**团队合作：**海亿电气注重团队合作的重要性。通过跨部门协作、项目团队合作等方式，提高工作效率和创新能力。公司倡导“团结、奋进、创新、务实”的企业精神，鼓励员工携手共进，共同推动公司发展。

**Teamwork:** Haiyi Electric places great emphasis on the importance of teamwork. Through cross-departmental cooperation, project team cooperation, etc., we aim to improve work efficiency and innovation capabilities. The company advocates the corporate spirit of "unity, progress, innovation, and practicality," encouraging employees to work together and jointly drive the company's development.

**客户至上：**海亿电气将客户放在首位，致力于为客户提供高质量的产品和优质的服务。公司文化可能倡导“客户至上”的经营理念，鼓励员工深入了解客户需求，积极回应客户关切，提高客户满意度和忠诚度。

**Customer First:** Haiyi Electric puts customers first and is committed to providing high-quality products and excellent services. The company culture may advocate the business philosophy of "Customer First," encouraging employees to deeply understand customer needs, actively respond to customer concerns, and improve customer satisfaction and loyalty.

**社会责任：**海亿电气积极履行社会责任，关注环境保护和可持续发展。在生产过程中严格遵循环保法规，降低能耗、减少排放，并积极参与公益活动，为社会做出贡献。

**Corporate Social Responsibility:** Haiyi Electric actively fulfills its corporate social responsibility by paying attention to environmental protection and sustainable development. During the production process, we strictly follow environmental regulations, reduce energy consumption and emissions, and actively participate in charitable activities to make contributions to society.

# PRODUCT INTRODUCTION

## 产品介绍



## Main Switchboard 配电板

### 系统介绍 SYSTEM OVERVIEW

主配电板为对船舶正常航行和生活使用的所有电力负载进行配电的开关设备和控制设备的组合装置,是适用于单台发电机或者多台发电机并联运行的电站系统。系统设备可实现对全船电力系统的发电和输配电的控制、保护、监测及管理,对发电机设备、负载设备、电站设备进行测量、监测、功率管理,以确保向全船电力系统可靠的供电,并且稳定的保障系统负载的正常使用。产品满足 CCS、DNV-GL、ABS、BV、NK、LR 等中外船级社规范、船舶行业标准及国家标准。

The main switchboard is a combined device consisting of switchgear and control equipment, which distributes all electrical loads for normal navigation and living use of the ship. It is a power station system applicable to a single generator or multiple generators operating in parallel. The system equipment can control, protect, monitor and manage the power generation, transmission and distribution of the whole ship's power system, measure, monitor and manage the generator equipment, load equipment and power station equipment, so as to ensure reliable power supply to the whole ship's power system and stable normal use of the system load. The products meet CCS, LR, DNV-GL, ABS, BV, NK and other Chinese and foreign classification society specifications, ship industry standards and national standards.

### 适用标准 STANDARDS

IEC 61439-1&2 低压成套开关设备和控制设备装配 第1部分:总则。 第2部分:功率开关设备和控制设备组合装置	IEC60439-1&2 Low-voltage switchgear and control gear assemblies- Part1:General rules. Part2:Power switchgear and control gear assemblies
IEC 60092 船舶中的电气装置	IEC 60092 Electrical installations in ships
IEC 60529 外壳提供的防护等级	IEC 60529 Degree of protection provided by enclosure
IEC 60068-2-11 基本环境试验程序- 第2部分试验-抗盐雾试验	IEC 60068-2-11 Basic environmental testing procedures Part2Tests-Test Ka Salt mist
IEC 60068-2-30 环境试验- 第2部分-30次试验-抗湿热能力,循环	IEC 60068-2-30 Environmental testing- Part2-30Tests-Test Db damp heat,cyclic
IEC 60068-2-6 环境试验- 第2部分-6次试验-抗振动能力(正弦曲线)	IEC 60068-2-6 Environmental testing Part2-6:Tests-Test Fc: Vibration(sinusoidal)
DNV、ABS、BV、CCS、GL、LR、RINA 等 各大船级社的规范要求	Specifications of major marine classification societies: DNV, ABS, BV, CCS, GL, LR, RINA, etc.
GB7251.1 低压成套开关设备和控制设备- 第一部分:型式试验和部分型式试验成套设备	GB7251.1 Low-voltage switchgear and control gear assemblies Part1:Type-tested partially type-tested assemblies

### 功能说明 FUNCTION DESCRIPTION



### PMS船舶智能化电站综合管理系统 Marine intelligent power station management system

PMS智能化的电站综合管理系统,对电力系统设备的协同管理,实现电能的供给最优化,使得电站系统电能分配的合理化,促进电站系统的可靠运行,实现电站的高效自动化运行。避免发生事故,减少人为操作的风险,降低用户使用及劳动强度。

PMS The intelligent power station management system is used to coordinate the management of power system equipment, realize the optimization of power supply, rationalize the power distribution of the power station system, promote the reliable operation of the power station system, and realize the efficient and automatic operation of the power station. Avoid accidents, reduce the risk of human operation, and reduce the user's use and labor intensity.

### 智能化配电及发电机控制系统 Intelligent power distribution and generator control system

控制系统可对发电机进行功率管理、短路、过载、逆功率、分级卸载等保护,并可实现自动并网、自动调频调载、发电机组自动启动等功能,在发电机运行过程中对各参数如V、A、cosθ、HZ、KW等进行检测和控制在。对一些越限参数可发出声光报警信号(如电网绝缘电阻过低、一级卸载、二级卸载等)。

The control system can protect the generator from power management, short circuit, overload, reverse power, graded unloading and other functions, and can realize automatic parallel operation, automatic frequency regulation and load regulation, automatic starting of generator set, etc. θ, HZ, KW, etc. Audible and visual alarm signals can be sent for some out-of-limit parameters (such as low insulation resistance of power grid, first-level unloading, second-level unloading, etc.).

### 电站系统控制模式及功能 Control mode and function of power station system

电站系统分为手动、半自动、自动等控制模式。对电站功率计算并根据要求及设定条件进行自主运行,可对发电机组的自动启停、并网解列、负荷分配、重载问询等按照设定要求可靠工作。

The power station system is divided into manual, semi-automatic and automatic control modes. The power of the power station is calculated and operated independently according to the requirements and set conditions. The automatic start and stop, grid connection and disconnection, load distribution, heavy load inquiry, etc. of the generator unit can be reliably operated according to the set requirements.

### 电站系统健康管理及功能 Health management and function of power station system

系统采用Modbus、TCP/IP等标准通讯协议,设置交互式的人机界面,智能化的绝缘检测及故障定位指示系统,负载设备的工况数据采集,电站运行设备的工况显示,配电设备单元的自检,故障的指示及关联显示等,保障系统健康运行,并且智能化的做出显示,并及时通知或联络用户解决。可与船舶监测报警管理系统进行通讯连接及交换数据。

The system adopts standard communication protocols such as Modbus, TCP/IP, etc., with interactive human-computer interface, intelligent insulation detection and fault location indication system, working condition data collection of load equipment, working condition display of power station operating equipment, self-inspection of power distribution equipment unit, fault indication and associated display, etc., to ensure the healthy operation of the system, and can intelligently display, and timely notify or contact users for solution. It can communicate with the ship monitoring alarm management system and exchange data.

