

# Multi charger System for Mobiles using Solar Panel Based Charging with Coining and Auto cutoff

<sup>1</sup>Miss. Swati M. Karemore, <sup>2</sup>Prof. Amit Welekar, <sup>3</sup>Prof. S. V. Wajurkar  
TGPCET, Mohgaon, Nagpur.<sup>1,2,3</sup>

**Abstract:** The Solar light is most supported as a result of the going with reasons: Without impact on the overall environment, sun arranged imperativeness can be used to deliver power. The Sun imperativeness is unlimited while other essentialness sources like crude petroleum, trademark gas and coal are showing their end. By having a system for trade power era, the utility cost can be diminished. At present circumstance, the daylight based essentialness creation is done by modified board system. To upgrade the capability of the sun based essentialness structure, taking after segment can be executed. Hence, a contemplation is made in the proposed structure, single after instrument, which is from East to West bearing, is used. At present, cell phone is a key thing for every person and in this way, there should be a charging office of mobiles out in the open spots is required. As there is no consistent force supply (24 hours) from the force board, the predictable charging office can't be given. Thusly, an idea, sun based power based multi adaptable charger system is executed in the proposed system which can be used as a piece of open spots like railroad stations, transport stands, specialist's offices and parks et cetera.

**Keywords:** Renewable Energy, Multi Mobile Charging System, Single Tracking, Multi MobileCharger (MMC).

\*\*\*\*\*

## 1. Introduction

The Solar light is most supported on account of the going with reasons: Without impact on the overall environment, daylight based essentialness can be used to create power. The Sun essentialness is endless while other imperativeness sources like crude petroleum, general gas and coal are showing their end. By having a system for substitute power creation, the utility cost can be diminished.

At current circumstance, the daylight based essentialness creation is done by settled board structure. To upgrade the adequacy of the sun controlled imperativeness structure, taking after framework can be executed. Hereafter, a thinking is made in the proposed structure, single after framework, which is from East to West bearing, is used. At present, cell phone is a key thing for every person and in this way, there should be a charging office of mobiles visible to everyone spots is required.

As there is no persistent force supply (24 hours) from the power board, the consistent charging office can't be given. Henceforth, a thought, sun based force based multi portable charger framework is executed in the proposed framework which can be utilized as a part of open spots like railroad stations, transport stands, healing facilities and parks and so on.

## 2. Related Work

This paper acclimates structure is helpful with additional significance from sun and smart after sun based vitality. Besides having Low power use MATLAB is utilized for keeping up a key partition from coin duplication. So this structure is helpful from all ways [1].

This paper is following keeping in mind the end goal to look of most convincing yield the Sun and resetting itself for taking after day. Here, with reference to the outcome examination, 41.8% of more capacity is master than balanced board framework through this proposed structure.

Along these lines, the proposed structure is said to be a gainful after framework [2].

In this paper a straightforwardness top notch microcontroller based sun filled charge controller has been proposed. The proposed structure utilized sun filled PV module as the data and DC load as the yield. The proposed framework has an upgrade choice to control ordinary UPS, when associated with the sun based charger will change over to SOLAR INVERTER/UPS with sun controlled charge as need [3].

This paper is phenomenally valuable in today's life. Since now days the need of correspondence is fundamental, so every individual having cell phone yet every time we can't go on charger with us. When we are going for long travel we may negligence to go on remote charger [4].

In this paper the heartbreaking deficiency of sun arranged radiation, the microcontroller begins the heap by exchanging on the MOSFET through a transistor. Precisely when the battery voltage drops to 9.5V, the microcontroller executes the heap to stay away from over-release. The structure exhibits the battery status on a fluid profitable stone showcase (LCD) [5].

This paper concentrates on, the more unequivocal model may make into record the eventual outcomes of shading or fragmentary shadows on the module's operation. In addition the impacts of scaling up the photovoltaic sources may be examined to focus the sensibility for extensive scale affiliation [6].

This paper, we have proposed the plan and change of invaluable green force charge to facilitate the money related noteworthiness challenge which can be utilized to charge distinctive gear contraptions like phones, Mp3 players, along these lines on by taking environmentally altruistic power vitality from the blend of light based and wind influence [7].

### 3. Proposed Work

The proposed work is planned to be carried out in the following manner.

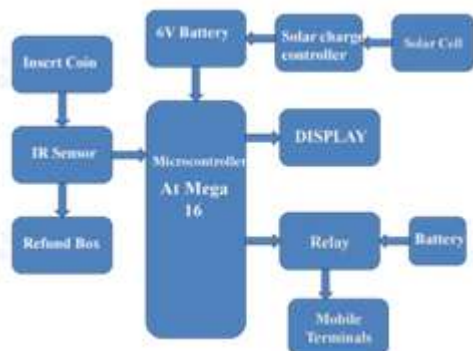


Fig: System Architecture

**Coin sensor and dual timer:** It consists of constant IR Transmitter and IR receiver Sensor whenever a coin is dropped light intensity falling on IR receiver changes, resistance changes it alters the pulse width of the timer.

