Indigenously Designed Addressable Bilge Alarm System for Naval Vessels

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The primary purpose of an Addressable Bilge Alarm Panel is to provide an early warning of the bilge level of a vessel so that the personnel, equipment and valuable resources can be protected and action can be taken to remove bilges as soon as possible, all according to a predetermined plan. This study presents aspects of the bilge alarm system on-board Sri Lanka Naval Ship (SLNS) Sagara, by analysing the existing system based on automation and advanced microcontroller programming using Raspberry Pi3, and ATMEGA 328P microcontrollers. The designed system is an addressable type bilge alarm system that communicates in serial RS 485. The novelty of the designed system are the own data protocol used in RS 485 communication, voice command of specific bilge location and the self-designed advanced graphical user interfaces (GUI).

Keywords: *Bilge alarm, communication protocol, GUI*