## Wheelhouse Control Console

### 驾控台

#### 系统介绍

#### SYSTEM OVERVIEW

WHC驾驶室集中控制台是广州海亿公司吸取了多年设计,制造船用控制台的经验,在制造工艺,人体效能、工业设计、实际使用等多方面进行了优化。采用模块化设计及生产,满足诸如一人桥楼等各种设计要求。台型模块化设计生产,可适合不同船型,各种功能需求,根据不同船舶的操控特点和用户习惯,提供多种布置选择。台面可采用翻起式结构,方便维护。符合海事相关规范,满足中外各大船级社规范、船舶行业标准及国家标准。

The WHC cab centralized console is Guangzhou Haiyi Electric Co., Ltd., which has absorbed many years of experience in designing and manufacturing marine console, and has optimized the manufacturing process, human efficiency, industrial design, practical use and other aspects. Adopt modular design and production to meet various design requirements such as one-man bridge. The platform type modular design and production can be suitable for different ship types and various functional requirements. The countertop can adopt a flip up structure for easy maintenance. According to the operating characteristics and user habits of different ships, it can provide a variety of layout options. Comply with the relevant maritime regulations, and meet the specifications of major classification societies at home and abroad, ship industry standards and national standards.

WHC驾控台是船舶安全航行、操控的核心装置。以“集中控制、方便操作、模块化组合、布置合理、美观实用、符合人机工程要求,满足舱室整体布局”为原则进行设计的控制台在外形款式上美观新颖,大方得体,适应最新潮流。控制台整体布局整洁清晰,巧妙合理,操作维修方便,实用可靠,广泛应用于各类型船舶的驾驶室。

WHC driving console is the core device for safe navigation and control of ships. The console designed based on the principle of "centralized control, convenient operation, modular combination, reasonable layout, beautiful and practical, meeting the ergonomic requirements, and meeting the overall layout of the cabin" is beautiful and novel in appearance and style, generous and appropriate, and adapts to the latest trend. The overall layout of the console is neat and clear, ingenious and reasonable, easy to operate and maintain, practical and reliable, and widely used in the cabs of various types of ships.



## Engine Control Console

### 集控台

#### 系统介绍

#### SYSTEM OVERVIEW

ECC型机舱集中集控台是船舶机舱区域自动化设备集中操控的核心装置。采用集中控制、方便操作、模块化组合、布置合理、美观实用、符合人机工程的要求,满足舱室整体布局为原则进行设计的控制台在外形款式上美观新颖,大方得体,适应最新潮流。控制台整体布局整洁清晰,巧妙合理,操作维修方便,实用可靠,广泛应用于各类型船舶的机舱和集控室。

ECC engine room centralized control console is the core device for centralized control of automatic equipment in ship engine room area. The console designed with the principle of centralized control, convenient operation, modular combination, reasonable layout, beautiful and practical, in line with the requirements of ergonomics, and meeting the overall layout of the cabin, is beautiful and novel in appearance and style, generous and appropriate, and adapts to the latest trend. The overall layout of the console is neat and clear, ingenious and reasonable, easy to operate and maintain, practical and reliable, and widely used in the engine room and central control room of all types of ships.

ECC型机舱集中集控台主要对船舶主机以及机舱轮机自动化设备单元的监测及报警,对重要设备集中管理,并可最大化的降低船员劳动强度。集控台可根据用户实际要求定制,可满足各大船级社对机舱自动化的标准要求。机舱控制台整体布局整洁清晰,巧妙合理,操作维修方便,实用可靠,广泛应用于各类型船舶的监控室。

ECC engine room centralized control console is mainly used to monitor and alarm the main and auxiliary engines of the ship and the automatic equipment unit of the engine room, and to centrally manage the important equipment, and can minimize the labor intensity of the crew. The centralized control console can be customized according to the actual requirements of users, and can meet the standard requirements of major classification societies for engine room automation. The overall layout of the engine room console is neat and clear, ingenious and reasonable, easy to operate and maintain, practical and reliable, and widely used in the monitoring room of all types of ships.



## BowThruster Starter 侧推启动柜

HY-TS1000系列自耦降压启动柜

HY-TS1000 Series Auto-Transformer Thruster Starter

HY-TS2000系列软启动柜

HY-TS2000 Series Soft Thruster Starter

HY-TS3000系列变频器启动柜

HY-TS3000 Series Variable Speed Drive Starter

额定绝缘电压(Ui) Rated insulation voltage (Ui)	1000V AC
额定电压(Ue) Rated voltage (Ue)	690V AC max
额定功率(Pn) Rated Power (Pn)	2000KW max



## Motor Starter 电机启动器

1. 安装方式: 挂壁式/落地式

2. 防护等级: IP44

3. 维修可接近性: 前面

4. 材料: 钢板/不锈钢

5. 启动方式: DOL-直接启动、AT-自耦变压器、SD-星三角启动。

1. Installation: Wall-mounted/Floor-standing

2. Protection: IP44

3. Access: Front

4. Material: Sheet Steel/Stainless Steel

5. Starting Method: DOL-Direct Online, AT-Autotransformer, SD-Star Delta.



## Shore Connection Box 岸电箱

1. 安装方式: 挂壁式/落地式

2. 防护等级: IP44

3. 维修可接近性: 前面

4. 材料: 钢板/不锈钢

5. 电缆进口: 电缆填料函

6. 额定电压: AC690V max/DC24V

1. Installation: Wall-mounted/Floor-standing

2. Protection: IP44

3. Access: Front

4. Material: Sheet Steel/Stainless Steel

5. Cable Entry: Cable Glands

6. Rated Voltage: AC690V max/DC24V



## Power Distribution Board 配电箱

1. 安装方式: 壁挂式

2. 防护等级: IP44/IP56

3. 维修可接近性: 前面

4. 材料: 钢板/不锈钢

5. 功能描述: 自动相序转换、欠压保护、过流保护

6. 额定电流: 63A~2000A

1. Installation: Wall-mounted

2. Protection: IP44/IP56

3. Access: Front

4. Material: Sheet Steel/Stainless Steel

5. Function Description: Automatic phase sequence reversal, Under-voltage protection, Over-current protection.

6. Rated Current: 63A~2000A



## Electrician Test Panel 电工试验板

1. 安装方式: 落地式

2. 防护等级: IP23/IP44

3. 维修可接近性: 前面

4. 材料: 钢板

5. 额定电压: DC24V

6. 充电电流: 10A-60A

1. Installation: Floor-standing

2. Protection: IP23/IP44

3. Access: Front

4. Material: Sheet Steel

5. Rated Voltage: DC24V

6. Charging Current: 10A-60A



## Charging&Discharging Panel 充放电板

1. 安装方式: 落地式

2. 防护等级: IP44

3. 维修可接近性: Front 前面

4. 材料: Sheet Steel 钢板

5. 功能描述: 电流表、电压表、380V/220V/DC24V插座螺口灯座、接线柱端子测试、荧光灯。

1. Installation: Floor-standing

2. Protection: IP44

3. Access: Front

4. Material: Sheet Steel

5. Function Description: Ammeter, Voltmeter, 380V/220V/DC24V sockets, Screw lamp holder, Terminal block for testing, Fluorescent lamp.



