CONVERTING COSTS INTO PROFIT
SERVING THE ENVIRONMENT
Saving is an economic, political and environmental issue. Our long-lasting commitment is to supply private businesses and public entities with energy saving systems, which deliver significant cost savings, while paying particular attention to the safeguard of the environment.

Saving is a philosophy entailing knowledge, professionalism and transparency.

In order to increasingly satisfy the market demand, Energia Europa has expanded its services supplying saving programs designed for both existing centres and new projects.
e-box is not just a product. It is also a service!

A CONTRIBUTION TO THE COUNTRY

Energia Europa provides services ancillary to the supply of saving systems:

- Feasibility Studies;
- Data surveys;
- Executive planning;
- Energy and planning consultancy.

Energia Europa also assists its clients in finding the optimal solutions to acquire their own products thanks to agreements with important financial and bank Institutions at a national level.
The e-box system, designed and produced by us, delivers a drastic reduction in the consumption of electric power and the optimisation of maintenance costs.

The system can be applied to light sources such as fluorescent, sodium vapour, mercury vapour, metal iodides and halogen lights, with control of interior and exterior lighting systems with power ratings from 0.69 kVA up to 138 kVA.

It allows reduction of the electromagnetic interferences.

It permits to reduce wear and tear on supply lines, electrical components in electric boards and on the light fixtures themselves.

Due to its compact dimensions and electrical characteristics it can be easily installed in any environment without requiring modifications to the already installed single-phase or three-phase plants.

It operates by regulating electrical operating parameters. The system consists of an electronically controlled static autotransformer that applies the principle of electromagnetic transformation (the non-harmonics transformer principle).

It does not require any further maintenance or control interventions after it has been installed, set for operation and tested.

ENVIROMENTAL BENEFITS

e-box systems reduce light emission peaks. This allows significant savings in terms of light pollution.

Reduced energy demand helps reducing the CO2 level in the atmosphere.

In accordance with the D.Lgs. 22/97, Art. 9, used light bulbs shall be disposed of in special collection centres, increasing the maintenance costs. Our e-box system reduces these costs. The smaller amount of light bulbs to dispose of reduces the quantity of noxious gases.

Another significant direct advantage of power regulation is the improved electric operating parameters of the plant. Power regulation permits the plant, in lighting technology terms, to respect the limits specified by UNI 10380 and UNI 10439 standards for lighting efficiency, UNI 10819 for lighting pollution and Law 626 for safety.
It offers different levels of savings allowing for adaptation to any type of environment needed in terms of the savings/performance ratio, independently from the type of controlled light source.

The system can be managed in all its functional aspects through wire or radio remote control systems, designed by us.

Laboratory tests have demonstrated great resistance to indirect electrocution phenomena.

It enjoys a 25-month guarantee that can be extended following the technical inspection.

It is certified by qualified SINAL agencies in accordance with UNI CEI EN 45001 certification. Systems carry the CE brand and are made in accordance with ISO 9002 Standards and corresponding to the Norm EN 61010-1 of 2001-11.

**INSTALLATIONS**

The e-box has already been installed throughout Europe in:

- Cities (urban and extra urban road lighting systems)
- Airports
- Hospitals, Rest Homes
- Shopping Centres, Business Centres, Industrial and Fair Areas
- Parking Lots, Undergrounds and Motorways
- Schools, Sports Centres, Hotels, Stores, Banks
- and generally wherever there is large-scale energy consumption for lighting purposes

**ECONOMIC ADVANTAGES**

<table>
<thead>
<tr>
<th>Power Consumption</th>
<th>STANDARD</th>
<th>E-BOX</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-pressure sodium</td>
<td>-40%</td>
<td></td>
</tr>
<tr>
<td>Low-pressure sodium</td>
<td>-40%</td>
<td></td>
</tr>
<tr>
<td>Mercury vapour</td>
<td>-40%</td>
<td></td>
</tr>
<tr>
<td>Fluorescent with standard ballast</td>
<td>-40%</td>
<td></td>
</tr>
<tr>
<td>Metal iodides</td>
<td>-30%</td>
<td></td>
</tr>
<tr>
<td>Halogen</td>
<td>-30%</td>
<td></td>
</tr>
<tr>
<td>Incandescence</td>
<td>-30%</td>
<td></td>
</tr>
</tbody>
</table>

**Up to 40% energy savings**

This benefit comes from the power regulation performed by the systems combined with reduction in grid harmonics.

Power regulation also calls for reduced operating temperatures for the entire light fixture, reducing wear and proportionally increasing working life.

The e-box also acts as a filter against grid disturbances, increasing the typical life span of discharge lamps.

Reduced routine plant maintenance and disposal costs up to 50%.

This benefit comes from increased economic working life of the light sources and typical life span of discharge lamps and their ballasts.
COMPACT LIGHT

Compact Light series are characterized by substantially reduced dimensions and an easy installation through specific switch connectors. They are applicable on two-phase and three-phase plants, increase modules and, thanks to the independent management of the single amperage values, are suitable for power ratings from 0.69 up to 4.2 kVA on single-phase lines.

