तेजपुर विश्वविद्यालय
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(सर्वोत्तम विश्वविद्यालय के लिए कुलाध्यक्ष पुरस्कार, 2016, भारत के 100 श्रेष्ठ उच्च शिक्षण संस्थानों में पंचम स्थान और 'नाक' द्वारा 'ए' ग्रेड प्राप्त विश्वविद्यालय)
(Awardee of Visitor's Best University Award, 2016, 5th among India's Top 100 Univesities, MHRD-NIRF-Ranking, 2016 and NAAC Accredited with "A" Grade)

SENSOR BASED AUTOMATIC SWITCHING CONTROLLER

The sensor based automatic switching controller can switch on or off electric streetlights or any electrical appliance by monitoring daylight condition. The controller can be used to handle up to 25 Amp load and a voltage level up to 440 V AC. It can be used for driving/controlling electrical appliances by automatic monitoring of daylight condition. This controller can also be interfaced with appropriate sensors for operating electrical equipment with respect to occupancy, movement etc. Here, the controller is installed for automatic switching of the streetlights in the TU campus. The connected streetlights are automatically switched on in the evening and switched off in the morning.

The energy saving scope explored by this controller is based on the operation time of the streetlights. It is expected that manual switching on and off of the streetlights, which are scattered in the campus, cannot be done appropriately at the dusk or dawn. Due to scatteredness of manual on/off switches of these lights along with other human and environmental factors, their timely operation may not be possible in all seasons. Further, dedicated manpower for the purpose is also essential. This controller can take into account of the daylight variations during all seasons automatically, be it summer or winter, and can operate the lights accordingly without manual interventions.

Ideally at full load, say for 25 A at 240 V AC, reducing one hour excess operation due to manual switching per day, around 2160 units per year can be saved by the controller. In terms of numbers of streetlights, assuming at least one hour excess operation on an average (half an hour in the evening and half an hour in the morning) during manual switching of 60 streetlights of 55 Watts power rating, the controller can save energy around 1180 units per year.

14/8/19
Registrar
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