

## ABSTRACT

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*In the field of security, electric locks become an alternative to security systems. Various forms of electrical locks are built from various sensors. Currently, many electrical keys are built using RFID, voice sensors, face recognition tools, fingerprints, encryption, and so forth. TCS3200 color sensor is a sensor that can be used for sorting and classification of objects by color, monitoring, and for error checking. A comparison of color sensors with other electrical locks is found in the tools used. When compared with RFID, electric color keys have cheaper tool prices than RFID. This color lock does not have a security system such as RFID that has a security system on the ID of each card, but the price is cheap and still can be developed. Therefore in this final project will be built electric key that utilizes TCS3200 color sensor which is useful to detect RGB color value (Red, Green, and Blue), LCD which is useful to display what color is inserted, solenoid lock which is useful for door lock electronically and arduino as a microcontroller programming. Considering the color sequence detected, there are 27 possibilities to open the Solenoid lock.*

**Keywords:** *Electric Lock, TCS3200 Color Sensor, Solenoid lock, Arduino.*