

Dynamic control device for optimization and reduction of energy consumption in lighting of closed spaces

A new methodology for the dynamic control of lighting in closed spaces has been patented and developed. The new device can be easily implemented in buildings and allows energy savings up to 85%. Partners to further develop the system and/or to establish commercial agreements along with technical cooperation are sought.

The Challenge

Light is completely essential to perform our daily activity. However, many people are unaware of the high energy consumption because of lighting, especially in buildings. To have a first idea, buildings are the 40% of the European energy consumption and a 30% of this is caused by the lighting system. Moreover, people are inside buildings for 90% of his life, on average, and this situation is not expected to change in the coming future. Furthermore, the stress in the demand of energy from non renewal sources is expected to significantly increase the price of electricity in a near future. The optimization of the energy consumption is therefore a commitment which will inevitable involve lighting systems as it represents an important percentage of the total power consumption.

The Technology

The control consists of a position sensor system which is capable to detect the position of users inside the building at any moment. Subsequently, orders for each light are calculated depending on these positions. Additionally, the control includes light sensors which measure incident daylight on the building and dims the generated light according to the regulations.

Innovative advantages

- Can be easily implemented in new generation buildings.
- Excellent lighting quality.
- Energy savings up to 85%.
- Better atmosphere to work.
- Able to adapt to different working conditions.
- Awareness of the users position.

Current stage of development

The control has been implemented in a working prototype which is based on a rectangular room. The experiments on the prototype were very successful reaching high energy savings.

Applications and Target Market

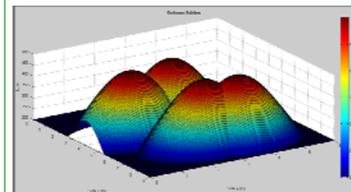
This control has been developed to be implemented in indoor places. It is highly suitable for large area spaces. Therefore, it is useful in:

- Department stores.
- Universities and schools.
- Offices and industries.
- Hotels and other accommodations.
- Car parks and other underground places.

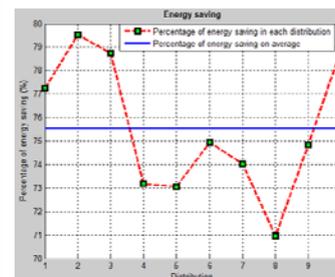
Reference number

MKT2011/0092_E

Offices using uniform lighting systems waste energy in areas where it isn't really necessary



Lighting dynamic control system intensifies light in real time, in positions occupied by users



Natural lighting is also managed by this device. Large energy savings can be achieved with this invention

Business Opportunity

Technology available for licensing with technical cooperation.

Patent Status

Priority application

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