

VENTION



**FEDERAL REPUBLIC OF NIGERIA**  
**Patents and Designs Act,**  
**(CAP 344 LFN 1990)**

PATENT NO:.....

RP: NG/P/2008/786.....

Date of Patent: 28/8/2008.....

Date of Sealing: 02/03/2009.....

President of the Federal Republic of Nigeria and Commander-in-Chief of the Armed Forces,  
**UMAR MUSA YAR'ADUA**

WHEREAS a request for the grant of a patent has been made by: **ILESANMI OLADE**  
of No. 1, Adegbeyemi Street, Off Allen Avenue, Ikeja, Lagos.  
C/o Prime Solicitors, of No. 9, Ring Road, Beside Vitas Bakery, Ibadan.

For the sole use and advantage of an Invention for: "AUTOMATIC PHASE CHANGER"

AND WHEREAS the Federal Government being willing to encourage all inventions which may be for the public good, is pleased to accede to the request:  
**KNOW YE, THEREFORE**, that I do by this instrument give and grant unto the person(s) above named and any successor(s), executor(s), administrator(s) and assign(s) (each and any of whom are hereinafter referred to as the patentee) by special licence, full power, sole privilege, and authority, that the patentee or any agent or licensee of the patentee may subject to the conditions and provisions prescribed by any statute or order for the time being in force at all times hereafter during the term of years herein mentioned make, use, exercise and vend the said invention throughout the Federal Republic of Nigeria, and that the patentee shall have and enjoy the whole profit and advantage from time to time accruing by reason of the said invention during the term of twenty years from the date first above written of this instrument: AND to the end that the patentee may have and enjoy the sole use and exercise and full benefit of the said invention, I do by this instrument strictly command all citizens of the Federal Republic of Nigeria that they do not at any time during the continuance of the said term either directly or indirectly make use of or put in practise the said invention, nor in anywise imitate the same, without the written consent, licence or agreement of the patentee, on pain of incurring such penalties as may be justly inflicted on such offenders, and of being answerable to the patentee according to law for damages thereby occasioned:

**PROVIDED ALWAYS** that this patent shall be revocable on any of the grounds from time to time by law prescribed as grounds for revoking patents by me, and the same may be revoked and made void Accordingly:

**PROVIDED ALSO** that nothing herein contained shall prevent the granting of licences in such manner and for such..... erations as they may by law granted.

MADE this..... 25<sup>th</sup>..... day of..... MARCH.....

2009



J. K. AHMADU-SUKA

Registrar of Patents & Designs

## NOTE

The continuance of this Patent is conditional on the payment (by way of Patents Form No.5) of the fees as prescribed under the Patents Rules.

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If any person becomes entitled by assignment, transmission or other operation of law to this patent, or a part interest therein, or to any interest as mortgagee or licensee or otherwise, application must be made to the Registrar to register such title or interest. Particulars as to the manner of making such application may be obtained from the Patent Office.

### PROCEDURE FOR PAYMENT FEES

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# **A DEVICE, COMPUTER PROGRAMME AND PRODUCT FOR AN AUTOMATION OF SWITCHING A 3 PHASE ELECTRICITY LINE FROM OFF LOAD PHASE TO THE AVAILABLE LOAD PHASE**

## **FIELD OF INVENTION**

The present invention generally relates to an apparatus for performing operations with respect to the automatic changing or switching between electricity phases on a 3 phase line.

## **BACKGROUND**

In many developing economies, the available electricity generated for the populace is far below the required need for industrial, commercial and domestic use. This has led to various strategies by the Power distribution companies to ration supply of electricity to consumers. In many cases where a location, premises is served by more than a single phase, it is common to have supply from the Power provider limited to only one or two phases while others are off.

The common remedy for consumers served by multiple phase meters (usually 3 phase) is to manually change from one phase that has no electricity to a phase that has electricity through a process generally called "Looping". As of today, this process is done using a set of electrical cut-outs by looping the internal load together in such a way that whichever phase has electricity, it will supply to all points of load in the premises. Conversely, when there is a power outage on one phase it equally means power supply to all points in the premises will also be out, hence consumers usually will manually switch from off phase to that of the available load phase. The process ordinarily requires human intervention and in most cases may be a dangerous activity.

## **DESCRIPTION OF THE INVENTION**

In view of the above described background, the innovative embodiments of the present invention provides an improved apparatus and computer program product for controlling and automating the existing manual process of alternating between phases where the power load is off on a phase, to a live phase, in the fastest possible time without any risk. Accordingly, when power is off on a phase, the device will automatically search the existing phases to check which has power, and switch the load to that live phase in an amazingly fast process.

An aspect of this invention is a device for sensing and routing electricity. This devices includes an electromechanical device that uses Relays to sense and route electricity automatically to the device output no matter which input line has electricity. The device is capable of receiving electricity power on all or any of a 3 phase input lines from the power source and channel electricity power to the output line.

Clearly, the innovative quality of the device and computer programme product of the present invention, has capacity to solve the problems and address the challenges identified in prior techniques and provide additional advantages.