## Shore Power Connection Box

### 变频岸电箱

#### 系统介绍

#### SYSTEM OVERVIEW

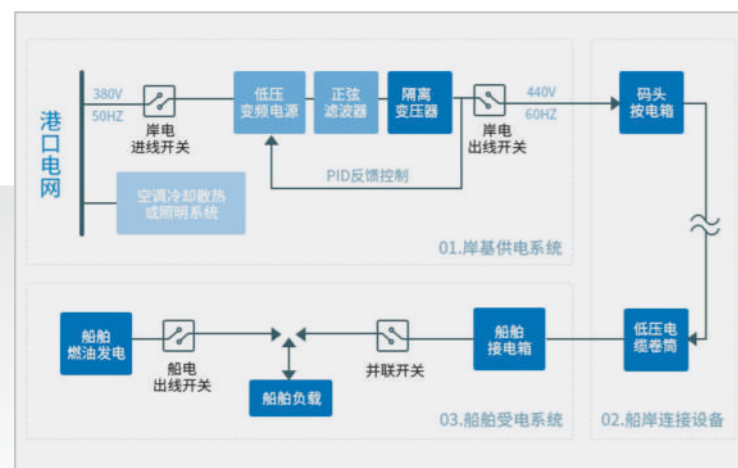
海亿岸电变频岸电箱产品是针对港口船舶负载用电需求自主研发,设计,生产的高性能专用变频电源,产品以变频器作为研发设计平台,程序经特别优化为电源专用型,技术成熟,质量可靠,稳定性好,涵盖了港口电网0.38kV, 6kV, 10kV等多个电压等级,完全能适应客户不同的电源制式要求,广泛应用于船上、船舶制造及修理厂、远洋钻井平台、岸边码头等需要由50Hz工业用电变为60Hz高质量稳频稳压电源,对船舶用电设备进行供电的场合。

Haiyi Electric shore power products are high-performance dedicated frequency conversion power supplies independently researched, designed and produced for the needs of ship load power in ports. The products take frequency converter as the research and development design platform, and the program is specially optimized for the power supply special type, with mature technology, reliable quality and good stability, covering the port power grid 0.38kV, 6kV, 10kV and other voltage levels. It can fully adapt to the requirements of different power supply systems of customers, and is widely used in ships, Marine manufacturing and repair plants, ocean drilling platforms, shore wharfs, etc., which need to change from 50Hz industrial electricity to 60Hz high-quality frequency and voltage stable power supply to supply power to Marine electrical equipment.

#### 产品特点

#### PRODUCT CHARACTERISTICS

- \* 输出闭环控制技术
- \* Output closed loop control technology
- \* 共直流母线设计
- \* Common DC bus design
- \* 专用滤波器
- \* Special filter
- \* 单元模块化设计
- \* Unit modular design



## Engine Control Panel

### 发动机仪表箱

#### 系统介绍

#### SYSTEM OVERVIEW

柴油机控制箱集成了数字化、智能化、网络化技术,用于单台柴油发动机自动化及监控系统,实现了柴油发动机的遥控、本地开机/停机、数据测量、报警保护功能;

The diesel engine control box integrates digital, intelligent and networked technology for a single diesel engine automation and monitoring system, realizing the diesel engine remote control, local startup/shutdown, data measurement, alarm protection functions;

#### 性能和特点

#### PERFORMANCE AND CHARACTERISTICS

1. 可以通过REMOTE(CANBUS)接口来实现远端监控,实现远程控制发动机;
  2. 具有RS485通信接口和USB通信接口,通过PC机安装监控软件可通过MODBUS协议实现数据通信功能;
  3. 控制保护功能:实现对柴油发动机远控/机旁模式下的开机/停机、报警保护功能。
  4. 具有越控模式:在越控模式时只有超速停机和紧急停机才能使发动机停止;
  5. 参数设置功能:允许用户对其参数进行更改设定,同时记忆在内部FLASH存储器内,在系统掉电时也不会丢失;
  6. 有电阻型传感器和4-20mA传感器输入,每一路传感器都能设置各种保护参数,对测试点进行多重保护;
  7. 内置速度检测环节,可精确地判断启动成功、额定运行、超速状态;
  8. 具备双电源监测及切换功能,根据设置切换电压控制外部接口来实现电源供电切换;
1. REMOTE monitoring can be achieved through the REMOTE(CANBUS) interface to achieve remote control of the engine;
  2. With RS485 communication interface and USB communication interface, monitoring software installed on a PC can achieve data communication function through MODBUS protocol;
  3. Control protection function: To achieve the diesel engine remote control/machine side mode of startup/shutdown, alarm protection function.
  4. With overcontrol mode: In overcontrol mode, only overspeed stop and emergency stop can stop the engine;
  5. Parameter setting function: allow the user to change its parameter Settings, while memory in the internal FLASH memory, in the system power failure will not be lost;
  6. There are resistance sensor and 4-20mA sensor input, each sensor can set a variety of protection parameters, multiple protection of the test point;
  7. Built-in speed detection link, can accurately judge the successful start, rated operation, overspeed state;
  8. With dual power monitoring and switching function, according to the setting of switching voltage control external interface to achieve power supply switching;



# Power Management System

## 电站自动化管理系统

### 系统介绍

#### SYSTEM OVERVIEW

HY-PMS电站自动化管理系统是船舶自动化技术的核心组成部分,通过自动监测、控制和保护船舶电站,确保船舶的供电正常和安全运行。船舶电站自动化管理系统具有智能化、集成化和网络化的控制和管理,为船舶的安全航行提供有力保障。

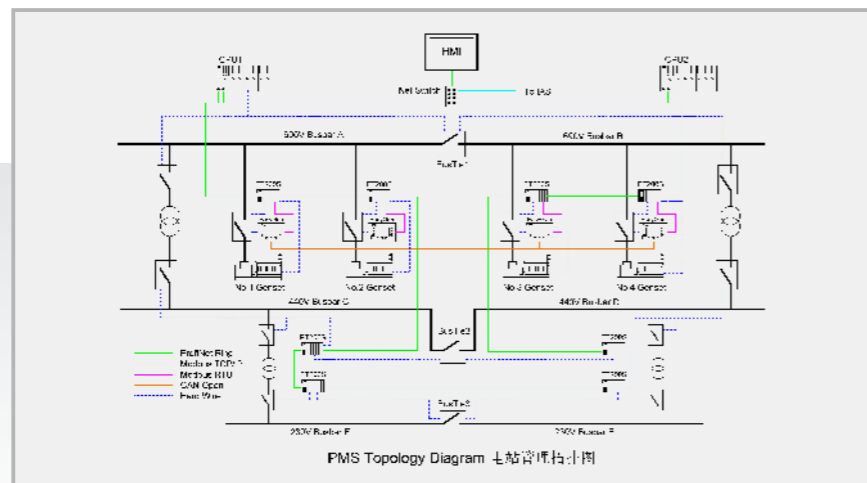
HY-PMS Power Plant Automation Management System is a key component of ship automation technology, which automatically monitors, controls, and protects the ship's power plant to ensure the normal and safe operation of the ship. The ship's power plant automation management system has intelligent, integrated, and networked control and management, providing a strong guarantee for the safe navigation of the ship.

