

ABSTRACT

At present the level of motorcycle theft in Indonesia is very high and continues to increase every year. This research was conducted with the aim of designing and creating a security system for motorbikes that can be controlled via a smartphone to reduce the level of motorcycle theft. This tool is made with an Arduino microcontroller, Sim module, bluetooth module, relay, and GPS module. This tool has several features, the first is to turn on, turn off and start the motor with an application sent via SMS or Bluetooth, the second is the Tracking function to track the motor, the third is to turn off the function from the contact stop, the fourth feature controls the engine switch of the motor. From this research it can be seen that the system successfully runs all the features it has. The bluetooth module on this device is greatly affected by the distance and the presence of objects blocking the smartphone and the motorbike, with a maximum distance of 11 meters. The sim module is heavily influenced by weather conditions and location which can reduce signal quality. The GPS module on the device has difficulty getting a signal when the motorbike is in the basement or if the motorbike is running. This device also has a delay time of less than 7 seconds for the Bluetooth module and less than 22 seconds for the SIM module.

Keywords: Arduino, Motorcycle, Keyless.