Lab # 11

Control of AC loads using embedded hardware

Objectives

- Learn how to control AC load using embedded system
- Discover the new components to control AC Load

Tools

- Arduino
- Proteus ISIS

Pre Lab

Please read the theoretical background of the control of AC loads.

In-Lab Task 1:
Design and implement an embedded system to turn ON/OFF the 220V AC light from a button interfaced with controller.

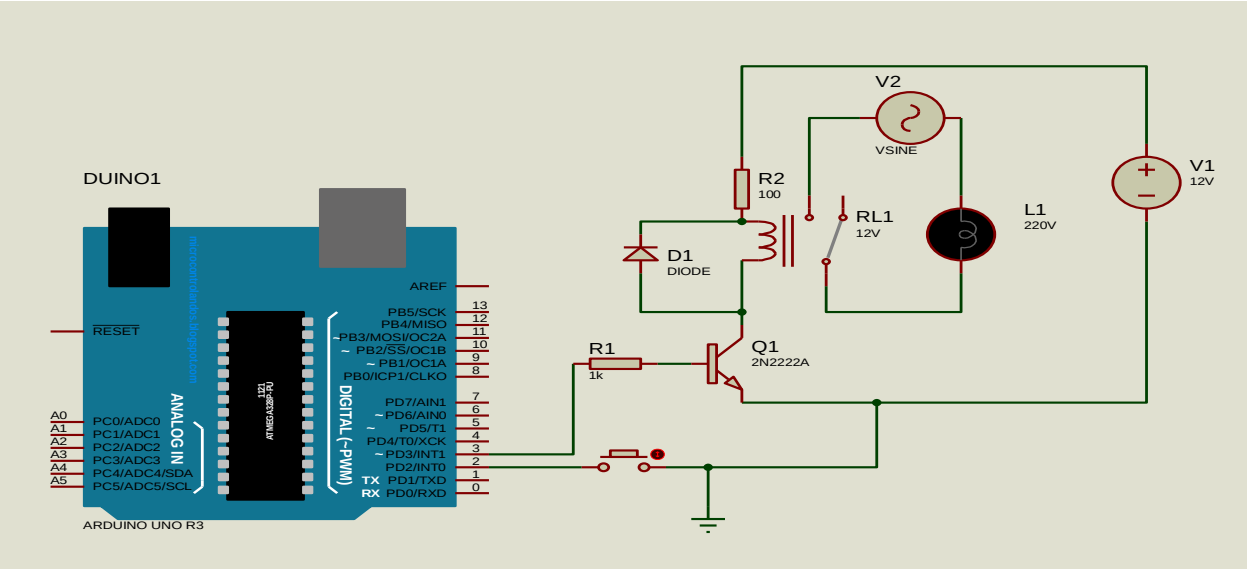

Figure 1: Circuit Diagram

In-Lab Task 2:

Using the circuit used in the previous task, please add the opto-coupler at the optimum place and do the same task again to make our controller more secure.

Post-Lab Task 1:
Design and implement an embedded system to control the intensity of 220V AC light using variable resistor interfaced with controller using TRIAC and Zero Crossing Detector Circuit.

Critical Analysis / Conclusion

(By Student about Learning from the Lab)

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