# ABSTRACT

*The need for solar energy in Indonesia is still growing. The rapid development of technology in the industrial world and power generation has had a very significant impact on the field of data communication and instruments.*

*With the development of this technology communication methods are also developing, the use of system SCADA is needed in the industrial world. but the price for installing system SCADA is still too expensive. hence innovation is needed for low-priced system SCADA for small industrial industries with energy sources from solar cells, by making Arduino Uno and NodeMCU as controllers and Visual Basic as HMI.*

*Based on the results of heat testing it is very influential on solar performance because it contains semiconductor materials. the function of solar cells is to convert sunlight into electricity through photovoltaic. SCADA systems that are made using Arduino Uno and NodeMCU send data must use a stable internet network. the protection process on the device when there is an excess voltage or excess current is very sensitive.*

*Keyword : system scada, data communication, Arduino , nodemcu , visual basic net, solar cell.*