

Saving energy now at your finger tips



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Stabilux

Energy Saver for Lighting



Applications

Lighting Energy Saver is a need of the hour for reducing the consumption on Lighting load mainly to high consuming Lights such as Sodium Vapor Lamps , Metal Halide lamps of which a suitable replacement is difficult with current technology. Applications includes Street Lighting , Tunnel Lighting ,High Bay Lighting, Stadiums, Hotels , Factory industrial Units and Commercial Establishments.



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Introduction

- ➔ Energy cost contributes to the total product cost
- ➔ Energy consumption has become National and Global priority
- ➔ Electrical energy saving is very important due to global warming and economic destruction
- ➔ Huge gap between demand and supply
- ➔ Shortage in electrical energy results in implementation of various energy conservation measures



Need for Energy Saving

- ➔ KW Reduction
- ➔ National Interest
- ➔ Green Environment





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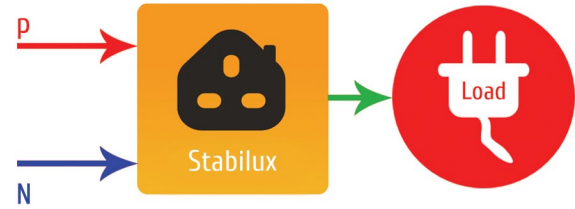
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How Stabilux works ?

Stabilux works in the base of managed voltage optimisation, is highly advanced and sophisticated transformer with zero loss windings. The unique feature of Stabilux not only optimises voltage but also increase power factor and reduce harmonics.

Above certain power, performance of gas discharge lamp saturates and saving is achieved by cutting excess energy consumed by load. In High Density Discharge (HID) lamps, High Pressure Sodium Vapor (HPSV) lamps, Mercury Vapor (MV) Lamps, Metal Halide (MH) Lamps, Tube light & other light is emitted from an electrical are established between electrodes due to application of rated voltages. Stabilux Lighting Energy Saving Device is in effect a "Lighting Voltage Controller". The lamps are initially ignited at full voltage. Then after a pre-selected period (Warming up Cycle) typically less than 10 minutes, the controller automatically optimized the voltages by 10 – 15 % and thus power consumption is reduced 15% to 30%. Also Gas discharge lamp have saturation region above 215 – 220 volts, above which most of the energy fed to load gets dissipated in the form of heat and thereby reducing its life. This saturation current is limited by means of adding reactance. This resists to abrupt change in current and absorbing momentary energy thus avoiding surge to load. By connecting centralized Lighting Energy saving Device life of lighting devices extends, burning of chokes reduces and maintenance and hazards are minimized.



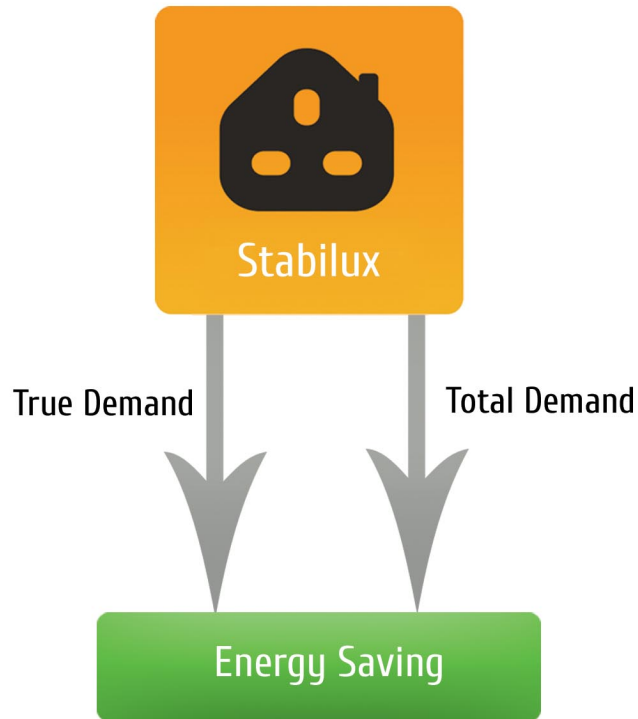


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Concept



Salient features of Stabilux Energy Saving Unit

- ➔ Extreme low pay back time just 8 to 12 months.
- ➔ Saving of electrical energy by 15% to 30%.
- ➔ Gain extra life of M.V.S.V lamp, metal halide lamp, incandescent lamps etc. by 200%.
- ➔ No need to modify / change existing fixture.
- ➔ Enhancing the life of ballast by 40%.
- ➔ Suitable to work continuously round the clock at full load.
- ➔ Flexibility of output voltage.
- ➔ No harmonic generation.
- ➔ Absolutely maintenance free, silent, static.
- ➔ Elegant, compact, easy to connect, operate & service.

