



# *LiteSava*®

## USER MANUAL



**Customer Support Contact**

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## Thank you

Thank you for purchasing the LiteSava®. We believe it will provide you many years of service with significant electric power savings.

Please read the following safety instructions and keep this User Manual available so that you can refer back to it at any time.

## Contents

- 1 x LiteSava® with 3 of 3.5 x 30mm screws
- 1 x User Manual

## Safety

1. There are no parts of this product that can be serviced. Please do not try to dis-assemble this LiteSava® as there is a high risk of personal injury or possibly death from electro-cution.
2. Only use this LiteSava® in dry conditions and inside a building.
3. The LiteSava® must only be installed by a qualified electrician.

## Description

LiteSava® provides Voltage Power Optimisation resulting in real-time accumulated energy savings across business and industry.

This unique patented device achieves electricity cost savings of up to 15%<sup>1</sup> by identifying the optimum voltage needed to efficiently run any fluorescent, filament based lighting and all types of fan assisted ventilation systems. Simultaneously prolongs equipment and component life cycle by up to 25%<sup>2</sup> thus resulting in reduce carbon footprint.

Fully compliance-tested, the LiteSava® will maximise energy savings without reducing the performance of the lighting or fan units, and is suitable for use in the industrial, retail, commercial, health and education sectors.



<sup>1</sup> Independent testing by LCS 21/8/2008 & Emtek 19/10/2008

<sup>2</sup> Refer to Lighting Federation Report 2001 on supply & reduction of ballast lights

<sup>3</sup> Refer to Harmonisation Agreement 1998.

## Background

The average voltage supply from the UK's National Grid is 242 Volts but actual supply can vary from a minimum of 216V to a maximum of 253V<sup>3</sup>. This large variance in supply voltage causes costly problems. The majority of lighting systems operate at maximum efficiency at 230 Volts therefore an increase in voltage supply of as little as 4.3% to 240 Volts creates; higher power usage (up to 13% more power), shortens lighting systems life cycle and increases CO2 emissions.

## Benefits

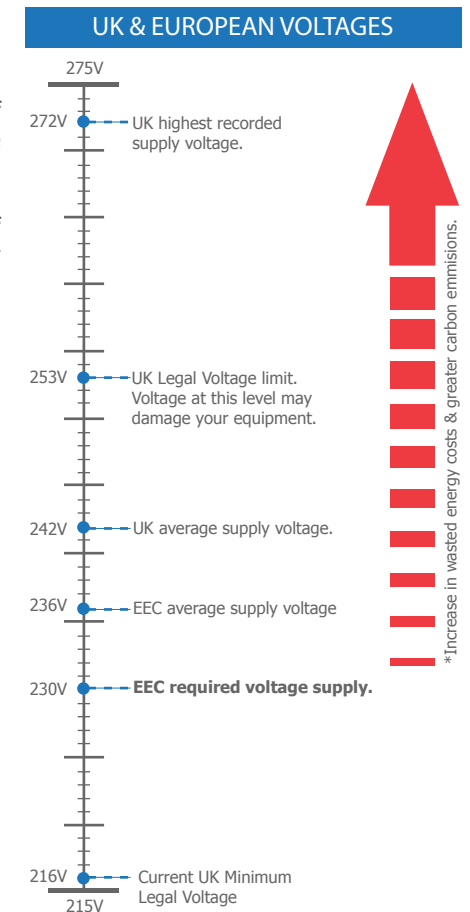
The LiteSava® combines a number of advanced technologies with a unique 'intelligent' chip and program to identify the 'optimum' voltage and power needed to run lightings and fan equipments, resulting in:

1. Cheaper electricity by eliminating the wasted power.
2. Increased equipment life cycle by reducing the 'overworked' lighting and fan systems caused by higher voltage.
3. A reduction in CO2 emissions and therefore in overall carbon footprint.

The LiteSava® has been fully certified by two independent accredited testing companies<sup>1</sup>, both reporting that, dependent upon incoming Voltage, the LiteSava® can achieve savings of up to 15%. Thus the greater the incoming mains Voltage and the larger the power (Watts) needed to run the lighting and fan systems, the more money is saved.

