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INTELLIGENT OPERATING PLUG WITH INFRARED EMISSION AND VLSI TECHNOLOGIES

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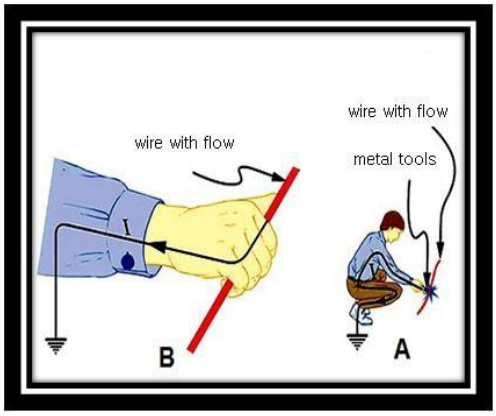
ABSTRACT

Identification systems and intelligent control systems were used widely in various fields, In general, these systems have been formed from two parts detector systems and control systems, the detection systems task for identify the dynamics structure of an external system for setting Definite and indefinite parameters. In the optimal control, system offers a very effective role. Several methods are used in the detection system. Given that a system may have towed Unknown parameter or structure, designer can chooses and traces his Identification systems or diagram. The used methods based on environmental data, simulation and modeling the performance of structure chosen and traced by designer. Use from intelligent technology based on Artificial intelligence, Computational Intelligence, is widely techniques that have been used in smart identification system. MAHMOUDVAND and partner , use from Smart wavelet and Fuzzy- neural network from indentify nonlinear identification control [1-11] In order to overcome the uncertainties of systems using from adaptive controllers and comparative based of identification systems including intelligent control ways. For example using from sliding controller mode with wavelet detectors and fuzzy-neural it can be smart control with overcome and control the uncertainties it can be one of the best and successful strategies to identify and control the exploited [1, 2, 4, 7, 8, 9, 10].The definition of electricity is the flow of charge. Usually our charges will be carried by free-flowing electrons. Negatively-charged electrons are loosely held to atoms of conductive materials. The definition of electricity is the flow of charge. Usually our charges will be carried by free-flowing electrons. Negatively-charged electrons are loosely held to atoms of conductive materials. A closed circuit of conductive material provides a path for electrons to continuously flow. Intelligent prevention of electrons shock with the diagnosis of body's infrared or prevention against power fluctuations of network and variable voltage is a kind of plug or technology that had been designed and made after a lot of observation event. This technology is look like ordinary plugs with three different unique options. The first operation is to identify discharging infrared from human's body for make on and off the electricity. The second operation is intelligent fluctuations network (As user lifeguard). The third operation is variable voltage for supply any user with any voltage.

Key Words: Power fluctuations، Shocking ، Variable voltage ، Infrared

1. INTRODUCTION

Two Points of the human's body While Located against The Direction of the Power Flow, current flow move toward All over the Body, and given the severity and duration of flow an electric shock may arise, and different consequences such as death due to cardiac arrest - internal burns and external burns cause, after the electric shock may kidneys be destroyed. Or be due to internal burns or falling due (vibration caused by electric shock) fractured bones created. These things are happening by electric shock. The ground level, the floors and walls are a part of the electrical conductive system. And if per parts of a living organism from one side to the floor or wall. And On the other hand the power cord (phase or neutral) and or metal's body such as electric devices include (fridge, cooker, grinder...), flow passed from the body. So to avoid from electric shock we should avoid from direct contact with electrical wires (phase or neutral), or avoided from touching the (electrical devices with metal housing). And, second, that every time into contact with electrical appliances (refrigerator doors, chassis, coolers, and meat grinders, etc.) tries to touch or foot to the floor or walls or metal cabinets, we refused. In this way the earthing system should be established in every home if there is a risk of electric shock.



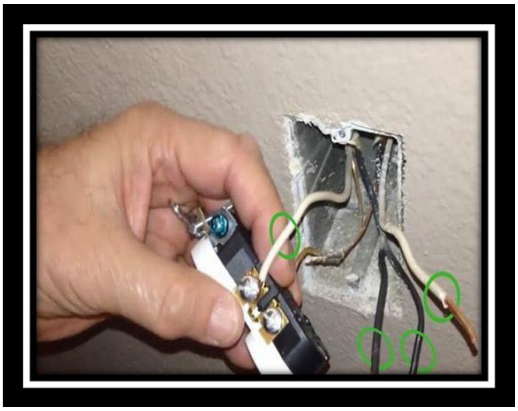


Figure 1: The body of the human functions (like a conductor) Figure 2: The use of non-standard electrical outlets

Background:

Today with science and Technology advances, and Replace the modern equipment with old equipment. Or replace analog to digital systems; we should follow some systems or components that can be replaced with earlier systems, like high tech (modern technology).