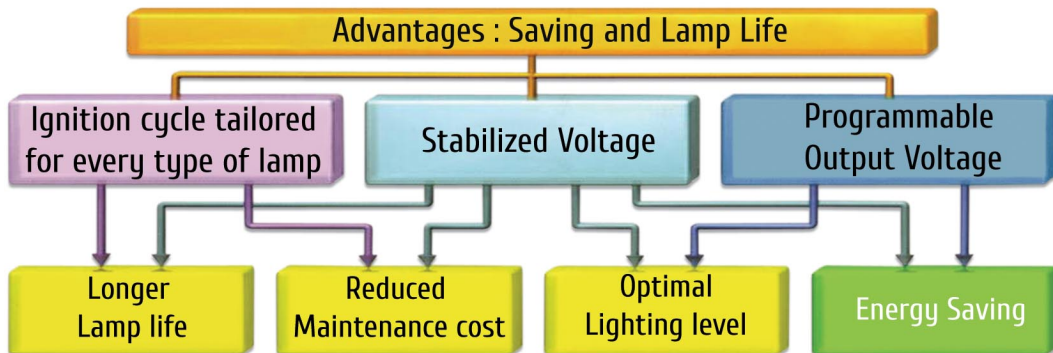


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Advantages



- ➔ Ensures energy saving up to 50% thanks to the stabilized and regulated powering supplied to the lamps.
- ➔ Supplied the most suitable lightning level according to the user's real needs managing and maintaining the stabilized output voltage.
- ➔ Permits lightning cycles tailored for each type of lamp.
- ➔ Perfectly feeds sodium, mercury, metal halide and fluorescent lamp, keeping their original characteristic unvaried throughout time.
- ➔ Increase the lamp life, considerably reducing the need for replacement. Cuts down plant maintenance costs.
- ➔ Reconciles safety, saving and quality of lightning for roads, spurs motorways, squares, tunnels, parking areas, stadiums, harbors, airports, railway station, power plants, military barracks, prisons, industrial plants, wide distribution.
- ➔ Vigorously controls luminous pollution.
- ➔ Ensures driving safety with constant and uniform lightning, thus avoiding dangerous shadow cones caused by the switching off technique.





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Unique Feature

As soon as the power supply device is on as per set program, the device will start to supply full power which is required for the ignition purpose of the lamp. Then after a pre-selected period as per set time the controller automatically optimize the voltage, so as to reduce the power consumption. The action will be done without breaking the main circuit from which the load current passes through the System.

Auto Bypass Arrangement

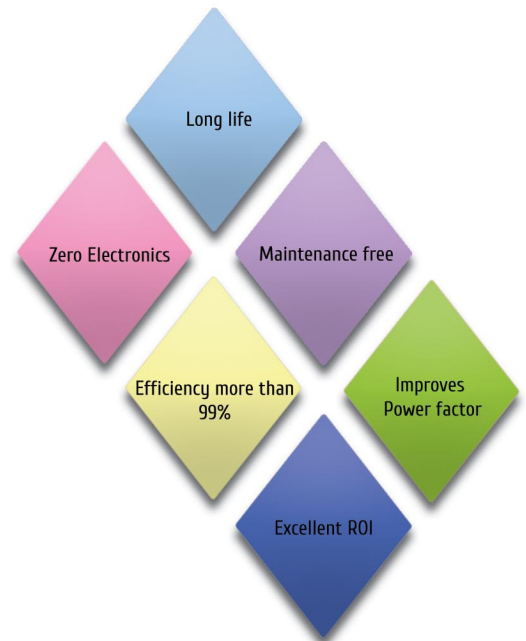
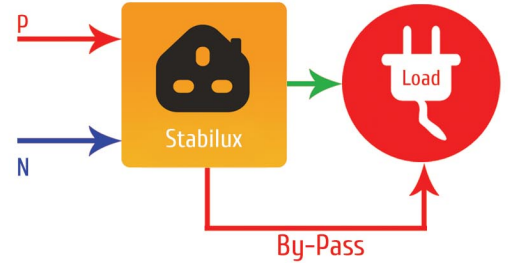
The saving of energy is related to adjustment of voltage, but at many places voltage drops below required level, which is affecting the light output (luminous). The system will bypass the energy conservation unit if the voltage drops below required limits. This unique arrangement will help the user to maintain light output under the situation of low voltage. The moment of voltage condition improve, the Stabilux unit will automatically switch over to saving activity. This extraordinary arrangement will not only ensure safety but also ensure uninterrupted light output constantly.