### 系统功能

#### SYSTEM FUNCTIONS

- 1.发电机组的自动启停:根据船舶的用电需求,自动启动或停止发电机组,确保电站的供电正常。
- 2.发电机组的自动并车:通过采集电压、频率等参数,自动实现发电机组的并联运行,提高电站的供电能力。
- 3.功率自动分配与频率调整:在并联运行状态下,自动调整各发电机组的输出功率,维持电网频率的稳定。
- 4.重载询问功能:在大功率负荷启动前,自动判断电网负荷与启动的大功率负荷是否超过运行机组的最大允许负荷率,以确保电站的安全运行。
- 5.故障处理与报警:实时监测电站的各项参数和设备状态,一旦发现故障或异常情况,立即发出报警信号,并自动采取相应的处理措施。
- 6.运行参数的监视与修改:支持对电站运行参数的实时监视和在线修改,方便船员根据实际需求进行调整。

1. Automatic start-up and shut-down of the generator set: Based on the ship's power demand, the generator set is automatically started or stopped to ensure normal power supply for the power station.
2. Automatic parallel operation of the generator set: By collecting parameters such as voltage and frequency, the generator set is automatically operated in parallel to improve the power station's power supply capacity.
3. Automatic power allocation and frequency adjustment: In the parallel operation state, the output power of each generator set is automatically adjusted to maintain the stability of the grid frequency.
4. Heavy load inquiry function: Before a large power load is started, the system automatically judges whether the grid load and the starting large power load exceed the maximum allowable load rate of the operating generator set to ensure the safe operation of the power station.
5. Fault handling and alarm: Real-time monitoring of the power station's various parameters and equipment status. As soon as a fault or abnormal situation is detected, an alarm signal is immediately issued, and the system automatically takes corresponding measures.
6. Monitoring and modification of operating parameters: Supports real-time monitoring and online modification of power station operating parameters for crew members to adjust according to actual needs.



# Propulsion Control System

## 推进控制系统

### 系统介绍

#### SYSTEM OVERVIEW

HY-PCS推进遥控系统是适合于所有船舶和。推进遥控包含操控,主机安全信息显示,轴转速/螺距指示,车钟和电子调速器功能。推进遥控系统接收位于驾控室和集控的在控手柄的指令。远程遥控提供推力(轴转速/螺距)设定点和激活启动、停止和反转机制。可操纵推进器(全回转控制)也可由推进遥控系统支持;

The HY-PCS Remote Control System for Propulsion is suitable for all types of vessels. The propulsion remote control includes operational control, engine safety information display, shaft speed/pitch indicator, car clock, and electronic governor functions. The propulsion remote control system receives commands from the control handles located in the bridge and CCP. The remote control provides thrust (shaft speed/pitch) setpoints and activates start, stop, and reverse mechanisms. The propeller can also be controlled (full-turn control) by the propulsion remote control system;

### 系统构成

#### SYSTEM COMPOSITION

PCS操纵杆面板安装在驾控台,两翼驾控台和ECR控制台上

PCS操作面板安装在驾控台,两翼驾控台和ECR控制台上

PCS控制器安装在PCS控制柜,驾控台和ECR控制台上

带电力分配的PCS三重电源供电(可选)

非随动控制(选配)

轴转速,螺距和转向显示(选配)

紧急车钟系统(选配)

PCS joystick panel is embedded in the control console, wing control console, and ECR control panel

PCS operation panel is embedded in the control console, wing control console, and ECR control panel

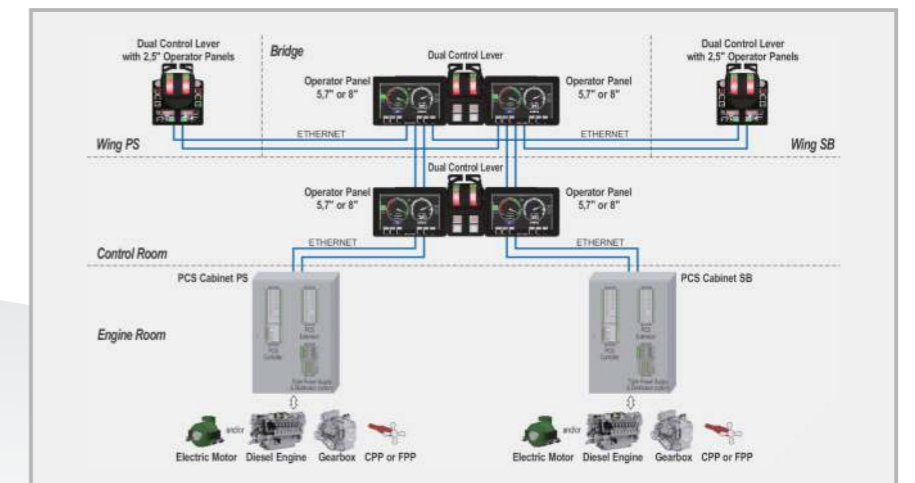
PCS controller is installed in the PCS control cabinet, control console, and ECR control panel

PCS triple power supply with power distribution (optional)

Non-following control (optional)

Shaft speed, pitch, and steering display (optional)

Emergency car bell system (optional)



