

Intelligent cabin system

▶ System introduction

The intelligent cabin system for ships is a comprehensive system that integrates advanced sensor technology, automatic control system, real-time data processing, artificial intelligence algorithm, and remote communication technology. It aims to build comprehensive state perception capabilities for key cabin equipment such as ship propulsion system, power system, shafting, and auxiliary equipment. It possesses multi-system joint monitoring, fault warning, and trend prediction functions, effectively enhancing the safety, reliability, and intelligence level of ship operations. It provides scientific decision-making basis for ship operation and maintenance, and promotes the development of intelligent shipping.

▶ Main functions of the system

Vibration monitoring and analysis of main propulsion diesel engine;

Online monitoring and analysis of main propulsion diesel engine lubricating oil;

Health analysis, evaluation, and decision-making assistance for main propulsion diesel engines and diesel engines for power generation;

Vibration monitoring and analysis of diesel engines for power generation;

Health analysis, evaluation, and decision-making assistance for diesel engines for power generation;

Vibration monitoring and analysis of shafting and gearbox;

Health analysis, evaluation, and decision-making assistance for shafting and gearbox;

Motor fault early warning and positioning;

Early warning and positioning of typical pump unit faults;

Health analysis, evaluation, and decision-making assistance for auxiliary equipment;

Historical trend analysis of main parameters of cabin equipment.



▶ Application scenarios

The intelligent cabin system is widely applicable to various types of ships and ship-shore management platforms, covering two major application directions: support for newbuilding ships and intelligent retrofitting of old ships. In the field of building of new ships, the intelligent cabin can serve as a core configuration for intelligent ships, helping shipowners meet intelligent classification specifications while enhancing the added value of ship design and market competitiveness. In the retrofitting of old ships, the system achieves intelligent upgrading of the cabin through modular integration, supporting real-time state sensing, fault prediction, and intelligent decision-making, effectively extending the equipment lifecycle and reducing operation and maintenance costs.