

OUR PRODUCTS

THE “ECONERGY SYSTEM” PRODUCTS

Transient Voltage Surge Suppressor

WHAT IS "DIRTY ELECTRIC POWER"?

Sudden, short-duration, high-amplitude disturbances in the normal voltage levels across power lines are called voltage transients. Although lightning causes some of these voltage transients, **most** are caused by the switching on and off of internal and external loads, and occur regularly on any power system. For example, on residential 120V AC lines, these voltage transients can peak momentarily at 6000 volts when caused by lightning, and at 2500 volts when caused by switching.

Such transients constitute a form of 'electrical pollution' or 'dirty power', which is present **in every** power system in varying degrees. The rate at which voltage transients occur has been described as follows:

0 to 900	transients per hour for a residence
900 to 9000	transients per hour for a busy office
9000 to 60,000	transients per hour for a small factory
60,000 to 180,000	transients per hour for a processing plant

WHY SHOULD I TAKE CARE OF SURGE SUPPRESSION?

Surge suppression takes care of the lion's share of problems and it's easily the most cost effective method of power quality correction. If you choose to take care of transient protection first, you provide protection that nothing else can provide and you don't create problems you'll have to deal with later. Protecting your facility and its equipment should be your number one priority in protecting your investment.

HOW DOES ELIMINATING TRANSIENTS REDUCE ENERGY USAGE?

The devices that consume the most energy in both the commercial and residential markets are driven by magnetic mass. Your motors are little more than large electromagnets. Transformers, that are also very similar to large electromagnets, drive your fluorescent lights. Transients produce what is known as an 'eddy current' effect in electrical systems which reduce the system's efficiency. Because they operate less efficiently they produce more heat. Transients also produce fluctuations in voltage, which create conditions in magnetic-mass driven devices that cause them to draw more current than required which also produces more heat. The sharp increases in voltage are more than the devices are designed to operate, and the sharp, sudden increase in resistance produces more heat. Simply put? Eliminated Transients=Reduced Heat.

CAN THESE UNITS SAVE ME MONEY?

TVSS units were not designed to save electricity. However, the units will save on wear and tear of your equipment (e.g., light bulbs, computers, and any other electrical equipment, helping them to last longer). Even though saving electricity was not the intention, every-day-evidence from our customers, shows that this happens also. Equipment that runs cooler and more efficiently, therefore, draws less electricity. Our service is designed to save you energy. Through our energy survey we will find as many areas as possible in your company to conserve energy with our “ECONERGY SYSTEM”.

K-P Energy Consultants Transient Voltage Surge Suppressor manufacturer has over 20-years of experience in the manufacturing of the world's finest TVSS systems available in the market today. We rely on these technologies and highest design standards to provide our clients with a Full Lifetime Warranty on this TVSS unit.

Surge Suppression is the elimination of momentary over voltage from any cause. Any over voltage not eliminated is called the pass voltage so the lower the pass voltage, the better the surge protector. Underwriters Laboratory (UL), the American National Standards Institute (ANSI) and the Institute of Electrical and Electronics Engineers (IEEE) all scrutinize the pass voltage when testing and evaluating any TVSS. All our TVSS units meet or exceed ANSI/IEEE B3 standards.

Our surge suppressors are manufactured with the finest components available and tested numerous times during and after production to be sure they function properly. They are designed to protect your equipment. They will withstand all but the most massive surges and restore themselves automatically after a surge occurs. All our surge suppressors carry a Full Lifetime Warranty and will be replaced free of charge.

Once installed, all surge suppressors normally found at computer work stations become redundant and can be eliminated without worry.

MOTOR CONTROLLERS

K-P Energy Consultants Motor controllers

Our products are "tailored" to:

- Applications 600 volts and down.
- Three phase to single phase.
- Inductive equipment 300 horsepower and down.

This includes homes, shopping centers, manufacturing facilities; everyone with a power meter is a customer. We call this the energy company's cash register.

The Motor Controller is designed to provide:

- Significant savings on electric bills.
- Increased life of electrical motors and appliances through heat reduction.
- Surge protection for the entire home or facility.

Commercial applications

Today's commercial applications require looking beyond the traditional means of energy conservation and savings. For example, purchasing high efficiency motors to reduce energy costs are typically cost prohibitive.

As the demand for power runs through your commercial setting, there is non-productive current (heat) that strains your equipment and wiring. The Motor Controller optimizes the watts that come in, allowing the motors within the equipment to operate more efficiently. This reduces heat, lowers your electricity costs, reduces the chance of fires, and increases the life of your motorized equipment.

Industrial Applications

The motor has no way of intelligently adjusting the amount of electricity it consumes in relation to the amount of work it does.

Today's industrial applications also require looking beyond the traditional means of energy conservation and savings. Again, purchasing high efficiency motors to reduce energy costs are typically cost prohibitive.

Often three phase Motor Controllers are recognized as the most readily available turnkey solution to various motor problems, since they provide numerous other benefits in addition to reductions in electrical energy efficient.

The one of a kind Optimization Sizing System provides a simple and accurate way for measuring and optimizing the power factor of individual inductive loads (motors). All Optimizers size up to 600 volts.

This system consists of three units for sizing:

SINGLE PHASE UNIT - US1, sizes all single-phase equipment ***

THREE PHASE UNIT - US2, sizes fractional motors up to 75hp

THREE PHASE UNIT - US3, sizes motors 75hp up to 300hp.

After sizing is completed, a precise analysis, estimated savings, estimated return on investment and system cost is prepared for the customer. We then custom build our product to fit their system and reduce the demand on the electric company.

Light Controllers

K-P Energy Consultants Light Controllers

In today's competitive environment, lighting manufacturers find new and varied technologies to create more light for less money. Florescent light fixtures in particular have evolved from T-12 magnetic ballast designs to T-8 and T-5 electronic designs.

Bulb manufacturers have also joined in this frenzy with new coatings, different gases, and break-through spectral coverage.

Within these three categories are a wide variety of variations on the electronic ballast resulting in a plethora of bulb and ballast combinations.

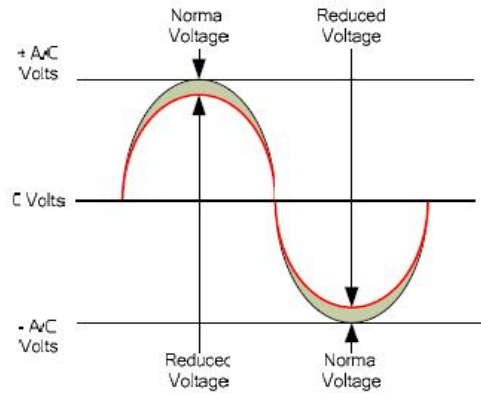
Simply put, the lighting community has created a jigsaw puzzle that imposes a unique challenge when addressing consumption reduction. Some lighting technologies simply cannot be treated. To address the vast majority of those than can be treated, K-P Energy uses different technologies to treat:

- T-12 magnetic ballast florescent lights
- T-8 electronic ballast florescent lights
- HID magnetic ballast lights

Alpha-series Controllers

Our Alpha-series controllers use a time-delayed voltage-reduction technique that allows bulbs to start up and then reduces the voltage to these bulbs after 10 minutes. Four discrete reduction levels select fixed voltage steps of 9-24% that provides up to 35% in overall energy savings.

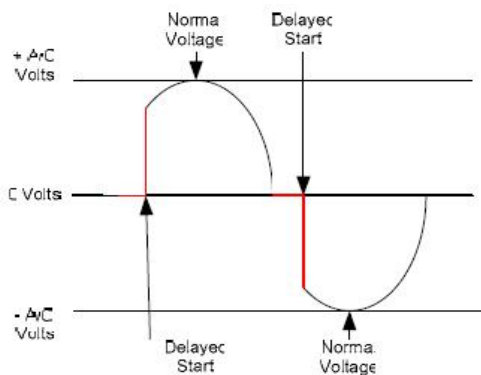
The illustration below shows how these controllers work. By reducing the voltage to your lights, the amount of energy used is reduced. The total amount of energy saved is the area between the red and black sinusoidal lines.



Omega-series Controllers

Our Omega-series controllers use a wave-shaping technique that delays the turn-on of the A/C sinusoid by an adjusted amount. This variable-delay allows additional control over ballasts operation and bulb interaction to "tune in" optimal energy savings.

The illustration below shows how the Omega-series controllers work. By holding the A/C voltage off, the total amount of energy used by your lights is reduced. The longer the voltage is kept off, the more energy is saved. By being able to control how long this "off-delay" is maintained, you can set your savings level to your individual lighting requirements.



Delta-series Controllers

Delta-series controllers use a ~~time-delayed voltage~~ reduction technique similar to that of our Alpha-series controllers. Delta-series controllers are designed specifically for 3-wire, 3-phase lighting that uses single-phase ballasts. Delta-series controllers offer the same 9-24% fixed voltage reduction as the Alpha-series controllers along with the same simple installation features. This controller provides a highly economical solution to these specialized 3-phase lighting challenges.

K-P Energy Consultants has a unique solution to reduce the energy waste specifically for series-connected streetlights lighting applications. A leading innovator of energy-savings controllers for HID lighting has developed patented technology that is not available from any other source. Designed specifically for streetlights, this product creates energy savings of about 20%.

The **City of Anaheim** recently undertook a test project to evaluate an energy-savings technology that specifically targets widely-used High Intensity Discharge (HID) lamps. The technology selected was **LiteHawk** lighting power controller and they provided testimonials from clients going back nearly 20 years. The positive unique features of this technology, and acceptable costs made it the candidate of choice for this test.

“The units performed as claimed with no adverse effect on the power or the lamps and ballasts. Actual savings of 26.53% (test 1) and 35.33% (test 2) was better than expected, and the operations of the lamps and ballasts were unaffected”.

“Based on the costs of the units used in this test, it is anticipated that the payback for this application will be less than three years without incentive, and approximately two years with incentive”.

“The data loggers were set to measure consumption every 15 minutes. The ignition-level power supplied to the lamps was a slightly high 126 volts rather than 120 volts. This had an effect of increasing the planned savings. Recorded data shows the LiteHawk achieved a 26.53 percent savings, slightly better than expected”.

The **LiteHawk** is a structure-mounted lighting controller designed for loads up 4000 watts. It is customizable to suit any number of lamps of any mix of standard wattage up to the 4000 watt limit. It is configured to achieve energy savings of about 20% while IMPROVING the mean lumen output of your lamps.

The **LiteHawk** is housed in a NEMA 3 case and can be installed by any certified electrician in just minutes. It is designed for an estimated 30 years of maintenance-free operation.

The **LiteHawk** is UL listed and follows NEC and NEMA standards. It has three savings settings choices, at approximately 10%, 16% and 20%. Savings vary near these numbers based on the actual line condition, voltage, and load. There is no need to replace or alter individual fixtures with this cost-effective technology.

The **LiteHawk** has the benefit of increasing lamp and ballast life by reducing the “stress” on these items as well levelling the lumen output of the lamps over their life span, which results in less frequent lamp and ballast replacement, which means additional cost savings.

Simply put: nearly maintenance free, easy to install, quick payback, environmentally friendly, energy efficient, increased lamp and ballast life, stabilized lumen output, **guaranteed!**

K-P Energy Consultants Fluorescent Lighting [\(link\)](#)

Office lighting is all around us, but unfortunately, this lighting is outdated, and does not give adequate light levels and needlessly consumes too much energy. What's worse, it costs a lot of time and money to upgrade. Normally, ballasts, sockets and lamps all need to be upgraded and electrical work must be done to install the new ballast and reconfigure the socket location, if you choose to keep the existing light fixture.

There is a way to upgrade to newer T5 fluorescent lighting... it is brighter and consumes far less energy than the older and fatter T12 or T8 technologies without changing anything in your fixture and by only retrofitting the lamp! Upgrade to T5 and Keep your existing light fixture!

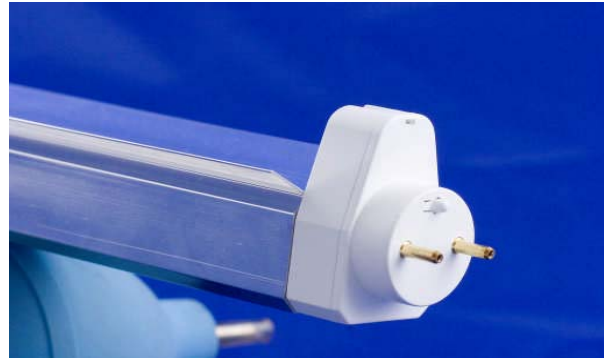
K-P Energy Consultants has access to a new world standard with the introduction of the latest energy saving fluorescent lamp technology. The ECOTUBE T-5 series is designed to provide optimal lighting superior color and low energy consumption.

Efficient T5 Fluorescent Tube Retrofit System

The T5 Retrofit Series has changed the concept of using fluorescent lamps with the introduction of the latest fluorescent lamp technology resulting in savings of up to 52%. This can be achieved by a simple retrofit, requiring very little wiring work without the need to replace the existing T8 or T12 fitting. Achieve the benefits of T-5 fluorescent lamps with little additional costs. It provides an easy replacement of the conventional fluorescent tube-light without changing the light fixture.



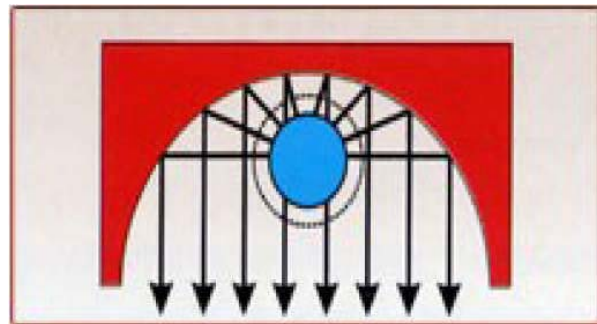
T-5 installed in adaptor with reflector



Bi-pin or Bullet pin adaptor available



15.5mm 107 grams



Reflects light normally lost in conventional lamps

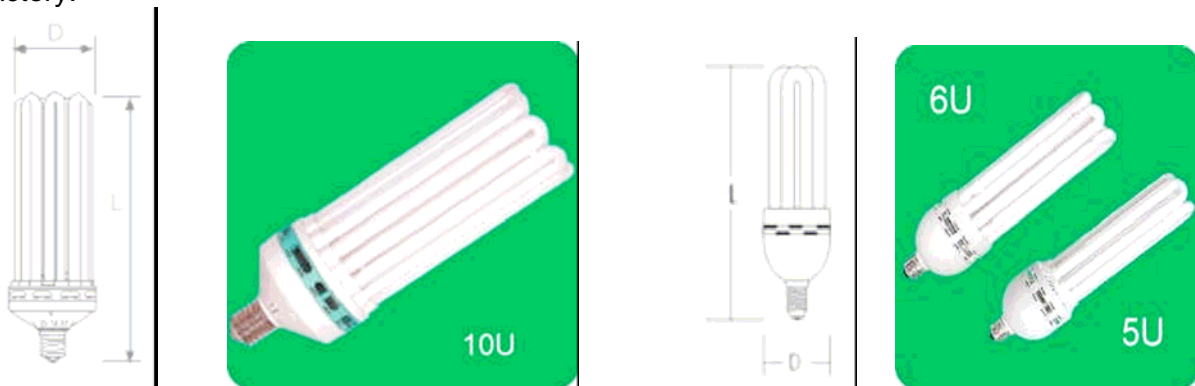
Advantages and Benefits of T5 Retrofit Lighting System

- Energy Savings Up To 52%
- Little Wiring Modification Required for Installation
- Low Power Consumption, Low Current Drawn
- Power Factor Nearly Unity
- Higher Efficacy (More Lighting Output)
- Higher Lumens Output (Brighter and Improved Quality of Light)
- Longer Life (nearly 4 Times)
- Higher Color Rendition (systems come standard with Full Spectrum T5 lamps)
- No Need For Starter
- Instant Start without Flickering
- Saving on Air Conditioning Load (Less Heat Dissipation)
- No Humming Sound
- 40% less glass is used in the T - 5
- 80% less mercury

K-P Energy Consultants has access to replacement bulbs for Hi-Bay lighting using Metal Halide and other similar bulbs.

Extra High Power Compact Fluorescent Energy Saving Lamp and Extra High Power Separate Ballast

- High Power Output, High Luminous Efficiency.
- Long Life Span up to 10,000 hrs.
- Replace HPSL & Metal Halide Lamp below 250W.
- Replace mercury lamp below 600W.
- Reduce future Economical and Environmental costs.
- Separate ballast, so only replacement lamp needed.
- Application: High-Ceiling Hall, Dock, Stadium, Gas station, Warehouse, Parking Space, Factory.



The Polaris light bulb, like their smaller CFL cousins, is designed to replace traditional outdoor lighting. Polaris lights are designed to replace commercial and industrial light bulbs, which are usually 175-1,000 watts, and swap them to 65-320 watts. These lamps do not require ballast like traditional commercial/industrial lights do and there is even more energy saved. Polaris lights use the same fixture as before and provide a much higher quality of light instead of the very poor yellow looking light that is very common.

***See the Difference in Energy Savings
With CRI Full Spectrum T5 Lighting***



Metal Halide (HID)

64 CRI

485 Watts/each

Regular T5

82 CRI

225 Watts/ each

Full Spectrum T5/6

96 CRI

188 Watts/ each

COMPARE THE LIGHT SPECTRUM OF FULL SPECTRUM T5/6 INDOOR LIGHTING

WITH NATURAL OUTDOOR LIGHTING