Today electric shock is one of the largest and most destructive events in human's societies. Unfortunately, today many due to electrocution lose their lives and property. By viewing these events Mahmoudvand and colleagues have to designed and build a Modeling of intelligent outlets with unique capabilities and options. [1-7]

Question:

Since we know electric shock is malicious and devastating. It destroys the lives and property of the people. Today, unfortunately, in recent years, many people have lost their lives, of course, some of the homes from leakage of earth protected. It is too costly and has low confidence .the consumer power networks are divided into two parts, since we know the power grid voltage is decreased or increased. This change may reduce the lifetime of the system or destroyed it forever. As we know the voltage and current of power network is fixed. And for using this, we need to use reducer or Increaser.

Do we have anti electronic shocking system? Do we have variable power voltage?

Do we have any anti Fluctuations system?

Materials and Methods:

: First Method

Smart Outlet Prevent against electric shock, in this mechanism, we use infrared technology base on the human's red ray output.

Following, it is a look at the process of Modeling. It's a plan.

Figure3: How the human body detection by sensors

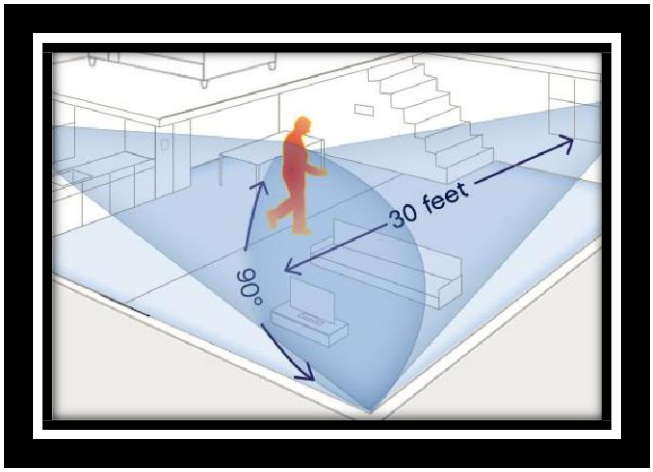


Figure 4: Sensor angle 30 feet and 90 degree

The plan is about controlling a setting or a place automatically. if a person comes to the environment, this device is detected and be active but if nobody doesn't comes to the environment it be disactive.

This kind of detection method for the microcontroller becomes apparent by Detector. Of course logic gate is necessary.

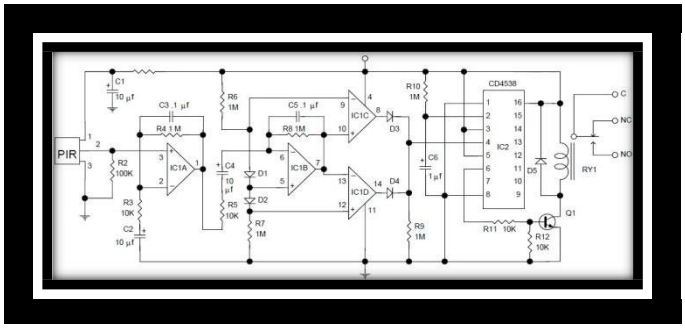


Figure 5: the model of detector circuit

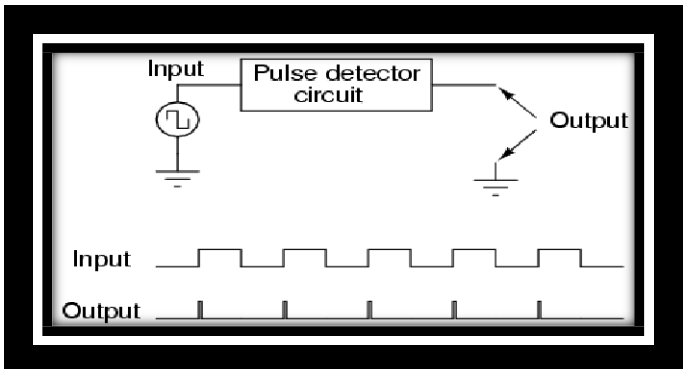


Figure 6: Detector Logic gate

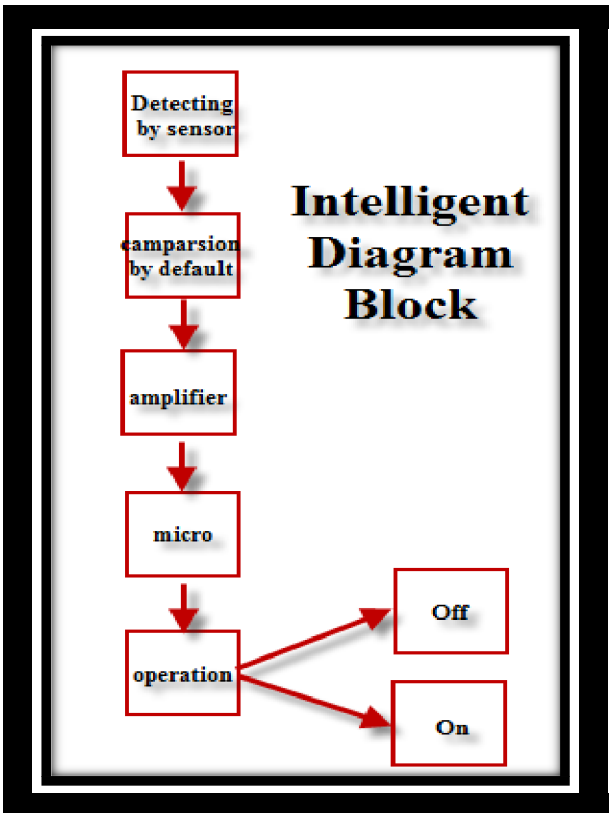


Figure 7: Intelligent Diagram block (2)