## Operation

Each LiteSava® unit can regulate up to 2,500 Watts (2.5 KW) - when connected to the RCB(s) that serve the light and 3.0 KW when connected to a fan circuit. When the Mains Switch is turned on, the LiteSava® starts working. The Integrated Power Meter allows the measurement of Watt usage both before and after the LiteSava® is triggered. The unit can also record the incoming Voltage; total KW used; and the duration of usage.



## System Compatibility

The LiteSava® will work with mains fluorescent lights (traditional and electronic ballast), tungsten, halogen, filament lights and fan systems without reducing performance.

## Safety Assessment

The LiteSava® is fully CE certified and RoHS compliant and has been independently tested to measure its performance. The unit also has the following added safety features:

1. Automatic Overload Protection System - an automatic shut down of electrical power is performed if the load exceeds the LiteSava® rating of over 2.5 KW or if a light or fan system fault occurs.
2. Micro Cooling System - ensures a greater operating life for the unit and makes it safer to use with larger powered lighting and fan units.

## Conclusion

The Lighting Federation Report 2001 stated that the only way to successfully reduce costs and increase appliance life cycle is through a system of 'Voltage Control' - the LiteSava® does this effectively and efficiently at a fraction of the cost of other systems.

The LiteSava® unit operates 24/7, comes with a 2 year guarantee, is fully CE certified and RoHS compliant, and could deliver significant returns on investment.

## Specification

Voltage:	200 - 250V~, 50 Hz
Maximum Amps:	13 Amps
Maximum Load:	2.5 KW - Fluorescent lightings only. 3.0 KW - For all other appliances.
Power Consumption:	≤1 Watt on standby up to 100 Watts at maximum load.
Site:	Covered dry environment.
Use:	Fluorescent (traditional & electronic ballast), tungsten, halogen, filament lights and fan units.
Operational Range:	-10 to 60° C, 10 to 95% humidity
Mains Switch:	13 Amp
Wiring:	Direct to RCB in consumer or distribution board, up to 4.0 mm twin and earth.
Fixing:	3 point with 3.5 x 30mm screws supplied.
Footprint (Approximately):	188mm (L) x 108mm (W) x 77.5mm (H)
Weight (Approximately):	600 grams

- User Manual
- 2 Years Warranty
- CE Certified
- RoHS Compliant

The LiteSava does not work with:

1. Metal Halide (MH) or High Intensity Discharge (HID)
2. CDMT or CHA Systems
3. High Frequency Ballasts

## LCD Power Meter Specifications

Voltage:	200 - 250V~, 50 Hz
Power:	1 to 2,500 Watts
Power Consumption Recorder:	0.0001 to 999.9 KWh
Duration of Operating Time:	minutes to 24 hrs. to 999 days
Measurement Accuracy:	+/-1%
Refresh Frequency:	≥ 1 per second.

## LED Indicators

**Mains:** Constant Green colour - The unit is connected to mains and internal power supply is working.

**Overload:** Constant Red colour - Overload state. The LiteSava® has shut down. Will only restart when you switch off the LiteSava® mains switch and then inspect your lighting or fan circuit for the correct load or for a fault in your system.

Red flashing slowly - Overheated internal cooling system. LiteSava® has been shut down. Will only restart when you switch off the LiteSava® mains switch and allow the internal temperature to fall below 85° C.

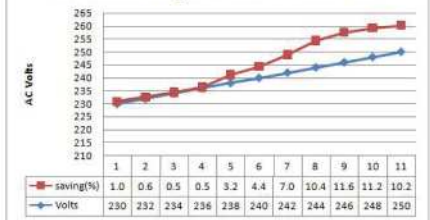
**Saving:** Constant Yellow colour - LiteSava® is operating correctly in 'Saving' mode.

