

**Centralized LED Street Light Lamps Dimming
without Zigbee - LoRa - GPRS - Wifi**

**5 Years
Guarantee**

Smart, Intelligent
LED Street Light
Dimming Control &
Monitoring
System(SILED)

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The primary motive behind implementing SILED street Light is power saving and self-governing operation on fair&affordable cost for the streets by an Smart and intelligent lighting system. Build an energy saving intelligent lighting system with integrated sensors and controllers. A Smart IntelligentLED street lighting system aims for designing and executing the advanced development in energy saving of LED street light, the best solution for electrical power wastage is automation of street light, the manual operation of the lighting system is completely eliminated. This includes wireless Remote Centralized communication without Cloud or server.

One can check the status of street light on internet using cloud/ server from anywhere in real time and solve the issues if anything went wrong by follow up as alerts by E mail and SMS receive to ground team and various departments.

Whether you are switching to LED or retro-fitting to existing fixtures with SILED remote control, you can save energy by only using the precise amount of light you need and by accurately measuring every watt used. You can cut maintenance costs with real-time fault monitoring and by using detailed operational intelligence to improve day-to-day effectiveness and planning.



BNNPOWER have introduced & installed smart & intelligent Monitoring system for conventional outdoor Lighting five years ago for group dimming and WEB control by GPRS method on dashboard. It has got overwhelming response. Our WEB control by GPRS method gives satisfaction to our client being all data placed on user friendly dashboard. Online data monitoring ,one year storage data accessibility, trends , Alerts by SMS & e mail makes sense to establish energy saving by real manner. User get the benefit of monitoring & control to compare daily consumption any point of time by cloud.

Applications-

- 1) City Street LED Light Control
- 2) Stadium LED Light Control
- 3) Large Hospitals LED Light Control
- 4) Large Housing Complex LED Light Control
- 5) Other Remote locations LED Light Control
- 6) Outdoor LED Lighting
- 7) Outdoor Retrofit Lighting
- 8) Garden LED Light Control



Streetlights are among a city's most important and expensive assets usually costs one third of the electricity bill. The proposed smart light control system outclasses the previous systems because it integrates the Power Line Communication with the LED lights. The system reduces the power of the LED lights according to outside conditions of light intensity as it has the ability to dim the lights. The initial experimental results show that it saves remarkable power as compared to conventional systems. This efficiency increases even two fold by considering the advantage of remotely monitoring and controlling the lights through the centralized point. Thus the proposed system is the cost effective and efficient system satisfying the needs of the modern users.

Now-a-days Street light have become a vital and mandatory aspect considering road safety. Streetlights are among a city's most important and expensive assets usually costs one third of the electricity bill. A lot of electricity is consumed by street lights. So it is imperative to save the power as much as we can. The cost of electricity continues to increase, hence energy saving by smart and intelligent control plays a vital role.

The proposed smart LED street light control system outclasses the previous systems because it integrates the low power communication protocol with the LED lights. The system reduces the power of the LED lights according to Light intensity requirement as it has the ability to dim the lights.

Our successful installations results prove that it saves remarkable power as compared to Fix LED lamps. This efficiency increases even two fold by considering the advantage of remotely monitoring and controlling the lights through the centralized point. Thus the proposed system is the cost effective and efficient system satisfying the needs of the modern users.

Street light control & monitoring is an automated system designed to improve the efficiency by automatically controlling the street light. We BNN POWER being energy service company having a one decade of rich experience in energy saving in all segments and various sectors among India & abroad., hereby introduce our Smart web based LED Street Light with Intelligent Control and Monitoring system.

The present LED smart city projects stuck up due to disadvantages of

- 1) RF Zig-Bee Technology having Limitations in distance and IoT, Wi fi availability. Communication error and downtime included.
- 2) LoRa based Technology required Monthly payment for its Modem for each Lamp. Communication error and downtime included.
- 3) GSM based Technology required Monthly payment for its internet charges for each Lamp. Communication error and downtime included.

Apart from this expensive exercise & compulsory AMC (Annual Maintenance Contract) data acquisition 99.9% is impossible.

Whereas our Centralized LED street Light dimming system supersedes all above technologies due to following Merits



Smart, Intelligent LED Street Light Dimming Control & Monitoring System provides uniform dimming system which supersedes all above Technologies due to following advantages -

- 1) Guaranteed energy saving more than 25 % for Constant current LED Street light.
- 2) Failsafe guarantee for 5 Years
- 3) Dimming consistency throughout the circuit
- 4) Single command can control all the LED street Light Load
- 5) Pre-programmed Logic or Remotely Controlled Logic ON-OFF & Dimming
- 6) GPS traceability
- 7) Longitude and latitude based ON/OFF
- 8) Harmonics (% I-THD) generated by LED Lamps within IEEE-519-2014 standard Limit below 5 %.
- 9) Daily/weekly/Monthly LED Street Light Lamp Report generation Provision by E mail & SMS alert facility.
- 10) Sustain to 440 VAC supply voltage also in case supply voltage increased
- 11) Low voltage & high voltage cut OFF ensure Load safety.
- 12) Centralized system provided with Zero sequence Harmonics Filter (ZHF).
- 13) ZHF avoid Current and Voltage unbalancing due to Load.
- 14) ZHF maintain Load safety during short circuit condition.
- 15) ZHF minimizes third Harmonics generated by LED Lights
- 16) Dedicated web pages can track the complete Load ON & OFF and dimming status with GPS traceability.
- 17) Assured Flicker free & Maintenance free LED street Light
- 18) Data acquisition 99.9%

Existing scenario (100KW Load)

11 Hrs. Daily working – $100 \times 11 = 1100$ KWH/Day

ENERGY Saving Concept 100KW Load –

First 3 Hrs. Daily working – $100 \times 3 = 300$ KWH/Day

Mid 2 Hrs. Daily working – $75 \times 2 = 150$ KWH/Day

Late 6 Hrs. Daily working – $50 \times 6 = 300$ KWH/Day

Total Energy Saving = $1100 - 825 = 275$ KWH/Day

% Saving = 25 %

Ratings :

30 KVA, 3Ph.

50 KVA, 3Ph.

75 KVA, 3Ph.

100 KVA, 3Ph.