

ELECTRICAL SAVING WAY (ESW)

Abstract:

The increase in electricity tariffs has increased the cost of living domestic consumers. Consumers should look for alternatives in order to reduce the burden of the increase. This study aims to produce domestic electricity-saving system using photo sensor controls by the user. Users need to set the electricity power of using electrical appliances per room based on their needs. Electrical load under test are 3 outlet socket and 6 light bulb. Experimental results show savings of electricity consumption is as much as RM 8.63 (39.6 kWh) or 22% utilization rate for 24 hours in 15 days. In addition, damage to electrical equipment can also be reduced through the use of a power meter and a photo sensor. In conclusion, this study has achieved its objectives and impact positively on consumers of electricity bills with the use of this system to the electrical equipment that is more powerful (kWh).

Keyword: Photo sensor, power meter, electricity

IP no: nil

Finding:

- i. The analysis of testing shows all load which is including 6 lamps and 3 outlet socket for resident domestic without using photo sensor. Power usage in 1 month is at 100.8 kWh by using photo sensor.
- ii. The measured power or electricity usage was reduced by about 79.2 kWh or RM 17.26.
- iii. Power usage in 1 hour for all loads are 0.25 kWh increased with increasing or the load usage in 24 hours, ½ month and 1 month

Table 1. Comparison total saving electricity of domestic resident

Usage of electricity	Without photo sensor	With photo sensor	Total electricity saving
1 month	180kWh (RM39.24)	100.8kWh (RM21.97)	180kWh – 100.8kWh = 79.2 kWh RM39.24-RM21.97 = RM17.26
1/2 month	90kWh (RM19.62)	50.4kWh (RM10.99)	90kWh-50.4kWh = 39.6 kWh RM19.62-RM10.99 = RM8.63

Suggestion for future work

There are some improvements need to be done to get a more attractive and compact design:-

1. Expanding the use of photo sensor against load more and high powered
2. Using a photosensor controlling system against a three-phase system

Picture related to project

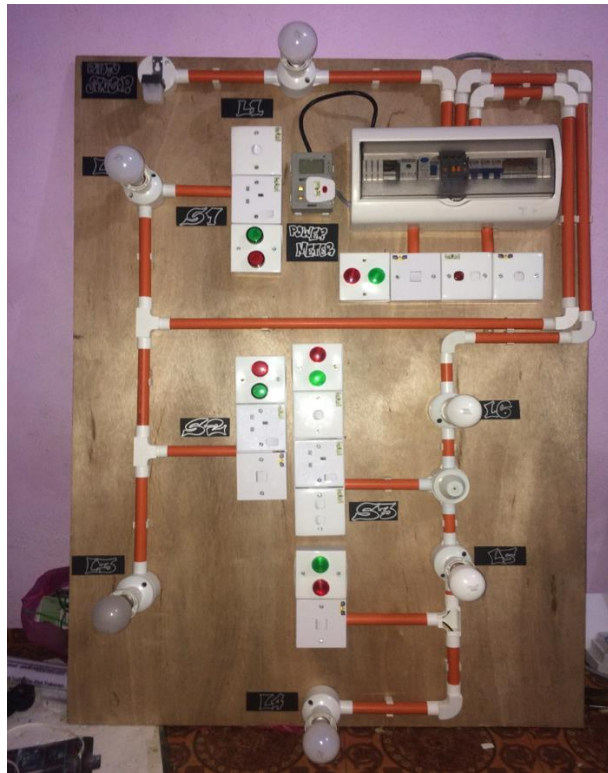


Figure of Electrical Saving Way (ESW)

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