POLITEKNIK

SULTAN SALAHUDDIN ABDUL AZIZ SHAH

PLUG 3 PIN DETECTOR OVERLOAD

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JABATAN KEJURUTERAAN ELEKTRIK

SESI 2 2021/2022

PLUG 3 PIN DETERTOR OVERLOAD

NAME	REGISTRATION NO
MUHAMMAD RAZMAN BIN MOHAMED SHAH	08DJK19F2007

This report submitted to the Electrical Engineering Department in fulfillment of the requirement for a Diploma in Electrical Engineering

JABATAN KEJURUTERAAN ELEKTRIK

SESI 2 2021/2022

CONFIRMATION OF THE PROJECT

The project report titled "Plug 3 Pin Detector Overload" has been submitted, reviewed and verified as a fulfills the conditions and requirements of the Project Writing as stipulated

Checked by:

Supervisor's name : SITI HAJAR BINTI ABDUL HAMID

Supervisor's signature:

Date :

Verified by:

Project Coordinator name : FA`IZAH BINTI YA`ACOB

Signature of Coordinator :

Date :

"I acknowledge this work is my own work except the excerpts I have already explained to our source"

1. Signature :

Name : **MUHAMMAD RAZMAN BIN MOHAMED SHAH**

Registration Number : **08DJK19F2007**

Date :15/6/2022

DECLARATION OF ORIGINALITY AND OWNERSHIP

TITLE : PLUG 3 PIN DETECTOR OVERLOAD

SESSION: SESI 2 2021/2022

1. I, **1. MUHAMMAD RAZMAN BIN MOHAMED SHAH (08DJK19F2007)**

   is a final year student of **Diploma in Electrical Engineering, Department of Electrical, Politeknik Sultan Salahuddin Abdul Aziz Shah**, which is located at **Persiaran Usahawan, 40150 Shah Alam, Selangor**. (Hereinafter referred to as 'the Polytechnic').

2. I acknowledge that 'The Project above' and the intellectual property therein is the result of our original creation /creations without taking or impersonating any intellectual property from the other parties.

3. I agree to release the 'Project' intellectual property to 'The Polytechnics' to meet the requirements for awarding the **Diploma in Electrical Engineering** to me.

Made and in truth that is recognized by;

a) **MUHAMMAD RAZMAN BIN MOHAMED SHAH**) .
(Identification card No: - 010419140993)) .....
) **MUHAMMAD RAZMAN BIN MOHAMED SHAH**

In front of me, **SITI HAJAR BINTI ABDUL HAMID** (Click here to enter text.)) .....
As a project supervisor, on the date:) **SITI HAJAR BINTI ABDUL HAMID**

ACKNOWLEDGEMENTS

I have taken efforts in this Project. However, it would not have been possible without the kind support and help of many individuals and organizations. I would like to extend my sincere thanks to all of them. I am highly indebted to (SITI HAJAR BINTI ABDUL HAMID) for their guidance and constant supervision as well as for providing necessary information regarding the Project & also for their support in completing the Project.

I would like to express my gratitude towards my parents & member of (MOHAMED SHAH BIN TALIB) for their kind co-operation and encouragement which help me in completion of this Project. I would like to express my special gratitude and thanks to industry persons for giving me such attention and time.

My thanks and appreciations also go to my colleague in developing the Project and people who have willingly helped me out with their abilities.

ABSTRACT

A short circuit allows an electric current to flow along a path other than what it should be in an electrical circuit. When a short circuit occurs, it will cause a spark that can cause a fire in a home or factory. The goal of this project is to prevent fire or damage to the short-circuit housing by having a plug that can disconnect the flow of electricity from the power supply. Next, be able to control the electric timer to help save electricity and open and close the switch as desired. A short circuit allows electric current to flow along a path other than what it should in an electrical circuit. The way to solve the problem is to have a plug that can cut off the flow of electricity in the event of a short circuit or overload. The project uses an Node MCU as a control to determine the flow of electricity from an external power supply.