In above diagram you can show after detecting

Human's infrared's wave (Figure 8) and transmit it to comparison circuit (compare with default microcontroller voltage Figure 9) the built voltage in the low range comes to amplifier, the range of the low voltage amplify and transmit to microcontroller finally.

The operation done and the plan performed with a logic code (0,1) in output.

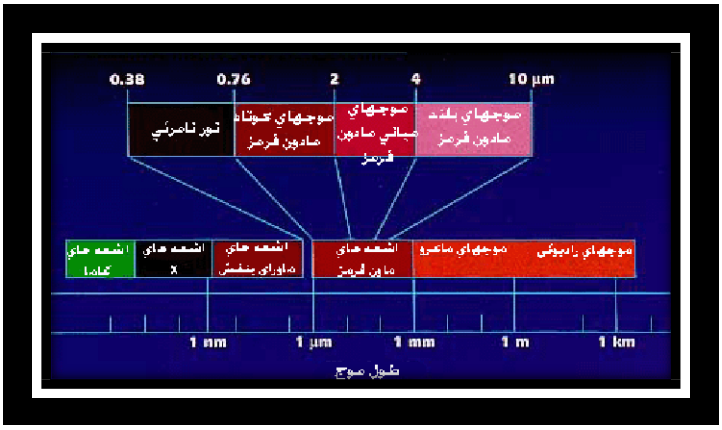


Figure 8: Chart infrared wavelengths

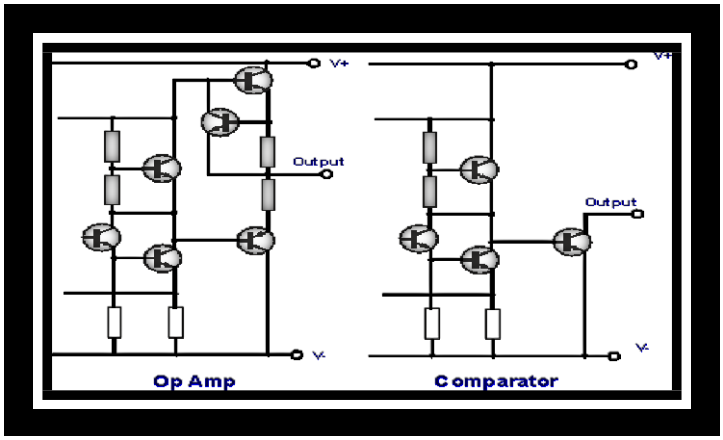
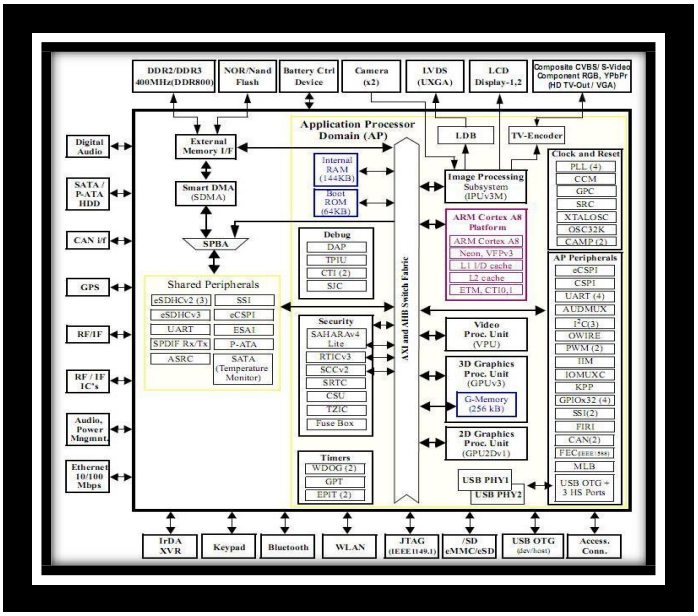


Figure 9: Comparison

Figure 10: Microcontroller structure



: Second Method

Voltage fluctuations are generally caused by loose or corroded connections at either the house or on the power lines, and are often noticed by flickering lights.

Dim lights can be a symptom of the voltage being too low. This can be caused by overloading on the network, loose connections or the conductor wire carrying power to your house being too small. In extreme cases, a loose connection can cause electric shocks from metal appliances and surfaces in your house.

Voltage fluctuations can have impacts on residential consumers and industrial that causes the failure or improper performance of it. Improper operation can cause the lesions.

These Voltage fluctuations can destroy everything or reduce its Life, from this side we must provide and use voltage protector

This tool is big and expensive.

