

ENERGY SAVING LIGHTING CONTROLS

FROM



KAKATIYA ENERGY SYSTEMS PRIVATE LIMITED

Energy used for lighting.

1. Lighting is a major source of electricity consumption.
3. 19% of global electricity generation is taken for lighting
 - This 19% is > production of all hydro or nuclear stations.
 - This 19% is = the production from natural gas.

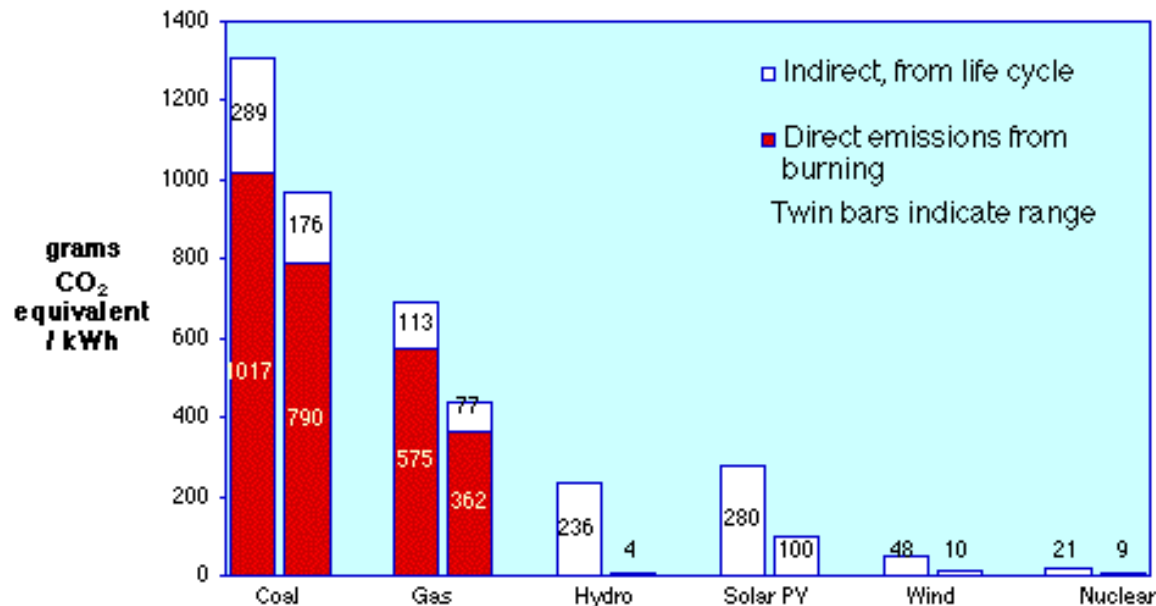
---said Paul Waide, a senior policy analyst with the IEA

The emission equivalent

The carbon dioxide produced by generating this 19% electricity

- Is about 70% of global emissions from passenger vehicles,
- Is about 3 times the emissions from aviation, the IEA says

Greenhouse Gas Emissions from Electricity Production



Source: IEA 2000

Ways to reduce the lighting load

1. Switching over to more efficient light sources like CFL, LED etc..
3. By eliminating wastages in the use of lighting.

An ever valid proposition

Switch OFF the lights when not needed

Understand the illumination needs ... reduce excess light

Manual vs. Automatic switching

Manual control is prone to errors and leads to energy wastages.

Manually switching public lights involves drudgery and also costs labor.

Manually dimming during mid night is impracticable.

Dynamically tracking the light level is manually impracticable.

Automation is a one time capital cost giving a lasting solution.

Lighting controls from KESPL.

Automatic Switching products for outdoor lighting

Automatic Switching products for indoor lighting

Late night HID dimming products

Nature switch .. Switching systems

Nature Switch range for automatic switching.

Saves approximately 10-15% of energy.



Nature Switch



Sign Switch



Swadeep-02 EC

Photocell devices Vs nature switch

NATURE SWITCH IS NOT A SIMPLE PHOTOCCELL

- It is superior to photo sensors
- It is superior to timers.

Please visit www.natureswitch.com for more details.

Operational states and visual

indications

LED Color

Green

Amber

Red Flashes

Green Flashes

Amber/ Green Flashes

Off

Op. State

Output OFF

Output ON

Load tripped.

Low voltage trip

Over voltage trip

Input off



LED

Value to the End User

The cost and savings of energy per kW per year

Customer type	Electricity tariff	Savings	Value of Savings/kW/year
Commercial	Rs. 8 kWh	1.5 hrs/day	Rs 4,380
Industrial	Rs. 4 kWh	1.5 hrs/day	Rs 2,190

- We save manual cost of Rs. 1,000 to Rs. 2,000 per switch per year
- We save energy worth Rs. 2,000 to Rs. 24,000 per switch per year
- We enhance the life of lamps by protecting from over voltages
- We charge Rs. 1,000 to Rs. 1,500 per kW of load as automation cost
- Consequently the pay back period is from 2 months to 12 months

PRODUCTS FOR HID DIMMING

Smart Switch for late night dimming of HID lamps using the concept of bi-level dimming. The dimming product can save about 20-25% of energy consumption.