Constant Voltage Unit

Stabilux constant voltage unit design to provide constant output voltage in respect of variation in input voltage. If input voltage is low Stabilux will increase output voltage & if input voltage is high Stabilux will low the output voltage to provide constant lighting level.

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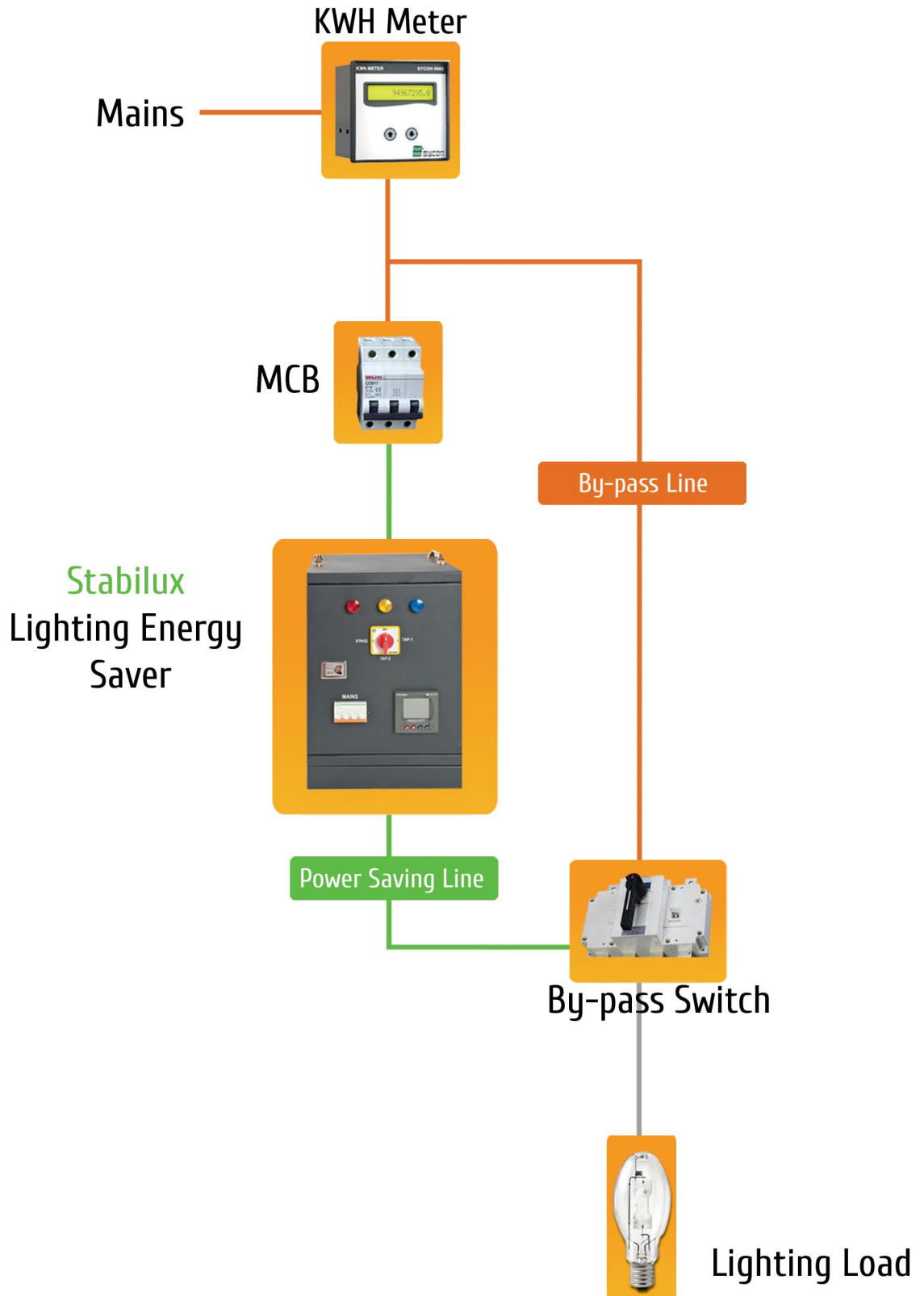
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Block Diagram