# Propulsion Control System

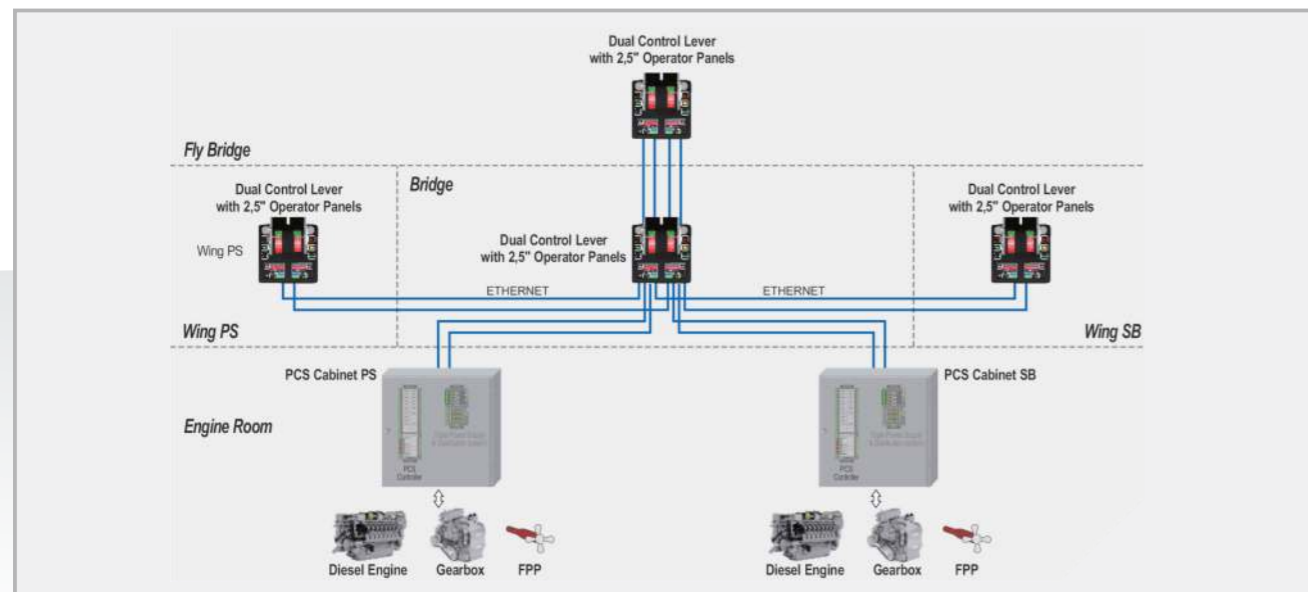
## 推进控制系统

### 系统功能

#### SYSTEM FUNCTIONS

- 1.远程操控:允许船员在远离推进设备的位置进行操纵,提高了安全性和便利性。
- 2.精确控制:通过先进的算法和传感器,实现对推进设备的精确控制,确保船舶按照预期轨迹和速度航行。
- 3.故障诊断与报警:实时监测推进设备的状态,一旦检测到故障或异常情况,立即触发报警,并可能提供故障诊断信息。

- 1.Remote Control: Allows crew members to operate the propulsion equipment from a distance, improving safety and convenience.
- 2.Precise Control: Achieves precise control of the propulsion equipment through advanced algorithms and sensors, ensuring the vessel follows its intended trajectory and speed.
- 3.Fault Diagnosis and Alarm: Continuously monitors the status of the propulsion equipment and triggers an alarm immediately upon detecting a fault or abnormal condition. May also provide fault diagnosis information.
- 4.Data Recording and Analysis: Records the operational data of the propulsion equipment,



# Alarm & Monitoring System

## 综合报警系统

### 系统介绍

#### SYSTEM OVERVIEW

HY-AMS机舱监测报警系统通过安装在机舱各处的传感器和检测装置,实时采集各种物理参数(如温度、压力、转速、液位、振动等)和电气参数(如电压、电流、功率等),并将这些参数传输到中央处理单元进行分析和处理。系统会根据预设的阈值和逻辑判断条件,对异常参数进行识别,并触发相应的报警机制。

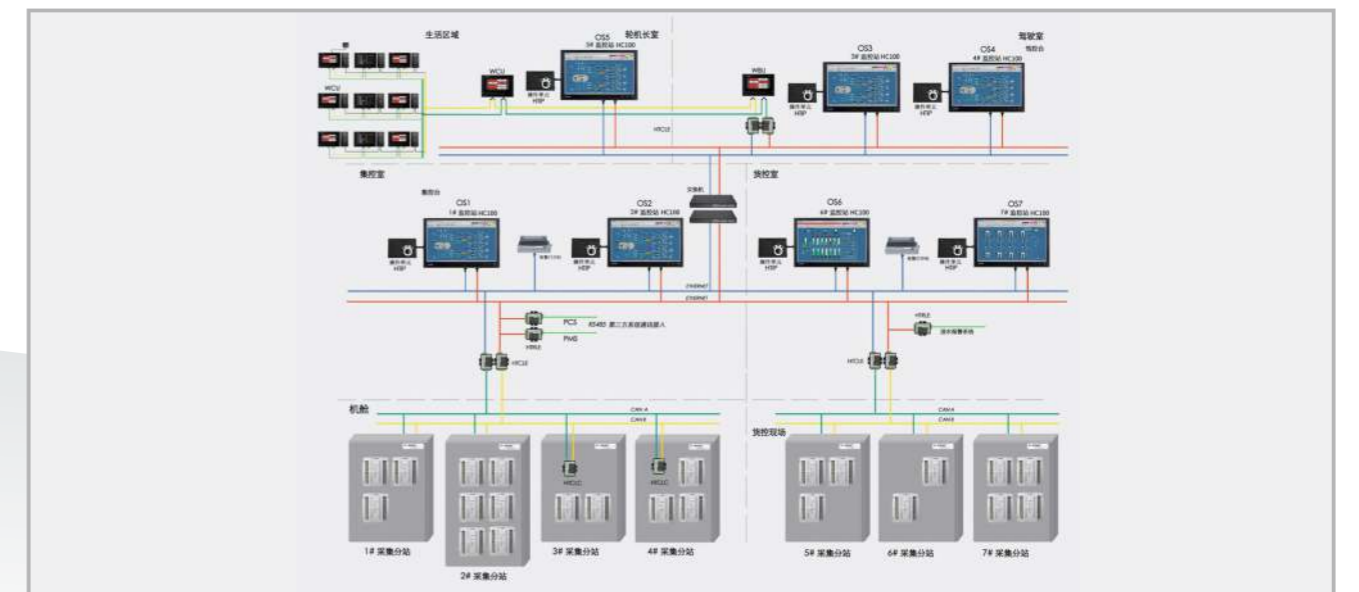
The HY-AMS cabin monitoring and alarm system collects real-time data from various physical parameters (such as temperature, pressure, speed, liquid level, and vibration) and electrical parameters (such as voltage, current, and power) through sensors and detectors installed in various locations of the cabin. The collected data is transmitted to the central processing unit for analysis and processing. The system identifies abnormal parameters based on pre-set threshold values and logical judgment conditions, and triggers corresponding alarm mechanisms.