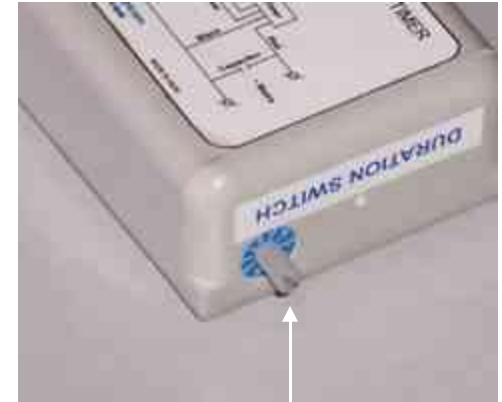
Smart Switch for new HID luminary

SMART SWITCH- FEATURES

User selectable high wattage duration.

- Memory backup from rechargeable battery.
- Duration memory immune to power interruptions.
- A microcontroller processed program and logic
- Automatic pre-warming for power interruptions.
- High uniformity in operation among a group.
- Ability to perform in a temp. of 80 deg. C.

- Superior to systems available from BAG, ATCO, VS.



Selection switch

OUR IP and AWARDS

Our patent number 198710 valid till 2018.

Our Design registration number 179810

Our Trade Mark is registered 1322680

We have received an award from Siemens Venture Capital
Under India Innovation Programme 2008.

We have received an award from FAPCCI, Andhra Pradesh
Under best new product from an SSI from the state of AP.

INDOOR LIGHTING CONTROL



Product for indoor light control.

Sun Switch for automatic control of indoor lighting tracks natural lighting and can save energy on a dynamic basis.

SUN SWITCH

Customers

Present

- OEMs in India
- Major PSUs
- Major Private sector players
- Individuals.

Prospective

- Builders and developers
- OEM's outside India.
- Municipalities
- Commercial and domestic
- Major signage companies.

OUR CUSTOMER'S OPINION

Reliance Infocomm Infrastructure Pvt. Ltd.

(Formerly known as Terene Fibres India Pvt. Ltd.)

Dhirubhai Ambani Knowledge City

Navi Mumbai 400 709

Phone: 30373333/30383333 Fax: 30373799

07/09/2007


TO WHOM SO EVER IT MAY CONCERN

This is to confirm that we have been using various models of Swadeep Nature Switches manufactured by Kakatiya Energy Systems Private Limited, Hyderabad for the purpose of automation of the campus lighting & street lighting circuits at Dhirubhai Ambani Knowledge City (DAKC), Navi Mumbai.

We found these Nature Switches to be superior to timer based systems.

The working of these Nature Switches was found satisfactory even during heavy monsoon.

For Reliance Infocomm Infrastructure Pvt. Ltd.


Authorised Signatory

OUR CUSTOMER'S OPINION



CENTRAL ELECTRONICS ENGINEERING RESEARCH INSTITUTE

(Council of Scientific and Industrial Research, India)
Pilani (Rajasthan) - 333 031, India

No. 5 (7) / 2007 - EME

Date- 18.05.2007

To whom it may concern

This is to certify that M/S Kakatiya Energy systems Pvt. Ltd."Hyderabad had supplied two Nos "SWADEEP-02 EC 12 Kw, 3 P NATURE SWITCH" against our purchase order no-497/SES/Pur/05 dated 17.08.2006 and installed by us for controlling of street lights for Institute & Colony in September,2006 at CEERI, PILANI and found the performance satisfactory.


(M.C. Sonania)
Head of EME Division

OUR CUSTOMER'S OPINION

Mahindra & Mahindra Ltd.



89, MIDC, Satpur , Nashik 422007. Tel: (0253) 6608053/49. Fax:(0253) 2352272

DATE: 14.05.07

Ref. NoSP/ F08/01

To whomsoever it may concern

Since last one year we are using Nature Switch Swadeep -02 for our auto switching application of Street Lights. In general we have found the working of these units satisfactory.

Swapnil Rastogi
Dy. Manager (Electrical) &
BEE certified Energy Auditor EA 2624

OUR CUSTOMER'S OPINION

**JAWAHARLAL NEHRU PORT TRUST
ENGINEERING SERVICES
ELECTRICAL MAINTENANCE**

JNP/ES/EM/NATURESWITCHII/2008

July 4, 2008

TO WHOM SO EVER IT MAY CONCERN

This is to certify that we have been using the product SWADEEP 02 EC 5kW 1P manufactured and supplied by M/s. Kakatiya Energy Systems Private Limited, for automatic control of Container yard lighting of the Jawaharlal Nehru Port Trust, Navi Mumbai. We found the performance of these products to be satisfactory and free from any time and clock settings. We also found that the switching light level judgement is quite appropriate and do not require any human interference.

ASSTT. MANAGER(EM-PORT)

Market potential in India

Segment	Pot. Qty In. mn	Unit value Rs./each	Total value Rs. mn
Urban street Lighting	1.5	9,000	13,500
Rural street lighting	1.5	7,000	10,500
Factory Lighting	1.3	7,000	9,100
Com & Domestic	1.0	2,500	2,500
Front Lit Hoarding	0.015	6,000	90
Back Lit Signage	0.6	2,500	1,500
HID Dimming	15.0	1,500	22,500
Indoor light control	10.0	5,000	50,000
Total Indian market			109,690 =US \$ 2.5 Billion

The market is global since the need, application and use value are all same. We are implementing an expansion plan to cater to this business opportunity.

Our association with New Ventures India.

Association started during May, 2007.

By October, NVI selected us as one of the Finalists for the year 2007.

NVI organized Investor Forum 2007 at Mumbai. We got a slot.

This event brought us closer to many investors.

We have started getting confirmations for investment.

NVI has also helped us in providing market linkages and leads.

The dedication and spirit of the NVI team has impressed us very well.

THANK YOU