Together with KNX on an eco journey

Intelligent functions make motor yacht comfortable and safe

Winner
KNX Award 2012
Category
Special

Proficient on the high seas. Stainless steel designer push buttons in the cockpit while the actuator technology is protected in the distribution board in the hull

KNX gives you many good ideas. Why not enhance the sophisticated technology of a yacht with KNX electrical installation? Many high-quality components in terms of functionality and design are available. At eibmarkt.com GmbH, they considered this idea and automated the electrotechnology of a sports yacht with KNX and integrated many new functions for increased comfort and safety. After two years of planning and eight months of system integration, the global standard became fit for the high seas. After all, harsh conditions such as salty air, vibrations, humidity, heat and cold also had to be taken into account. This extraordinary project with the apt name of "Konnexa 42" impressed the jury and was presented with the KNX Special Award.

Nautical data on the touch screen

In the evening, the lights switch on automatically. Light scenes ensure an atmospheric ambience which is appropriate on a luxury yacht. In night mode, discretely placed LED luminaires show the safe route to the bathroom or the deck. They are automatically switched on and off by presence sensors on the floor area.

In addition to the usual functions, such as lighting, room temperature control, media control, monitoring functions and load management, great importance was placed on small details. Automatic blackout and cleaning detection are integrated in the touch panel which prevents disruptive brightness and bad operation. Signals which are of vital significance, such as water ingress, are reported throughout the ship via voice output. Load management distinguishes between electricity from onshore or from the onboard battery and controls the load accordingly in full mode or economy mode. A particular feature is a specially developed interface between KNX and the onboard electronics NMEA and the machine protocol CAN bus. This enables all the nautical ship data to be visualised and evaluated via the KNX server. Faults and operating states are detected quickly. This includes sophisticated functions such as the weather display or storm warnings with a wake-up function which make life on board comfortable and safe. The determination of the speed for an environmentally friendly boat trip is calculated by the KNX server using existing data about the engine and its consumption and is also dependent on wind, waves and loads.

A monitor from Pro Face, with Elvis visualisation software, has been certified for use on yacht functions as a control unit. Presence detectors take on multiple functions for lighting control and the alarm system. Internet, music control, fault signals are integrated, as well as smoke detectors and water sensors. Large push buttons and the versatile room controller from Jung in stainless steel were chosen for the operation. Actuators with current detection supply data for the load management. 91 KNX devices in total are installed whose function has been accepted by the SeeBG (ship safety). The "Konnexa 42" project is currently an approved exhibition and training yacht which can inspire both imitators and interested yacht owners.

Benefits provided by KNX in this project

- Central visualisation of all the functions of KNX and onboard electronics
- Scene control for LED effect lighting
- Time programs
- Energy and load management
- Economical calculation of boat trips via the KNX server
- Voice output and voice control
- Smoke detector monitoring
- Leakage monitoring
- Window and door monitoring
- Operating, fault and alarm signals
- Weather station for weather warnings
- Remote maintenance

Technical refinements

- Interface to onboard electronics and machine protocol

Companies involved

KNX System Integrator:
Marco Labahn, eibmarkt.com GmbH, Plauen

Area of application:
Motor yacht

Functions:

- Lighting
- Air conditioning
- Alarm systems
- Technical monitoring
- Load management
- Multimedia
- Visualisation
- Interfaces to other systems
- Remote monitoring

Scope
Number of KNX devices: 91
Different manufacturers

Costs:
95,000 euros