From this way Mahmoudvand and his partners made decision to design a system Onboard the microcontroller by (coding) that is stand by every time and everywhere. This capability has been designed in the way that installed on our technology(outlet).this technology is Customer friendly. The second application plug Power fluctuations this technique than power grid is being compared with samples external on the market is completely different and unique

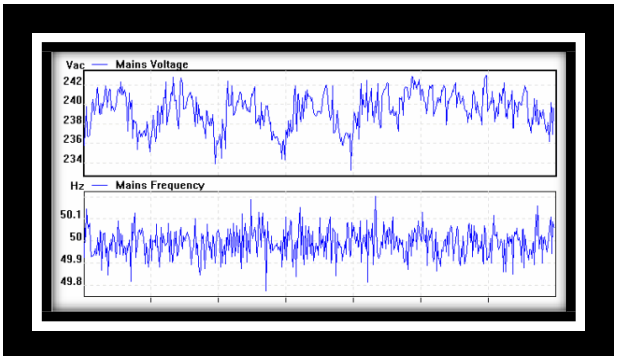
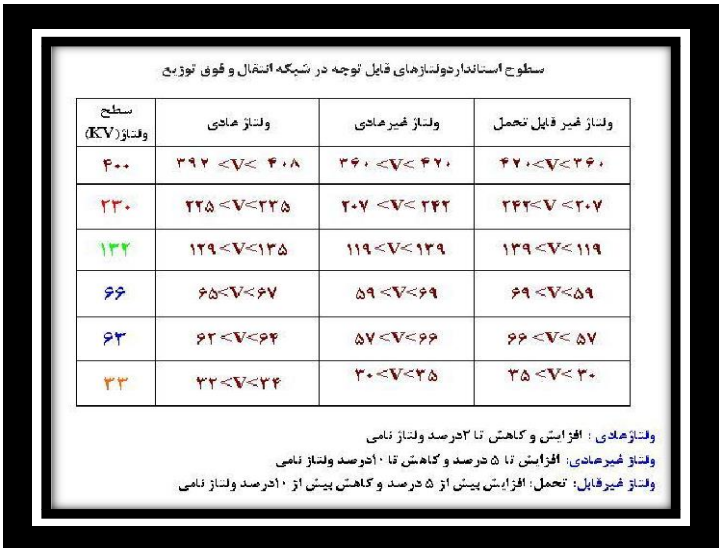


Figure 11: voltage immediately fluctuation



سطوح استانداردولتاژهای قابل توجه در شبکه انتقال و فوق توزیع

سطح ولتاژ(KV)	ولتاژ هادی	ولتاژ غیرهادی	ولتاژ غیر قابل تحمل
۴۰۰	۳۹۲ <V< ۴۰۸	۳۶۰ <V< ۴۲۰	۴۲۰<V<۳۶۰
۲۳۰	۲۲۵ <V<۲۳۵	۲۰۷ <V< ۲۴۲	۲۴۲<V <۲۰۷
۱۳۲	۱۲۹<V<۱۳۵	۱۱۹<V<۱۳۹	۱۳۹<V< ۱۱۹
۶۶	۶۵<V<۶۷	۵۹ <V<۶۹	۶۹ <V<۵۹
۶۳	۶۲ <V<۶۴	۵۷ <V<۶۶	۶۶ <V< ۵۷
۳۳	۳۲<V<۳۴	۳۰<V<۳۵	۳۵ <V< ۳۰

ولتاژهادی : افزایش و کاهش تا ۲درصد ولتاژ نامی
ولتاژ غیرهادی: افزایش تا ۵ درصد و کاهش تا ۱۰درصد ولتاژ نامی
ولتاژ غیرقابل تحمل: افزایش بیش از ۵ درصد و کاهش بیش از ۱۰درصد ولتاژ نامی

