

DESIGN OF OPEN ARCHITECTURE SHIP ALARM, MONITORING AND CONTROL SYSTEM

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ABSTRACT

This paper is practical design and implementation of open architecture control, alarm and monitoring system. Modern ships have an automatic system control which includes control, alarm and monitoring system that have access to all process control station and can monitor them. The control system control several types of self-running process control station, each type is dictated to specific task. The alarm system is connected to sensors everywhere in the ship and continuously monitors them, if any sensor reading is outside the preset limits we get an alarm. The monitoring system can record any alarm status and save it in hard disk or printer with time stamp.

The alarm system depends mainly on data coming from different sensors connected to corresponding measuring points. In small ship this system can be small LCD and LED panel but in a large ship it can be a computer and many displays. The sensor data can be current loop, voltage contact or open collector digital data. The number of points and scan rate is considered, also an inhibit control can be applied to certain alarm group for disable at certain conditions for the system.

KEYWORDS: IMO, SOLAS, Ship Control, Signal Processing, Sensors