### 系统功能

#### SYSTEM FUNCTIONS

- 1.实时监测与显示:实时显示机舱内各设备和系统的运行状态和参数。
- 2.报警与通知:在检测到异常或故障时,立即发出声光报警,并可通过通信网络向船员发送报警信息。
- 3.故障定位与诊断:根据报警信息,帮助船员快速定位故障点,并提供初步的故障诊断建议。
- 4.历史数据记录与分析:记录机舱内各设备和系统的历史运行数据,为故障分析和性能优化提供依据。
- 5.远程监控与诊断:通过远程通信技术,实现机舱状态的远程监控和故障诊断。

- 1.Real-time Monitoring and Display: Real-time display of the operating status and parameters of equipment and systems in the engine room.
- 2.Alarm and Notification: Immediate sound and light alarm will be issued when abnormalities or faults are detected, and alarm information can be sent to crew members via communication network.
- 3.Fault Location and Diagnosis: Based on the alarm information, it helps crew members quickly locate the fault point and provides initial fault diagnosis suggestions.
- 4.Historical Data Record and Analysis: Records the historical operating data of equipment and systems in the engine room, providing basis for fault analysis and performance optimization.
- 5.Remote Monitoring and Diagnosis: Real-time monitoring and fault diagnosis of the engine room status can be achieved through remote communication technology.



# Valve Remote Control System

## 阀门遥控系统

### 系统介绍

#### SYSTEM OVERVIEW

HY-VRCS阀门遥控系统由遥控操纵台、信号传输系统、控制单元和执行机构等部分组成。遥控操纵台安装在驾驶台或集中控制室，供船员输入操作指令；信号传输系统负责将指令传输到控制单元；控制单元接收指令后，通过执行机构对阀门进行控制。

The HY-VRCS valve remote control system consists of a remote control console, a signal transmission system, a control unit, and an actuator. The remote control console is installed in the bridge or central control room for operators to input operation instructions. The signal transmission system is responsible for transmitting instructions to the control unit. The control unit receives the instructions and controls the valves through the actuator.

### 系统功能

#### SYSTEM FUNCTIONS

1. 远程操控：船员可以在驾驶台或集中控制室对阀门进行远程操控。
2. 状态监测：实时监测阀门的状态，如开启程度、关闭状态等。
3. 故障报警：当阀门出现故障或异常时，系统自动触发报警。

1. Remote control: crew members can operate valves remotely from the bridge or central control room.
2. Status monitoring: real-time monitoring of valve status, such as the degree of opening and closing status.
3. Alarm: when a valve malfunctions or shows abnormalities, the system automatically triggers an alarm.



# Liquid Level Gauging System

## 液位遥测系统

### 系统介绍

#### SYSTEM OVERVIEW

HY-LLGS液位遥测系统用于监测船舶各液舱的液位高度、温度等参数。通过安装在液舱内的传感器采集数据，并将数据传输到驾驶台或集中控制室进行显示和记录。液位遥测系统主要由传感器、信号传输系统、数据处理单元和显示装置等部分组成。传感器负责采集液舱内的液位和温度数据；信号传输系统将数据传输到数据处理单元；数据处理单元对数据进行处理和分析后，通过显示装置进行展示。

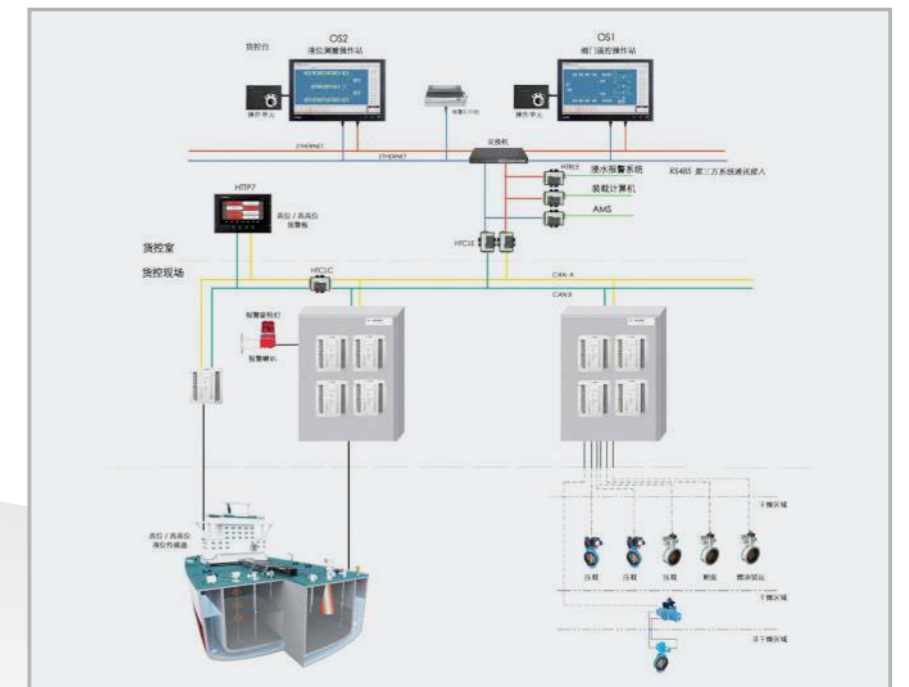
The HY-LLGS Liquid Level Remote Measurement System is used to monitor the liquid level and temperature of various liquid tanks on a vessel. Data is collected by sensors installed in the liquid tanks and transmitted to the bridge or central control room for display and recording. The liquid level remote measurement system mainly consists of sensors, signal transmission systems, data processing units, and display devices. The sensors are responsible for collecting liquid level and temperature data in the liquid tanks. The signal transmission system transmits the data to the data processing unit. The data processing unit processes and analyzes the data and displays it through the display device.

### 系统功能

#### SYSTEM FUNCTIONS

1. 液位监测：实时监测各液舱的液位高度，确保船舶的稳定性。
2. 温度监测：监测液舱内的温度，防止温度过高或过低对液体造成损害。
3. 报警功能：当液位或温度超出预设范围时，系统自动触发报警。

1. Liquid Level Monitoring: Real-time monitoring of liquid levels in each liquid tank to ensure stability of the vessel.
2. Temperature Monitoring: Monitoring of temperature in liquid tanks to prevent damage to the liquid due to high or low temperatures.
3. Alarm Function: Automatic triggering of an alarm when liquid level or temperature exceeds the predetermined range.



