Department of Electronic and Telecommunication Engineering
University of Moratuwa

EN2160 - Electronic Design Realization

Product Specifications and extra features Report

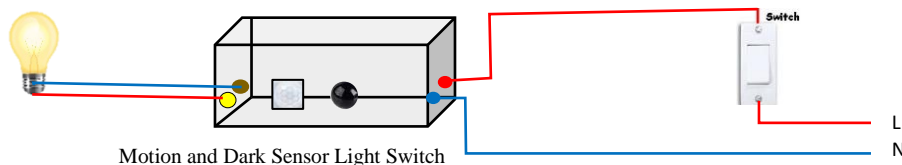R.W.H.M.T.A.Ranaviraja

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Motion and Dark Sensor Light Switch

Today, the economic and energy crisis in the world has become a major issue. For that we can find a renewable energy system and reduce energy wastage. In this product, it helps to save energy by turning off light bulbs at unnecessary times. This product has a PIR module to detect movements and an LDR module to sense the darkness of the environment. Based on those sensor readings, it works as follows.

- When a person enters a room, if the room is dark, then the light turns on automatically. If the person left the room, the light will be turned off after few seconds. The light will also remain off if the room is not dark even if there is a person present.
- This is applicable for any place such as auto lighting corridors, stairs , bathrooms, garages. This can be installed near the bulb.

Product Specification

- Input Voltage - 230V AC/50Hz
- Operating voltage - 5V
- Output Voltage - 230V AC
- Best sensing distance - 3-5 meters
- Induction angle -110degree
- There are 4 connector holes :
    - Red - Connect to Live wire (L),
    - Blue - Connect to Neutral wire (N),
    - Yellow - Connect to light bulb (L),
    - Brown - Connect to light bulb.(N)

Motion and Dark Sensor Light Switch

- PIR motion sensor switch has features of small size and lightweight, easy to install and operate in room or anywhere.
- Application lamps - ceiling lamps, panel lights, floodlights ,etc.
- Function :
    - ✓ Auto switch on/off in the dark when you enter the induction range.
    - ✓ The time delay is 3 ways of 30 seconds, 1 minute, 2 minutes adjustable.
    - ✓ In addition to the automatic control of lights, it can also be to control exhaust fans, doorbells or other devices.
    - ✓ Widely Suitable for auto lighting corridors, stairs , bathrooms, basements, garages, advertisement light and other places.

Extra features

- This product is normally used in places which we stay for very little time. As examples, corridors, bathrooms, garages, some rooms etc. It operates automatically according to the darkness and motion.

- But if want to control it manually, we can do it from this update. I enhanced the device with a remote control as an extra feature. From that we can control the light remotely.

- Then we can use this product in two separate modes: auto on/off with motion and remote controlling.