

## *ELECTRICAL LEAK DETECTION TOOLS ON ROOF OF LIGHT STEEL CONSTRUCTION*

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### *Abstract*

*Electricity is an important human need in the house. electricity can be something very dangerous if it is not used and controlled properly. In previous studies, the disruption of electricity distribution resulted in the obstruction of daily human activities. Interference that occurs can be of various kinds, including spikes or drops in electric voltage (over / under voltage) and voltage instability.*

*Currently, there is an incident of someone wanting to repair the cable damage to the roof of a lightweight steel construction house which caused someone to die from being electrocuted by an electric current flowing in mild steel. To solve this problem, in this final project, a prototype tool that is capable of detecting electric leaks on the roof of a lightweight steel construction house is made.*

*This tool works when the Voltage sensor detects the Voltage  $\geq 180$  &  $\leq 183$  then it is declared that there is no Voltage when the light is on, if a Voltage is detected other than  $\geq 180$  &  $\leq 183$  then it is declared that there is a Voltage at the time. In this condition, the Relay is active and the Buzzer is alive as an alarm warning of an electric leak in mild steel construction.*

*When testing the sensor Voltage output ZMPT101B  $\geq 180$  &  $\leq 183$ , the measurement Voltage is 0 Volts. When testing the ZMPT101B sensor Voltage output other than  $\geq 180$  &  $\leq 183$ , the measurement Voltage is 228 Volt.*

*Keywords: Electric Leakage, Voltage Sensor, Buzzer, Lamp, Relay*