# Fuel Oil Monitoring System

## 燃油监控系统

### 系统介绍 SYSTEM OVERVIEW

远程燃油监控系统是一个岸船监控系统。这个系统让使用者能够收集到海上每条船的燃油状况及其它重要的数据。同时，它也允许船队管理者在一个集中监控办公室里监控到这些指定的信息。

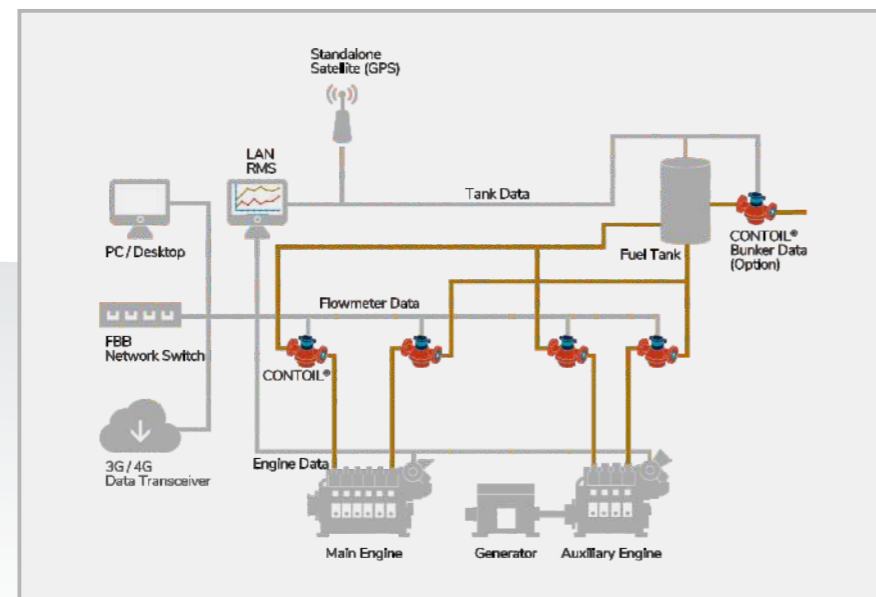
FRMS a special shore-to-ship monitoring system which enables the Owners to collect fuel status and other essential data of each vessel at sea and which also allows the Fleet

这个系统包括了流量传感器, 数据处理单元, 船载服务器, INMARSAT C站(FBB), 船队管理者终端。  
This system includes flow sensors, data process unit, ship server, INMARSAT C station (FBB), fleet commander terminal.

根据每条船的具体情况, 提供四个解决方案给使用者。  
We provide the Owner with four packages of the system which includes solutions to different types of vessels.

我们给船队管理者提供监控软件, 它自动读取邮件信息, 从中把每条船的燃油状态及其它重要信息, 以图形化的界面形式显示给使用者。

We provide the software package to read the reporting emails automatically for the fleet commander terminal, by which the commander could monitor the fuel status and other essential data of each vessel.



# Insulation Monitoring System

## 绝缘监测系统

### 系统介绍 SYSTEM OVERVIEW

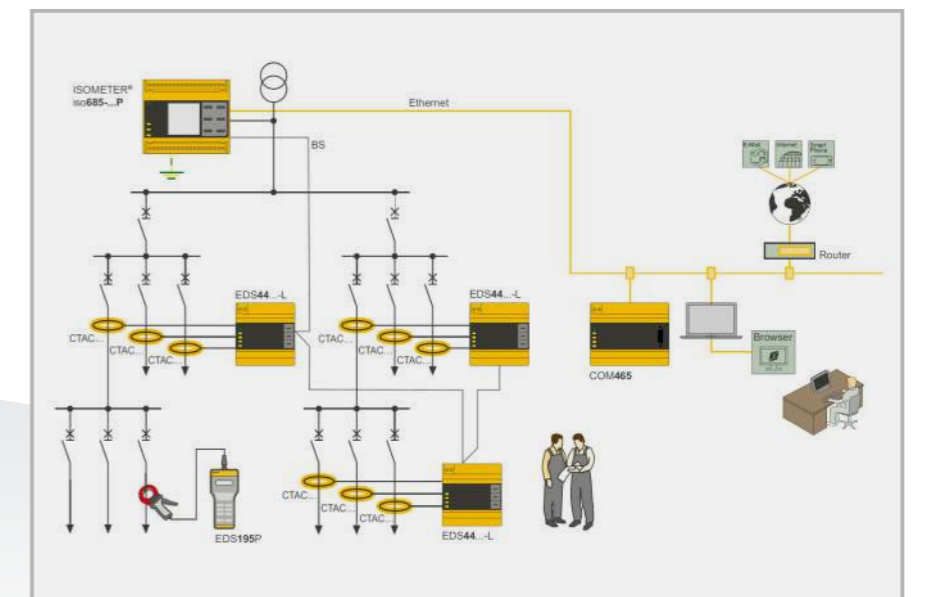
HY-IMS绝缘监测系统通过连续或定期地测量电气系统各回路对地的绝缘电阻, 来评估系统的绝缘性能。该系统能够及时发现绝缘材料的老化、损坏或受潮等导致的绝缘性能下降, 从而预防电气短路、漏电等安全隐患。

The HY-IMS insulation monitoring system continuously or periodically measures the insulation resistance between each circuit and ground in an electrical system to evaluate the system's insulation performance. The system can detect a decline in insulation performance due to aging, damage, or moisture of insulation materials, thereby preventing electrical short circuits, leakage, and other safety hazards.

### 系统功能 SYSTEM FUNCTIONS

- 1.实时监测: 系统能够实时监测电气系统的绝缘状态, 确保及时发现潜在的安全隐患。
- 2.高精度测量: 采用先进的测量技术, 确保绝缘电阻的测量结果准确可靠。
- 3.故障定位: 系统能够定位到具体的故障回路或设备, 便于船员快速进行故障排查和修复。
- 4.报警功能: 当绝缘电阻值低于预设阈值时, 系统会自动发出报警信号, 提醒船员采取紧急措施。
- 5.数据记录与分析: 系统能够记录历史数据, 并进行趋势分析, 帮助船员了解电气系统绝缘性能的变化趋势。

- 1.Real-time Monitoring: The system can monitor the insulation status of the electrical system in real-time to ensure timely detection of potential safety hazards.
- 2.High-precision Measurement: Advanced measurement technology is used to ensure accurate and reliable measurement of insulation resistance.
- 3.Fault Location: The system can locate specific fault circuits or equipment, making it easy for crew members to quickly identify and repair faults.
- 4.Alarm Function: When the insulation resistance value falls below the predetermined threshold, the system will automatically issue an alarm signal to remind crew members to take emergency measures.
- 5.Data Recording and Analysis: The system can record historical data and perform trend analysis to help crew members understand the trend of the electrical system's insulation performance.



# IMPORTANT CUSTOMER

重要客户

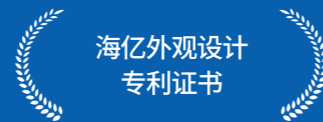
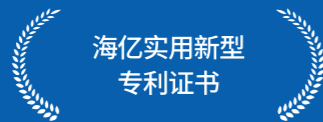

# EQUIPMENT DISPLAY

设备展示

	<p>全自动电脑裁线剥线机</p> <p>Automatic computer wire stripping and cutting machine</p>
	<p>数控母线冲剪机</p> <p>CNC Busbar punching &amp; shearing machine</p>
	<p>数控母线折弯机</p> <p>CNC Busbar servo bending machine</p>
	<p>数控折弯机</p> <p>CNC Bending Machine</p>
	<p>自动切线压接机</p> <p>Automatic wire crimping machine</p>