Commented [FAP1]: The abstract must be simple, written in one
paragraph and not more than 200 words in one page.
The abstract should be written in single spacing.
The abstract should contains, an introduction, problem statement, research objectives, results and conclusion (optional)

ABSTRAK

Litar pintas membenarkan arus elektrik mengalir di sepanjang laluan selain daripada yang sepatutnya dalam litar elektrik. Apabila berlaku litar pintas, ia akan menyebabkan percikan api yang boleh menyebabkan kebakaran di rumah atau kilang. Matlamat projek ini adalah untuk mengelakkan kebakaran atau kerosakan pada perumahan litar pintas dengan mempunyai palam yang boleh memutuskan aliran elektrik daripada bekalan kuasa. Seterusnya, dapat mengawal pemasa elektrik untuk membantu menjimatkan elektrik dan membuka dan menutup suis seperti yang dikehendaki. Litar pintas membenarkan arus elektrik mengalir di sepanjang laluan selain daripada yang sepatutnya dalam litar elektrik. Cara untuk menyelesaikan masalah tersebut ialah dengan mempunyai palam yang boleh memutuskan aliran elektrik sekiranya berlaku litar pintas atau beban lampau. Projek ini menggunakan Node MCU sebagai kawalan untuk menentukan aliran elektrik daripada bekalan kuasa luaran.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

Short circuits allow electrical current to flow along other paths other than it should be in the electrical circuit. A simple short circuit can be produced by directly connecting the positive and negative terminals using only one battery wire, causing the battery to produce a large amount of energy in a short time. The current rate increases 10 to 50 times the current in the circuit. The way to solve the short circuit problem is to have a plug that can disconnect the electricity flow in the event of a short circuit or overload. This plug can disconnect the current from the power supply and can save from fire. This plug can know how much current value is received from the power supply and can record data.

1.2 Background Research

Commented [FAP3]: This section contains the introduction to the issues which the research/project is concerned

The development era increasingly, the current electrical needs are very primary. All electronic tools require electric power. Without realizing, the people make electricity as primary needs, so that we are very difficult to control and economize the use of electricity. The economies of people in Indonesia who are still low, the electricity fare is more expensive and it is difficult to control and save electricity usage, so there is a fraud done by the society to meet all the needs by making the theft of electric power without thinking big risks. So it losses the PLN (State Electricity Company) and it can dangerous to the crime of electricity theft such as fire because of short circuit.

1.3 Problem Statement

When a short circuit occurs, it will cause a spark which can cause a fire in houses or factories. There are also mechanical damage to the cable insulation, imperfect cable termination, damage to the installation equipment and damage to electrical equipment. There are also functional failures on distribution board, main switch, residual current circuit breaker or RCD or ELCB or RCCB and small circuit breaker (MCB).

1.4 Research Objectives

The goal of this project is to prevent fire or damage to the short -circuit housing electrical system. Next, to be able to control the electric timer so as to help save electricity, It can also be controlled to turn on and off the electricity by using a timer. This project develops a system current measurement to determine the value currently in used.

1.5 Scope of Research

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The aim of this project is to help those who use excessive electricity services in small shops and residential areas in order to avoid short circuits. This project uses Node MCU as a control to determine the flow of electricity from an external power supply by using an ACS 712 current sensor and a set timer so as to be able to turn off the equipment at a certain time using relay module.

1.6 Project Significance

Commented [FAP5]: This section contains the significance of the proposed project/research. You should cite previous research in this area. You should cite those who had the idea or ideas first, and should also cite those who have done the most recent and relevant work. You should then go on to explain why more work was necessary (your work, of course.)

The current electricity needs is very primary, all objects including electronics require power, it encourages people not to be able to save electricity so the theft of electric power would be done. The use of ACS712 current sensor as the sensor with Arduino uno would find out the power consumption continuously and prevent the theft of electricity because of the use of electricity which has been determined by PLN and the people felt that it is not enough for every house, so the author made a tool for prevention of theft of electric power by using the Arduino uno, buzzer, ACS712 current sensor, lcd, and relay then the power usage can be controlled according to the use to prevent the occurrence of theft of electricity so the use can be seen directly on the lcd 16x2and GSM modem to give information to employees of PLN so that it can reduce electrical theft by the public.

1.7 Chapter Summary

This project develops a system current measurement to determine the value currently in used. It can also be controlled to turn on and off the electricity by using a timer relay module. The goal of this project is to prevent fire or damage to the short-circuit housing electrical system. This project uses Node MCU as a control to determine the flow of electricity from an external power supply by using an ACS712 current sensor and can set timer with relay module. The use of ACS712 current sensor as the sensor with Node MCU would find out the power consumption continuously and prevent the theft of electricity.