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## **Automatic buoy system for position control based on global positioning system (GPS)**

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**Abstract.** This study aims to design a buoy using an electric motor as a driver to maintain the position based on the coordinates of the Global Positioning System (GPS) that has been determined. This control system is designed to replace the existing buoy system, namely a buoy using a chain to maintain its position. The method used in the study is an electric motor control method using a microcontroller with GPS coordinates as the return point (home coordinates). The solar cell system that connected to the battery is used as a source of energy for the buoy control system. The result of this device is the distance between the return point and the stop point of less than 12 meters.

