

## **ABSTRACT**

*Along with the development and advances in electronic technology, as well as the frequent occurrence of problems in fire disasters. The problem starts from the level of security that does not meet the standards in handling fires. Various problems can trigger a fire, causing a fire hazard in a building. This study aims to determine the hotspot area at the time of the fire. The research method uses a fire sensor KY-026, Arduino Mega 2560, LCD I2C 16x2, and a buzzer. There are 2 stages of testing that will be carried out, namely testing the accuracy of the detection distance on the KY-026 fire sensor and testing the reading of the KY-026 fire sensor in detecting hotspot areas. Testing is carried out with the provisions of 9 different areas and 25 test points. The test results from the accuracy of the detection distance obtained an average value of 55% detection accuracy, for placing sensors in every corner of the prototype board, while sensors that are not placed at the corners of the prototype board get an effectiveness of detection accuracy of 100%, while for sensor reading data results in detecting hotspot area detection area A, B, C and D is a condition where 3 sensors are included to detect fire simultaneously or 1 sensor only detects fire located at the corner of the prototype board, detection area AB, BC, CD and AD condition where 1 sensor which is in the middle of areas A, B, C, and D detects fire, detection area E is a condition where 8 sensors detect fire simultaneously.*

**Keywords:** *Fire, KY-026 flame sensor, fire safety system, detection.*