**Micro controller:** It is the heart of circuit. It accepts the input from timer this is processed and control signal is generated so as to trigger the relay, manage coin count

**LCD:** It is the output device which show text message and also count.

**Relay:** It is used to connect and disconnect the load from the circuit depending on received control signals

#### Circuit Design

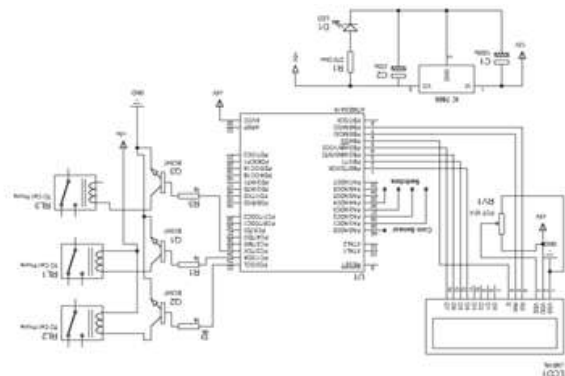


Figure: Project Circuit Diagram

#### Result

##### 6.1 Snapshot

The hardware setup for coin based mobile charger using solar tracking system shown below in Snapshots. This setup contains following hardware parts

- LDR 1
- LDR 2
- ATMEL 89c51 Microcontroller
- Stepper Motor
- LCD Display
- Motor Driver
- Solar Panel
- Battery
- Coin Detected IR Sensor
- Power Supply Unit



In this paper portrays coin based versatile charger utilizing sun oriented following framework. Cellular telephone's turned into a noteworthy wellspring of business/individual correspondence; the cellular telephone business is at present worth billions of dollars, and backings a great many telephones. The need to give an open charging administration is vital. Numerous pundits contended that an open cell telephone charging administration is not a lucrative business on the grounds that most clients can

charge their telephones at home, in their office or in their autos.

### Conclusion and Future Scope

#### 7.1 Conclusion

In this work a novel strategy for charging versatile batteries of various producer utilizing sun oriented force has been intended for country and remote regions where the present supply is not under any condition accessible constantly. This paper is exceptionally valuable in today's life. Since now days the need of correspondence is critical, so every individual having PDA however every time we can't convey charger with us. When we are going for long travel we may neglect to convey wireless charger.

#### 7.2 Future Scope

In future Provide fast charging slots for Mobile Charger. Plan for provide USB 3.0 and Thunder Board Slot for Laptop Charging. Also plan for multiport system and real-time point details for previous and new available charger in markets.

As of late there was a news from ape versatile organization they have discovered innovation to charge portable four times speedier than traditional charging strategy. They give high current to the versatile battery which is up to 4 amperes. On the off chance that we utilized such high current to charge ordinary battery of portable, so it will get begin warming and has odds of harm of versatile and battery. So they have given insurance from such warming issue.

### REFERENCES

- [1] M.S.Varadarajan., Coin based Universal Mobile Battery Charger, ISSN: 2250-3021 Volume 2, Issue 6 (June 2012), PP 1433- 1438.
- [2] Pulvirenti, F. Milazzo, P. Ursino, R. Charger power switch for mobile phones, Analog and Mixed IC Design, 1997. Proceedings 1997 2nd IEEE-CAS Region 8 Workshop, 12-13 Sep 1997, Pg 97 - 100.
- [3] "3rd International Conference on PV Module Recycling". PV CYCLE. Retrieved October 2012.
- [4] Pastre, M. Krummenacher, F. Robortella, R. SimonVermot, R. Kayal, M. EcolePolytech. Fed. de Lausanne, Lausanne, A fully integrated solar battery charger Circuits and Systems and TAISA Conference, 2009. NEWCAS-TAISA '09. Joint IEEE North East Workshop.
- [5] Bose, Bimal K. (2006). Power Electronics and Motor Drives : Advances and Trends. Amsterdam: Academic. p. 126.
- [6] Quoting US patent #4937722, High efficiency direct coupled switched mode power supply: The power supply can also include crowbar circuit protecting it against damage by clamping the output to ground if it exceeds a particular voltage.
- [7] Weidong Xiao, William G. Dunford, Patrick r. Palmer and Antoine Capel, "Regulation of Photovoltaic voltage," IEEE Trans Industrial Electronics, vol. 54 no.3, pp. 1365-1373, June 2007
- [8] Rodriguez, Jose; et al. (August 2002). "Multilevel Inverters: A Survey of Topologies, Controls, and Applications". IEEE Transactions on Industrial Electronics (IEEE) 49 (4): 724–738.
- [9] Barth, H. Schaeper, C. Schmidla, T. Nordmann, H. Kiel, M. van der Broeck, H. Yurdagel, Y. Wieczorek, C. Hecht, F. Sauer, D.U., Development of a universal adaptive battery charger as an educational project , Power Electronics Specialists Conference, 2008. PESC 2008. IEEE, 15-19 June 2008, Pg 1839 – 1845.
- [10] Bedford, B. D.; Hoft, R. G. et al. (1964). Principles of Inverter Circuits. New York: John Wiley & Sons, 1964
- [11] Weidong Xiao, William G. Dunford, Patrick r. Palmer and Antoine Capel, "Regulation of Photovoltaic voltage," IEEE Tran's .Industrial Electronics. vol. 54 no.3, pp. 1365 1373, June 2012.
- [12] Barth, H. Schaeper, C. Schmidla, T. Nordmann, H. Kiel, M. van der Broeck, H. Yurdagel, Y. Wieczorek, C. Hecht, F. Sauer, D.U. Development of a universal adaptive battery charger as an educational project. Power Electronics Specialists Conference, 2008. PESC 2008. IEEE19 June 2010,
- [13] Rodriguez, Jose; et al. (August 2002). "Multilevel Inverters: A Survey of Topologies, Controls, and Applications" IEEE Transactions on Industrial Electronics (IEEE) 49 (4): 724–738
- [14] Http:// electronics\_components.globalspec
- [15] http://electronic-components.globalspec.com/LearnMore/Electrical\_Electronic\_Components/Power\_Supplies\_Conditioners/Voltage\_Multipliers