Figure 12: Standard and nominal power network

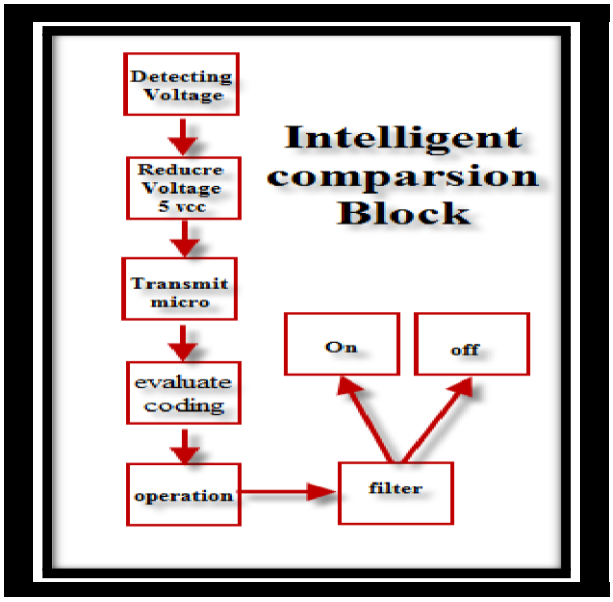


Figure 13: Voltage fluctuations diagram

: Start Designing

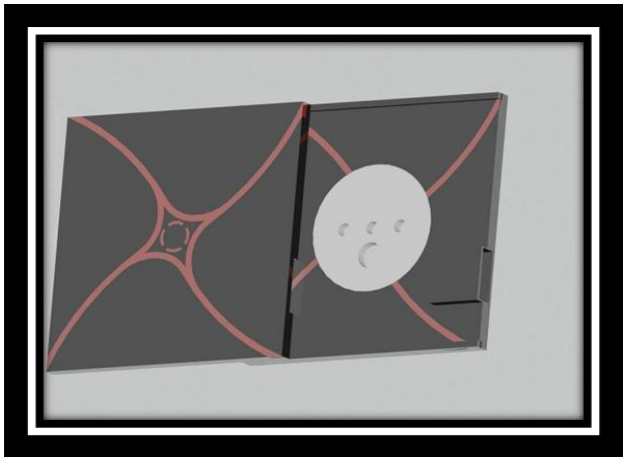


Figure 14: Design (1)

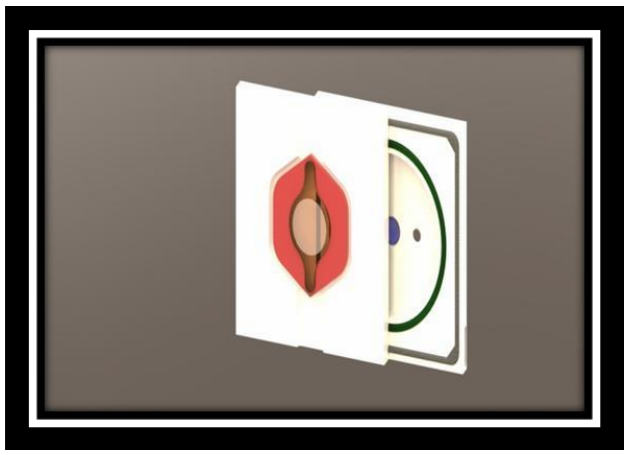


Figure 15: Design (2)

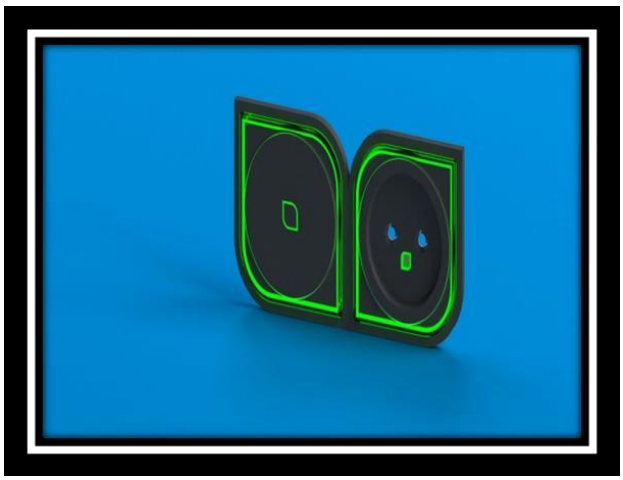


Figure 16: Design (3)

Third Method

The third intelligent system application is variable voltage or adjustable tech.

Since we know the rate of voltage is 220 VAC this power can be used only for the consumer that their nominal voltage is in this range, if we want to use this voltage for a consumer with low voltage we must to buy a adaptor or a reducer. Mahmoudvand and his partner made decision to make an intelligent onboard adaptor and reducer on this outlet to apply and supply every consumer with every range under 220 Vad.

: a review to structure and method

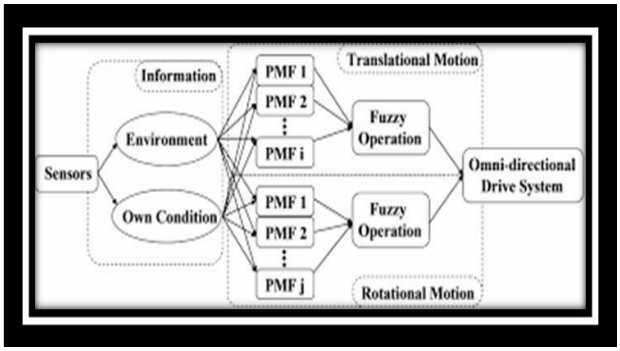


Figure 17: T translational And Rotational motion Control

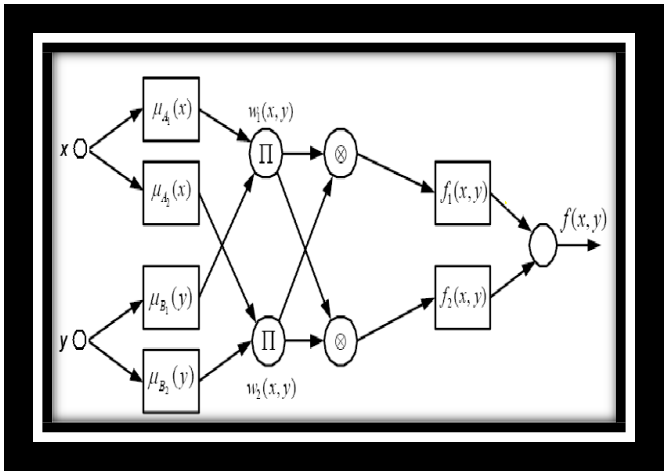


Figure 18: Sugeno model with two inputs

The first section is designed to provide an effective combination of inputs is an intelligent system that first and second linear independence of the system have any useful information from the past. According to the figure can be seen that the block diagram of each of the cases correctly drawn.

The question is that we are always open for insuring transmission lines or added protection against network or Voltage Protecting the Protectors Consumer've used before, it should be noted that today, due to irregular voltage transmission lines in case, events occur that cause

burning or reduce the life of our consumer gets so should we buys or voltage network protection that consumer prices have a lot to our overload of the insurance now, then we're on to the technology for integration or use Vlsi scale circuit with a On his invention or smart outlet that we have very little cost and have high accuracy.

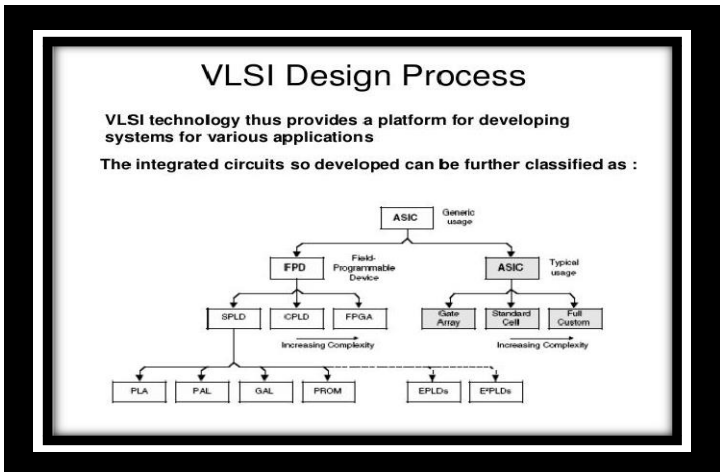


Figure 19: Vlsi Design Process

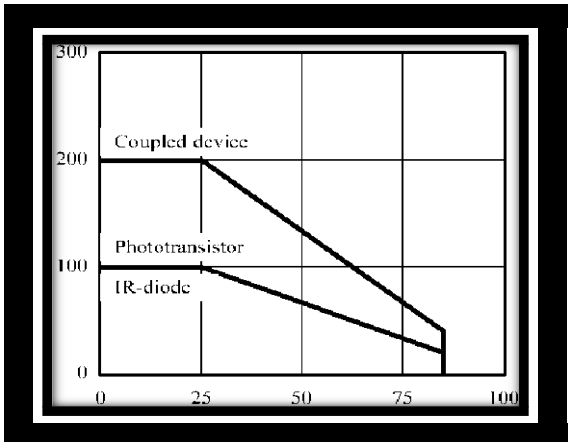


Figure 20: Scatter plot of energy and temperature

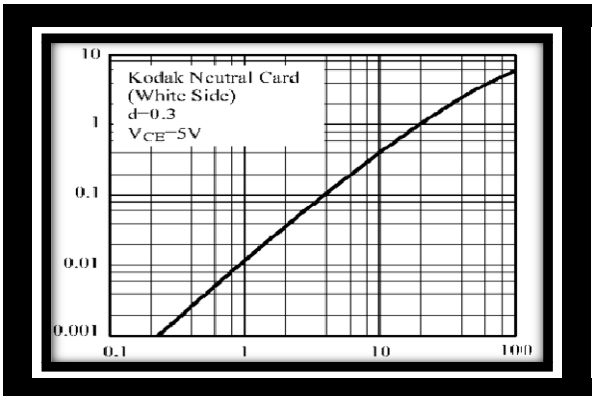


Figure 21: Flow chart of the current collector and the final

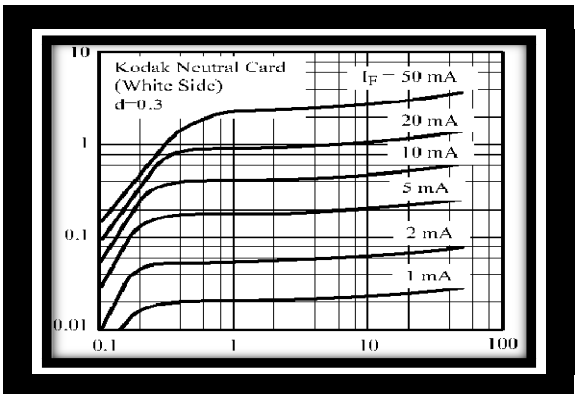


Figure 22: Flow chart of the collector and the collector-emitter voltage

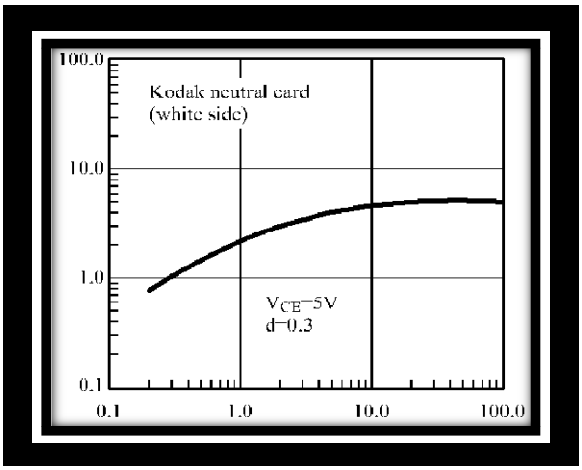


Figure 23: X-transition diagrams and final flow

: Mechanism of performance in next way

In the Q system to prevent electric shock mechanism manual or handling dipswitch, using on and off dipswitch the following block diagram is used.

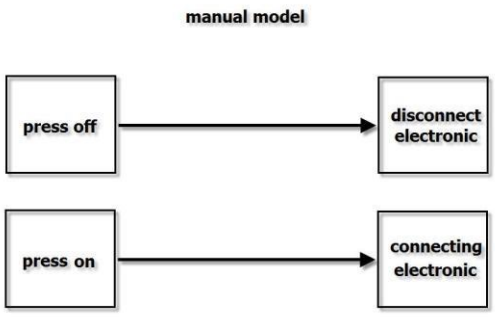


Figure 24: Block diagram mode Manual

Manual mode App itself can be embedded by Touch Panel that the outlet is switched on and off automatically. The second mode is the smart way launches. Intelligent system or sensoring equipment

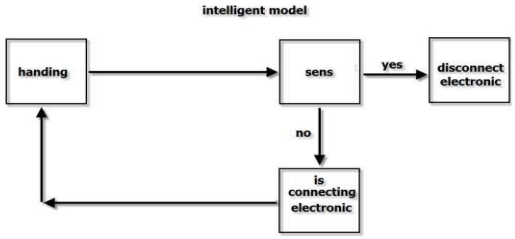


Figure 25: Block diagram of intelligent mode

If someone connected to electrical power unwanted infrared transmit from human's body to infrared receiver, it's interesting (impedance)Sensitive to human's body.

: Intelligent Systems Network Protecting

As we know, standard AC power characteristics of each country that is constant throughout the country, for example, Iran (home use) 220 V, 50 Hz, which is imported or produced materials must comply with these values. Electricity generated at dams and power plants with high voltage for transmission with minimal loss of energy through the high-pressure rig moved to the cities, where they dropped by exchanging lowering transferred then to the different parts of the end of the path Lowering exchanger that is often seen on the streets and in the streets to an acceptable level and taking turns at home at this stage of the converter used Several common to the parallel. It is worth noting that the utility grid voltage is constantly up and down this volatility reduces the lifespan of consumer goods and even when they are burning as such, we the protection of the we Networks as stabilizers systems etc. this is how these systems, stabilizers are set and stabilized machines with electronic machines, electric, or mechanical in addition to the voltage correction in terms of the design, can perform a variety of electric protection day.

It must be understood that the price of the goods or voltage protection equipment is expensive and difficult to transport them so we better filtration and practice of these techniques with better functionality to the wall outlet we have there.

The block diagram is in the form below.

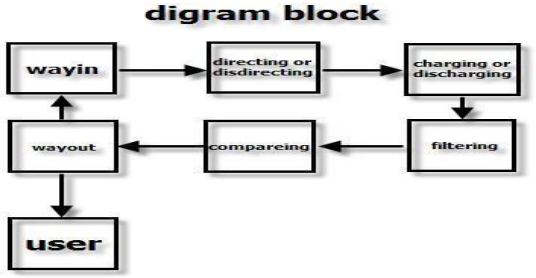


Figure 26: Block diagram of network protection at a reasonable While disconnecting: Stay off for 10000 ms designing until 30000 ms

