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FACULTY OF ELECTRICAL ENGINEERING



MAINS-OPERATED LIGHT STAR

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# MAINS-OPERATED LIGHT STAR

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## ABSTRACT

'Mains-Operated Light Star' is a simple circuit and easily constructed even by novice. Actually, this project is very suitable for used when a celebration day likes Hari Raya Aidilfitri, Christmas, Gong Xi Fa Cai and other celebration. Nowadays, it is not just used for celebration day but to make our domicile looks very pleasant. This circuit we present a straightforward fixed pattern flasher for three sets of lights. However this is not your usual 1 - 2 - 3 chasing pattern, this unit has six steps, 1 - 1+2 - 2 - 2+3 - 3 - 3+1, and then repeated. If the three sets of lights are mixed on the tree, it is not that easy to see the pattern! On the prototype the speed was fixed to about three steps per second, but it would be a simple matter to put a control pot on the front panel to set the mood if required.

The triac outputs are driven from zero-crossing opto isolators, which virtually eliminate radio interference. The triacs are hard driven, making the outputs suitable for driving inductive loads such as the modern low voltage transformer driven light star (Christmas light). The outputs can drive loads of up to 3 Amps (or possibly even more if the PCB tracks are reinforced), making the unit suitable for driving higher powered outdoor lights.

## OBJECTIVES

As we start to implement our project, we already clearly see what our main objectives. Here we state some of our target before our project implementation:

- Familiarized our self with electronic discrete components and electronic circuits.
- Understanding in the function in integrated circuit especially their types and function.
- Know the process flow in the automatic electrical devices.
- Learning how to find source of problem that occurred while constructing our project and how to deal with it.
- Completing the requirement of KEU 380 subject.

## ACKNOWLEDGEMENT

In the name of ALLAH the most gracious and merciful, and to our prophet Muhammad S.A.W and his family. Syukur 'Alhamdulillah', thanks to ALLAH that gave us the energy and strength the opportunity to complete this project "MAINS-OPERATED LIGHT STAR" gave time although we have some problem to complete it of successfully.

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MAY GOD BLESS ALL OF US, AMIN...

THANK YOU