COMPACT

The COMPACT series, characterized by reduced dimensions, is suitable for power ratings from 3.7 up to 21 kVA on single-phase lines. It is also applicable on two-phase and three-phase plants, increasing the modules and with independent management of the single amperage values.

<table>
<thead>
<tr>
<th>COMPACT</th>
<th>Dimensions in mm</th>
<th>Ampere [A]</th>
<th>Power [VA]</th>
</tr>
</thead>
<tbody>
<tr>
<td>C 16</td>
<td>215 x 305 x 235</td>
<td>16</td>
<td>3600</td>
</tr>
<tr>
<td>C 25</td>
<td>215 x 305 x 235</td>
<td>25</td>
<td>5700</td>
</tr>
<tr>
<td>C 32</td>
<td>255 x 370 x 315</td>
<td>32</td>
<td>7300</td>
</tr>
<tr>
<td>C 40</td>
<td>255 x 370 x 315</td>
<td>40</td>
<td>9200</td>
</tr>
<tr>
<td>C 50</td>
<td>255 x 370 x 315</td>
<td>50</td>
<td>11500</td>
</tr>
<tr>
<td>C 70</td>
<td>285 x 475 x 345</td>
<td>70</td>
<td>16100</td>
</tr>
<tr>
<td>C 90</td>
<td>285 x 475 x 345</td>
<td>90</td>
<td>20700</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>COMPACT LIGHT</th>
<th>Dimensions in mm</th>
<th>Ampere [A]</th>
<th>Power [VA]</th>
</tr>
</thead>
<tbody>
<tr>
<td>CL 3</td>
<td>140 x 275 x 145</td>
<td>3</td>
<td>700</td>
</tr>
<tr>
<td>CL 6</td>
<td>140 x 275 x 145</td>
<td>6</td>
<td>1400</td>
</tr>
<tr>
<td>CL 9</td>
<td>140 x 275 x 145</td>
<td>9</td>
<td>2100</td>
</tr>
<tr>
<td>CL 12</td>
<td>140 x 275 x 145</td>
<td>12</td>
<td>2800</td>
</tr>
<tr>
<td>CL 15</td>
<td>140 x 275 x 145</td>
<td>15</td>
<td>3500</td>
</tr>
<tr>
<td>CL 18</td>
<td>140 x 275 x 145</td>
<td>18</td>
<td>4200</td>
</tr>
</tbody>
</table>

BOX COMPACT LIGHT

The BOX COMPACT LIGHT series is designed for interior applications with powers rating from 0.69 up to 4.2 kVA in three-phase systems. The accurate design characterizes this series particularly suitable for installations in shops, offices and open space rooms.

BOX COMPACT

The BOX COMPACT series is ideal for standard interior applications, watertight compartments, anti deflagrate and exteriors with powers rating from 3.7 up to 92 kVA in three-phase systems. Ideal for large industrial plants, where the stability and reliability are of primary importance.
System for controlling pre-ignition, pre-programmed for units of lights at different times. It can manage up to a maximum of 36 light units.

Interface for remote control of the breakdown detection system.

Interfaces for remote control of the breakdown detection and shifting forced by-pass mode.

Remote control system to monitor and manage the savings of the system. With Energia Europa Remote Control Systems you can monitor condition and working performances of the lighting verifying in real time their efficiency and avoid possible failures. Available functions: control and command of each individual lighting point, programmed and/or manual querying of controller from contrastation in order to permit reading of historical data on voltage, current, alarms; remote configuration of controller programme cycles and operating parameters; inverter and buffer battery for calling the control station in the event of a power failure; direct emulation; remote ready and remote command of digital and analogue I/O for turning light fixtures on and off.

Electric system analyser.

**KEY TECHNICAL CHARACTERISTICS**

- Static and electronically controlled, variable impedance **autotransformers** without moving parts and designed to optimize light sources in general. Designed to regulate **saving levels** from a minimum of four to a maximum of twelve.

- Functioning status electronically **controlled**.

- Automatic thermal protection with operating **temperature controls** and cut-out/cut-in function in case programmed values are exceeded.

- **Management of current overloads** with automatic exclusion of the e-box system from the regulation phase.

- Auto consumption system varies from **0.5% to 1%**.

- **Manual bypass** for routine and extraordinary maintenance without power cut off to the light system.

- **Under-tension automatic bypass** settable at predetermined levels through ‘dip switch’.

- **Forced passive bypass**, that renders this product unique, guarantees electrical continuity in any situation of internal fault without any further intervention.

- The system can be **installed downstream or upstream** from the electric board even though it manages multiple light sources.

- Electronic control is **galvanically isolated** from grid voltage, guaranteeing a certain degree of resistance to electrocution (indirect).

- Protective **fuse**.

- Breakdown notice and management with **instantaneous systems settings** in automatic bypass mode.

- **Automatic under voltage by-pass settable** at predetermined levels using dip switches.

- **Auto test monitoring of grid voltage** redefines and adapts e-box system operating parameters and the related protective devices.

- Connector for testing **system-operating parameters**.

**E-BOX OPTIONAL**

Our innovative systems promote the “energy saving” concept not only through economic results but through its positive contribution to national energetic problems.