NOTE:

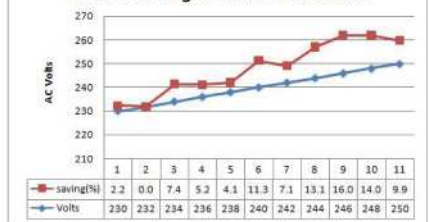
Due to the continuing programme of development, the details and specification contained in this document are subject to change without notice.

## PERFORMANCE GRAPHS:

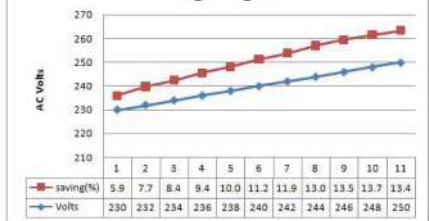
Fluorescent Light - Traditional Ballast



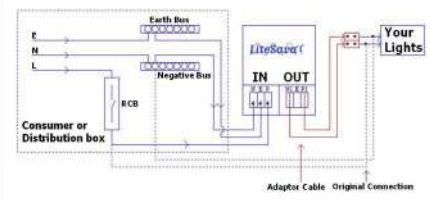
Fluorescent Light - Electronic Ballast



Halogen Lights



## WIRING DIAGRAM:



## Declaration of Conformity

The Manufacturer of the Products covered by this Declaration is:

Alpha Emptor Limited  
1508 Eastern Tower, Yihai Square,  
Commercial Building  
North Chuang Ye Road, Nanshan, Shenzhen.518054, China

Company Registered in Hong Kong Number: 1125122

The Directives covered by this Declaration:

EMC Directive 2004/108/EC and the LVD 2006/95/EC

The Product Covered by this Declaration is the LiteSava®

The Basis on which Conformity is being declared:

EMC:EN55015, EN61000-3-2, EN61000-3-3, EN61547

LVD:EN61558-1, EN61558-2-12

The manufacturer hereby declares under his sole responsibility that the products identified above comply with the protection requirements of the EMC directive and with the principal elements of the safety objectives, and that the standards have been applied.

The technical documentation required to demonstrate that the products meet the above requirements has been compiled and is available for inspection by the relevant enforcement authorities. The CE mark was first applied in October 2008.



## Warranty Terms & Conditions

1. These terms and conditions do not affect your statutory rights.
2. Please check the LiteSava® package and contents as soon as possible. If the LiteSava® or any other item included in the package is damaged or faulty, you must inform your supplier immediately or at the latest within 7 (seven) days of the date of purchase. If the supplier you purchased it from does not offer an exchange and/or replacement service, we will arrange collection and replacement at our cost. If you do not inform us within 7 days we shall have no liability for the LiteSava® said to be damaged/items missing at time of purchase.
3. Alpha Emptor Limited guarantee that the LiteSava® will be free from defects for 24 (twenty four) months from the date of purchase. If LiteSava® does not conform to this Warranty then we will at our option either remedy the defect in question or replace the LiteSava® or refund the price paid, subject to sight of the original receipt from the supplier where it was purchased.
4. The first 24 (twenty four) months of Warranty cover parts and labour. The warranty period commences on the day of purchase. Any repairs or parts supplied or other work carried out which are found to be outside the terms of this warranty will be charged purchaser, and will be payable at the point of service. If no fault is found or the fault is outside the scope of the warranty then a possible charge for labour and transportation may be made.
5. The purchaser must ensure the environmental and power supply conditions are suitable for the LiteSava® and that the LiteSava® is cared for and maintained in accordance with the recommendations stated in this User manual.
6. To return goods please contact Customer Support on the number given in this User Manual.

### Exclusions to the Warranty:

7. Breakdowns or failures arising from any external influences such as misuse, neglect, excessive wear to the equipment and other external influences such as, but not limited to poor environmental conditions.
8. Purchaser's consequential loss or liability of any kind.
9. We do not accept liability for returns damaged in transit or not received by us.
10. Every care has been taken in the preparation of all and any details or statement made in this User Manual and the LiteSava® packaging. However, as far as is permitted by applicable law, we disclaim all warranties, express or implied as to the accuracy of information contained herein.

Wiring Diagram:

