



## LETS MAKE ENERGY CLEAN

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In new modern era Energy is the most essential entity for running the world, like air for living. Energy has different forms and has added lot of benefits to our life. It has added a comfort to our life, increased productivity of our daily routines and systems, in short it has made our life easy. A person can contact another person on the other edge of the world within a fraction of second. Energy has made revolutionary changes which previously seemed impossible.

But every coin has two sides, so does Energy. It has added perks to life but at a certain cost and that is Pollution. Today most of the energy is coming from fossil fuel (coal, crude oil), and they will continue to do so unless until there is reliable and replaceable renewable energy sources available. Some are available (solar, wind) today, however they are not even contributing enough to comply present need.

This article talks about a proposal which will reduce our energy consumption by automation of buildings (e.g PIB, SUBSTATION) where human occupancy is not required continuously. The scheme will switch-on lights only when any personnel enters inside this unmanned areas and switch-off the lights when there is no human occupancy inside. The proposed scheme not only save energy but also save equipment lifecycle.

### Case Study:-

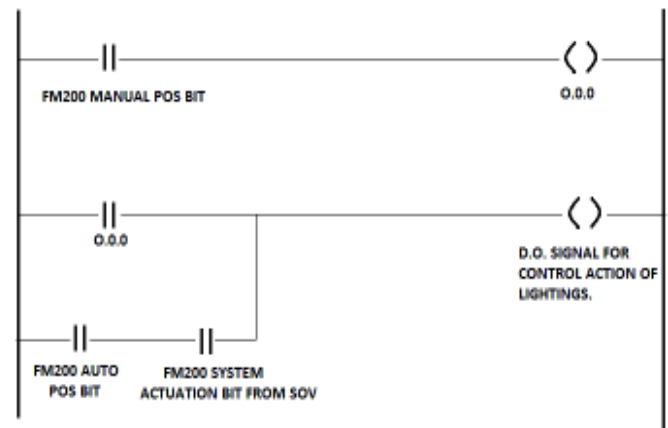
This suggestion is given based on the case study of PIB-140 in IIR COMPLEX.

Study was conducted and estimated that we are spending ₹ 433 worth energy per day unnecessarily. Reliance Jamnagar has over 150 PIBs and potential for cost saving was identified.

### Application Strategy:-

#### Following strategy is proposed

- FM200 AUTO/MANUAL switch maybe used to operate lighting inside the PIB.
  - When PIB Is in Auto mode 95% of total light stays in off state (we will keep 5% PIB light at continues on state for emergency purpose.)
  - When PIB is in Manual mode 100% light will be On.
  - In case of scenario wherein PIB is in Auto mode & FM200 gets release because of FIRE, PLC logic to override light control and provide 100% illumination maybe developed



PLC LADDER LOGIC



## Benefit of the proposal:-

- Cost saving
- Energy saving
- Improve life duration of tube lights

## Sources:-

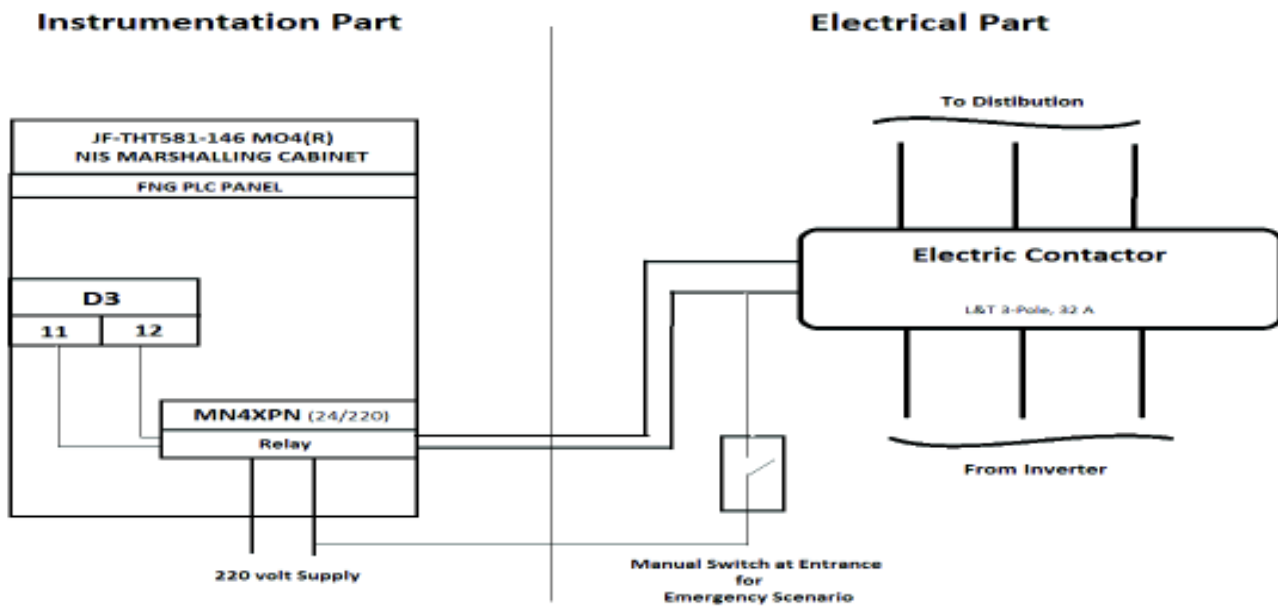
Center for climate and energy solution.

[https://www.c2es.org/content/renewable-](https://www.c2es.org/content/renewable-energy/#:~:text=Renewables%20made%20up%2026.2%20percent,solar%2C%20wind%2C%20and%20hydropower.)

[energy/#:~:text=Renewables%20made%20up%2026.2%20percent,solar%2C%20wind%2C%20and%20hydropower.](https://www.c2es.org/content/renewable-energy/#:~:text=Renewables%20made%20up%2026.2%20percent,solar%2C%20wind%2C%20and%20hydropower.)

## Ecotricity

<https://www.ecotricity.co.uk/our-green-energy/energy-independence/the-end-of-fossil-fuels>



Implementation Diagram