: Intelligent System Power fluctuations

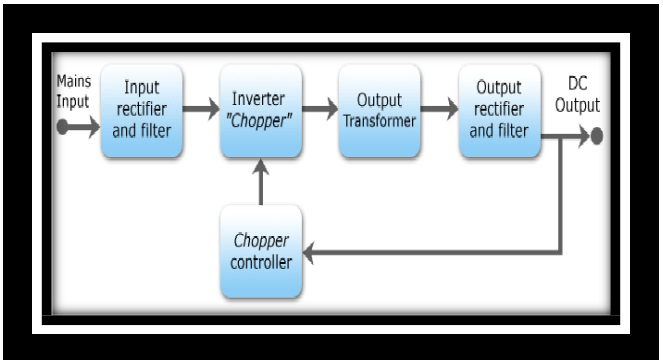


Figure 27: Block diagram of how the initial conversion

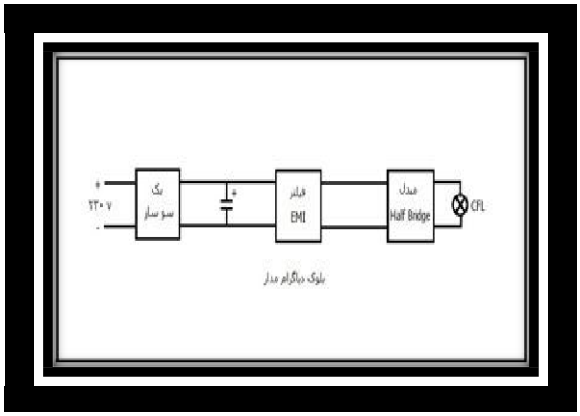


Figure 28: Diagram of how to convert secondary Blog.

2-4: Multilayer Perception network

The layout of the network layer of an MLP (MLP) is an R unit of input (P1, ..., PR) and S

1-8: Fuzzy Neural Network.

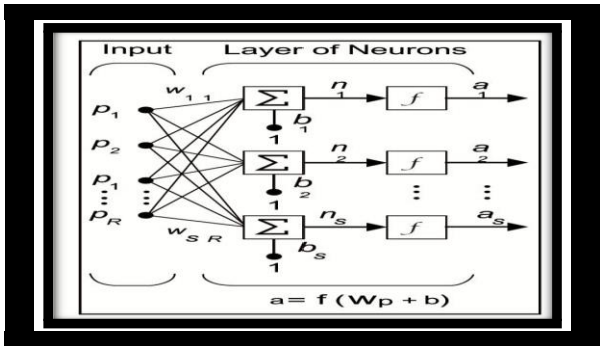


Figure 29: single-layer network R Input and S Neurons in the middle layer

In this network, each member of the P vector input to each input neuron is connected through the weight matrix W. I am neurons acquisition system has a weighted inputs and outputs bias in the form of scalar n (i) collects. n (i) net input vector n to be in different forms. Finally, the output layer neurons are formed into a column vector. The output equation in equation (1) is given.

$$n_j = \sum_{i=1}^{R} (p_i w_{ij} + b_j) \qquad ,j = 1,2,...S$$

Connection weights, Input unit And the output unit My bias is related to cell j. Increase or decrease are weighted and biased role of the network helps to improve existing models Know. The final output of the network (a) using motion function f (x) is calculated using Equation 2.

$$a_S = f(n_S)$$

The calculated weight training and information stored in preparing for future applications.

(x) indicates that x represents a specific element and phase in which the function u membership x defines the respective set its value between zero and one. equation (3).

$$A = \{X, \mu_A(X) | x \in X\}$$

In other words, u (x) mapping of possible values of x into numerical values between zero and one makes. The function u (x) may be discrete or continuous set of values in Figure 2 of the continuous mapping x values to the values of u (x) shows.

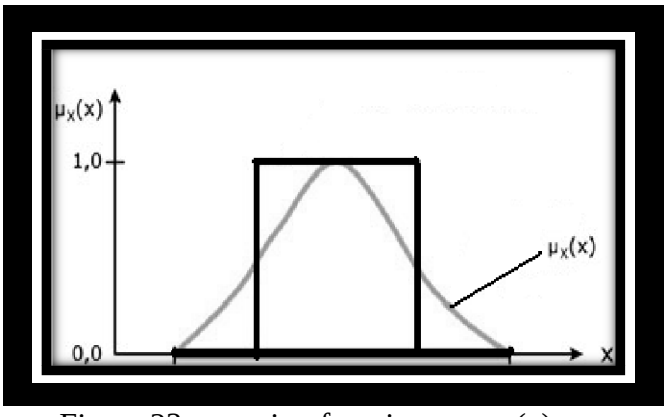


Figure 23: mapping function x to u (x)

Result:

In conjunction with similar systems, this outlet is full option, it can use as a plug out, protector. And adjustable voltage with nice and wonderful design.

Its patent number 77095 registered in Iran and producing in Lorestan Province Science and Technology of Park.

Sources and references:

The project is an initiative that has been registered in the Iranian Patent Office.

گواهی نامه ثبت اختراع

Invention certificate

Reference:

Abbasi F.M., Ahmad H., Perveen F., Inamullah P.W., Sajid M., Brar D.S. (2010). Assesment of genomic relationship between Oryza sativa and Oryza australiensis. African Journal of Biotechnology, Vol. 9, Num 12: 1312-1316.

Hussain, S.; Ghaffar, A. and M. Aslam (1990): Biological control of Macrophomina phaseolina charcoal rot of sunflower and mung bean. Egypt, J. Phytopathol., 130: 157-160.

F.M. Abbasi, H. Ahmad, F. Perveen, P.W. Inamullah, M. Sajid, and D.S. Brar, Assesment of genomic relationship between Oryza sativa and Oryza australiensis. African Journal of Biotechnology, (2010). Vol. 9, Num 12: 1312- 1316.