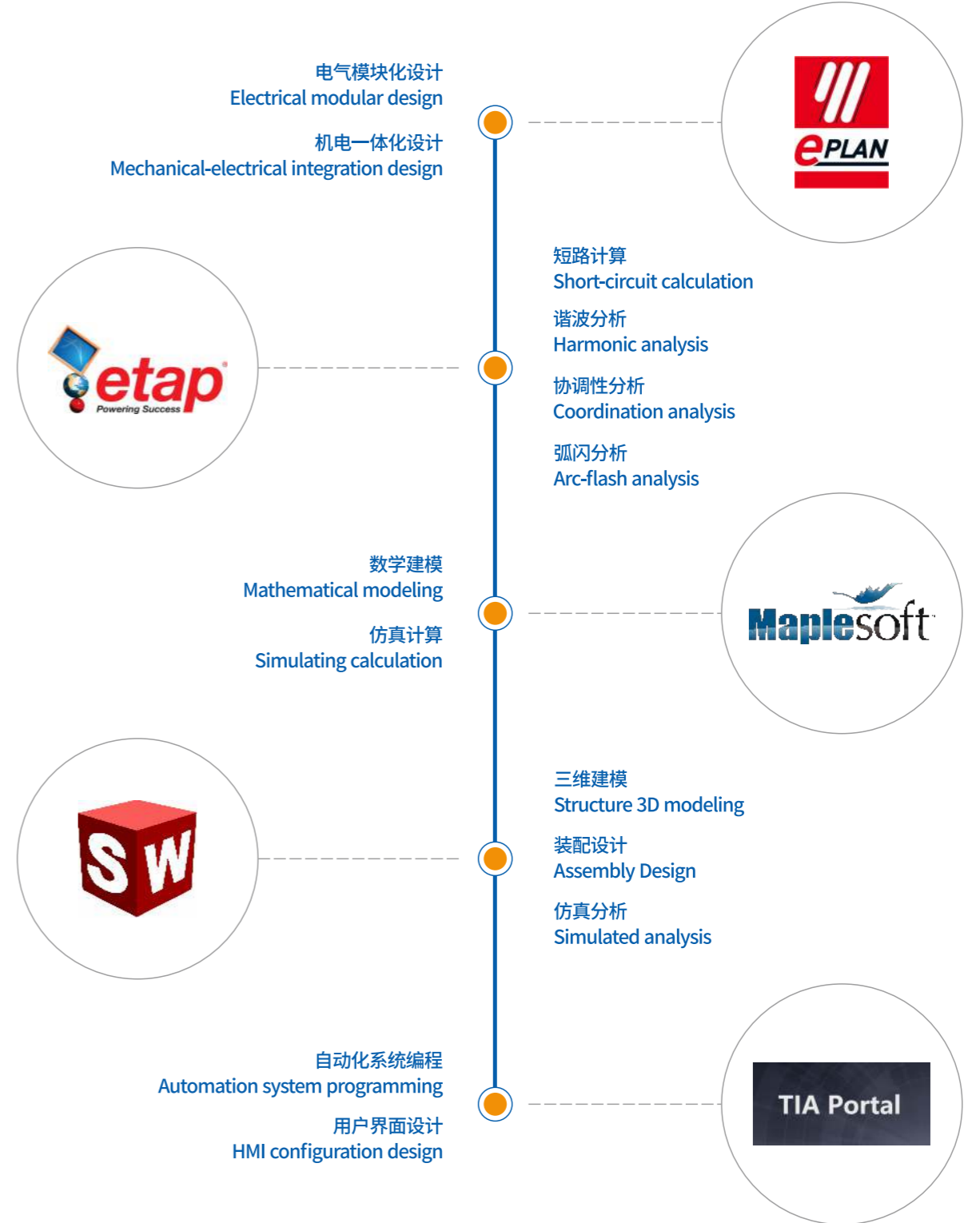
# CORPORATE CERTIFICATES

公司证书



# DESIGN SOFTWARE

设计软件



# CLASSIFICATION SOCIETY CERTIFICATION

船级社认证



# INTERNATIONAL BRAND COOPERATION

国际品牌合作



变频器  
VFD



电动机  
Electric Motor



发电机  
Generator



软启动器  
Soft Starter



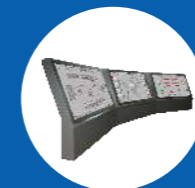
电能质量分析  
Power quality analysis



绝缘故障定位  
Insulation fault locating



绝缘监测  
Insulation Monitoring



智能船舶综合自动化系统  
Intelligent ship integrated automation system



推进遥控系统  
Propulsion Remote Control System



动力定位系统  
Dynamic Positioning System



功率管理系统  
PMS



变频器  
VFD



空气断路器  
ACB



塑壳断路器  
MCCB



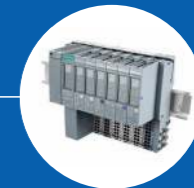
微型断路器  
MCB



可编程控制器  
PLC



触摸屏  
HMI



远程IO  
Remote IO

# CORPORATE PERFORMANCE

## 公司业绩

### A 商船系列 / Commercial Vessel



LNG船



集装箱船



散货船



油轮

### B 海洋工程系列 / Offshore Support Vessel



### C 钻井平台系列 / Offshore Platform



# GLOBAL SERVICE NETWORK

## 全球服务网络

海亿电气在全球多个国家和地区设有服务中心或分支机构,形成覆盖广泛的全球售后服务网络,公司对船东和终端用户提供全方位的技术支持,包括故障诊断、技术支持、远程协助等。客户可以通过多种渠道(如电话、邮件、在线聊天等)获得专业的技术支持。对于需要现场处理的问题,电气公司会派遣专业工程师到客户现场进行服务。这包括设备的安装调试、故障排除、维修更换等!

Haiyi Electric has service centers or branches in many countries and regions around the world, forming a wide coverage of the global after-sales service network, the company to ship owners and end users to provide a full range of technical support, including fault diagnosis, technical support, remote assistance. Customers can get professional technical support through a variety of channels (such as phone, mail, live chat, etc.). For problems that need to be dealt with on site, the electric company will send professional engineers to the customer site for service. This includes equipment installation and commissioning, troubleshooting, maintenance and replacement!



#### 专业团队 / Professional team:

海亿电气的售后服务网络由训练有素、经验丰富的行业资深服务专家组成,能够为客户提供专业、高效的服务支持。The electric company's after-sales service network is composed of well-trained and experienced industry senior service experts, who can provide customers with professional and efficient service support.



#### 快速响应 / Fast response:

海亿电气拥有完善的售后服务机制和流程,能够确保对客户请求进行快速响应和处理。Haiyi Electric has a perfect after-sales service mechanism and process to ensure rapid response and processing of customer requests.



#### 全球联保 / Worldwide warranty:

通过全球统一的国际服务体系,海亿电气可为客户提供覆盖全球多个国家和地区的联保服务,让客户无论身处何地都能享受到便捷、高效的服务支持。Worldwide warranty: Through the global unified international service system, Haiyi Electric can provide customers with protection services covering many countries and regions around the world, so that customers can enjoy convenient and efficient service support no matter where they are.