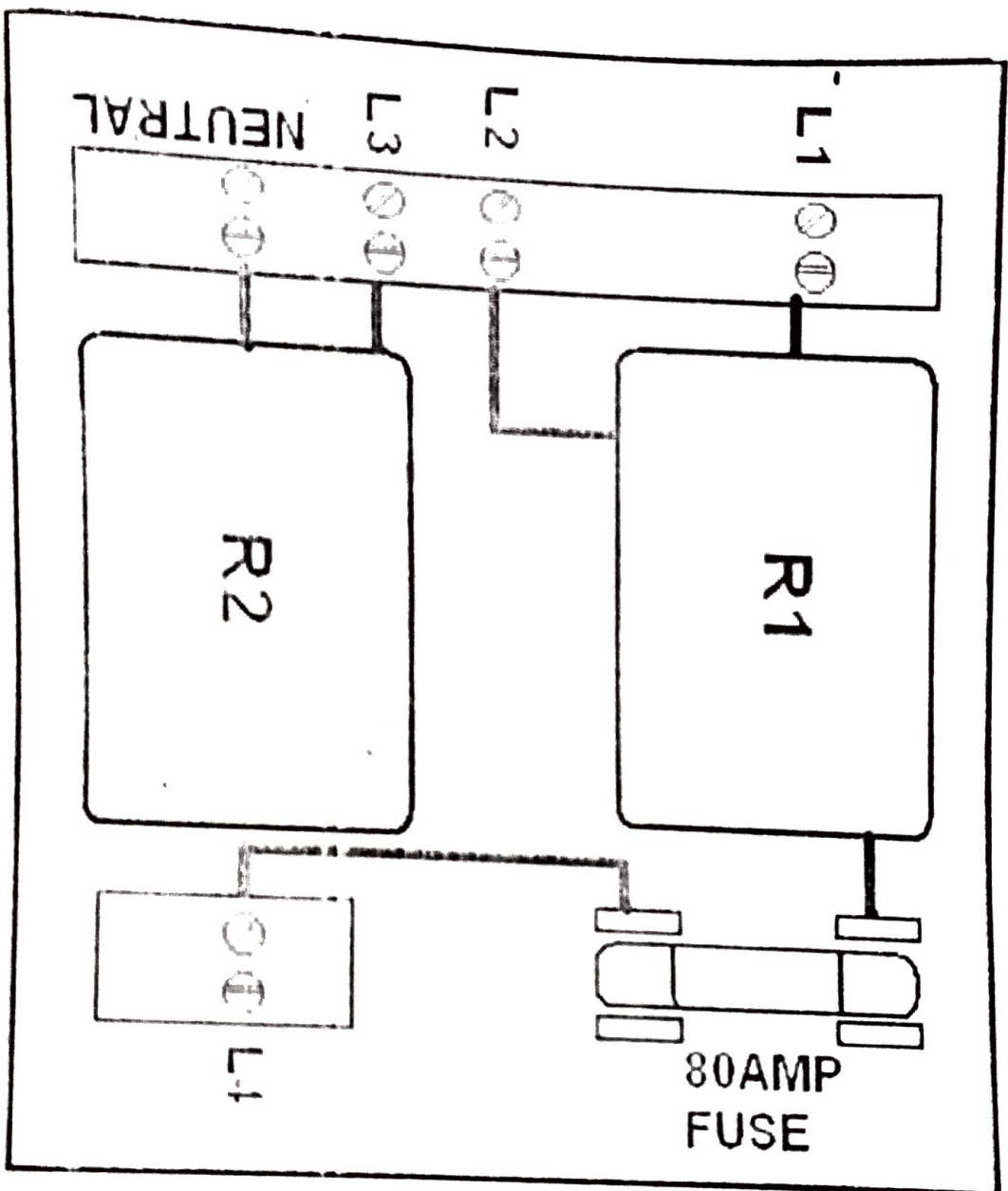
## **DESCRIPTION OF DRAWINGS**

Having described the invention in general terms, we refer to the accompanying drawings (not drawn to scale).

The diagram shows a functional block of an entity capable of operating as a 3 phase electricity power distribution receiver with relays supplying power to a single output line, a neutral line with an 80Amp fuse in accordance with an exemplary embodiment of the present invention.

Electricity is sensed on Lines L1, L2, L3 and outputted on L4.

# TOP VIEW



R1 and R2 : 80A Relays

L1 has priority over L2, and L2 has priority over L3, such that if electricity fails on L1, then L2, automatically takes over, and if electricity fails on L2, then L3 automatically takes over.

## **THE CLAIMS**

1. A device for automatically switching power output from an offload phase on a 3 phase input line to the available load phase where the device is configured to automatically sense and route electricity to the output line without any manual looping or use of cut-outs.
2. A device according to Claim 1 wherein the device is configured to sense which input line in a 3 phase input load has power.
3. A device according to Claim 1 wherein the device is configured to automatically route electricity load from an off power input phase on a 3 phase input line to an available input phase.