Centralized Lighting Energy Saver





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Specifications

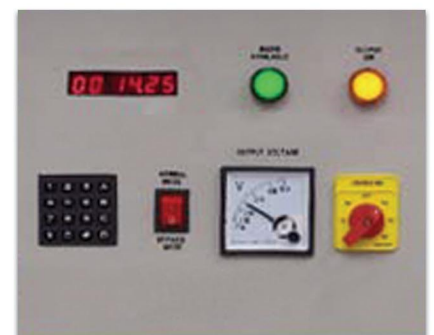
- ➔ 3 PHASE 415 V , 50 Hz with Energy Meter.
- ➔ Built with 16 Gauge SWG CRCA sheet Metal enclosure confirming to shade 631 of IP 54/55.
- ➔ Incoming & Outgoing protection by SFU/MCB/MCCB.
- ➔ On load Bypass.
- ➔ Energy Meter for Monitoring.
- ➔ Under Voltage automating by pass system.
- ➔ Force Air Circulation System.

Construction

- ➔ Input MCCB/ MCB with Overload & Short Circuit Protection.
- ➔ All Bus bar used will be Copper.
- ➔ RYB Indication Lamps for Input & Output.
- ➔ Mode Indicating Lamps. (eg. Saving Mode/ Bypass Mode)
- ➔ On load, Heavy Duty changeover switch to bypass the unit for maintenance.
- ➔ Cable termination arrangement for incoming & Outgoing Cables.
- ➔ Timer to set Warming Cycle.
- ➔ Digital Meter for Energy Measurement. If Multifunction meter is required it will be provided on extra cost basis. (Multifunction meter can measure all electrical parameters like voltage, current, Power Factor, Power, Energy etc.)
- ➔ IP 65 Protection Panel will powder coating grey shade as per IS.

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Street Light Model

Stabilux Energy Saver Street Light Model is designed specially for street lights. In addition to energy saving unit, the model contain a astronomical timer which automatically makes Lighting Circuit "ON" & "OFF" according to sunset and sunrise of that particular region (Optional). As the lighting circuit "ON" & "OFF" Automatically according to Sunset and Sunrise additional saving will be achieved.



Features

- ➔ 3 PHASE 415 V , 50 Hz.
- ➔ Built with 16 Gauge SWG CRCA sheet Metal enclosure.
- ➔ Incoming & Outgoing protection by SFU/MCB/MCCB.
- ➔ Under Voltage automating by pass system.
- ➔ Input MCCB/ MCB with Overload & Short Circuit Protection.
- ➔ All Bus bar used are Copper.
- ➔ RYB Indication Lamps for Input & Output.
- ➔ Mode Indicating Lamps. (eg. Saving Mode/ Bypass Mode)
- ➔ On load, Heavy Duty changeover switch to bypass the unit for maintenance.
- ➔ Cable termination arrangement for incoming & Outgoing Cables.
- ➔ Timer to set Warming Cycle.
- ➔ Digital Meter for Energy Measurement. Multifunction meter can measure all electrical parameters like voltage, current, Power Factor, Power, Energy etc.
- ➔ Force Air Circulation System
- ➔ IP 65 Protection Panel will powder coating grey shade.

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