

Be Off The Grid com Inc.

“Saving the planet one LED Light at a time”

Shoebox LED Retrofit



Before 400w Metal Halide



After 93w LED Retrofit screw-in



NO NEED TO PURCHASE A NEW FIXTURE OURS FITS RIGHT INSIDE



BOTG LED wins in life rating, wattage savings, payback, CRI, and the ability to retrofit VS every competitor. Two things that cause LED's to degrade and have a short life is A :) Heat and B:) Sharing Voltage or Current. Because we are constant voltage and manage the power to each individual LED to run at it's sweet spot and have the best thermal management in the industry we are a 100,000 PLUS hour life with 1% / Yr. degradation. We also have a cooling magnetic levitation fan attached to each LED light for more

thermal efficiency. Lifespan is all about cooling the LED. The competitors are degrading at 50,000 hours because of poor thermal management and sharing of current and not managing it properly. The ability to retrofit into almost any HID fixture from 70Watts to 1000 Watts. Our product is 80% American Made putting Americans back to work in the down economy. We can offer many different new fixture styles. We can articulate our LED units and change optic lenses to put the light where the customer needs it. Easy to install!

See How Much You Can Save

Following savings based on 13 hrs./day 52 wks./yr. (4745hrs/yr.) and \$.12/kwh cost
Below figures are based on yearly electricity and maintenance savings

HID Watts	Actual Watts	Electric Cost	LED Retrofit Watts	Electric Cost	Electrical Savings	Maint. Savings	Total Savings
100W	125W	\$71.17	27W	\$15.37	\$55.80	\$50.00	\$105.80
150W	188W	\$106.05	55W	\$31.32	\$75.73	\$50.00	\$125.73
175W	215W	\$122.42	55W	\$31.32	\$91.10	\$60.00	\$151.10
250W	295W	\$167.97	70W	\$39.86	\$128.11	\$75.00	\$203.11
350W	400W	\$227.76	98W	\$55.80	\$171.96	\$110.00	\$281.96
400W	458W	\$260.78	98W	\$55.80	\$204.98	\$110.00	\$314.98
1000W	1080W	\$614.95	296W	\$168.54	\$446.41	\$250.00	\$696.41



Save UP To 75-80% in Energy Cost

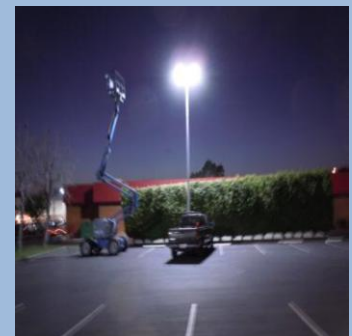
5 Year Warranty

Life Expectancy
100,000 + hrs.

Lamp
100,000 Cooling
Fan
60,000 Ballast

Convert your Metal Halides
400w HID to 100w LED
250w HID to 70w LED
175w HID to 60w LED
100w HID to 40w LED.

“Finally an LED retrofit light that fits right into your existing fixture and will save you up to 80% in energy cost.”



1080 W HID to 279W LED
Large Shopping Center
California

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Here are two typical parking lot light applications. Both retrofitting an existing 456 Watt Metal Halide with our 93 Watt LED light for an over 80% savings in electric.

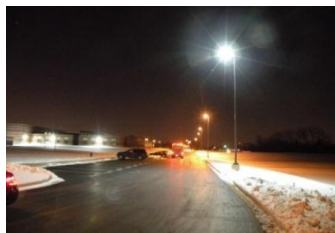
Our Lights have been installed in Hospitals, Coast Guard Stations, EPA Facilities, Mental Health Facilities, Universities, Shopping Centers, Large Fortune 500 Electronic Manufacturing Plants, Executive Office Buildings, Fitness Centers, Large Condos and more.

Smart Driver Technology

- * Select 8 different wattages from two fixtures 30, 40, 50,60 & 70, 80, 90, 100 watt.
- * Mag Lev Cooling Fan & Soft start technology extends life.
- * Micro Processor controls current to LED's. + to - 3%
- * Over & under voltage and overheating protection.
- * Safety Mode tells you when something is wrong.
- * Energy Savings Mode included to reduce LED wattage 50%
3-6 hours per night for additional savings.
- * Plug and Play design with simple installation retrofits.
- * UL Listed 120,208,240,277 and 408 single phase inverter incl.
- * LED operates normally in temp. from -40C to 45C.
- * Operating temperatures of LED at 25C.
- * UL Class 2 Power Class A sound rating Efficacy greater than <90%
- * Power Supply operates between -40C and 50C. 24V Operation



1000 Watt Retrofit
Triple 93 Watt
Shopping Center



400 Watt Retrofit
93 Watt
Manufacturing Plant



400 Watt Retrofit
Parking Lot
Hospital



400 Watt Retrofit
93 Watt
University

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**Hi Mast Triple 93 Watts
1000W To 279W
Train Switching Yard**



**400 Watt Retrofit
93 Watt
Shopping Center Hawaii**



**400 Watt Retrofit
93 Watt
Car Wash Florida**



**250 Watt Retrofit
54 Watt
Walkway Hospital**



**250 Watt Retrofit
54 Watt
Driveway Hospital**



**1000 Watt Retrofit
279 Watt With Turrets
Hospital Colorado**



Special Flat Bracketing Plate For Easy Mounting To Most Existing Shoe Box Fixtures

**Our HDS Model 4928 with standard wattage settings of 30, 40, 50, 60 Watt
Retrofits 50 Watt to 200 Watt**

**Our HDS Model 9342 with standard wattage settings of 70, 80, 90, 100 Watt
Retrofits 200 Watt to 400 Watt**

1000 Watt Retrofits can be done by installing 3 of our 100w LED Lights in a single plate.



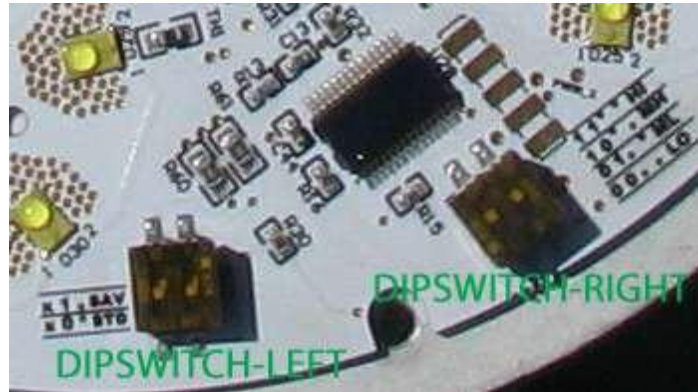
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DIP SWITCH SETTINGS

DIP SWITCH SETTINGS 6.1 (part 1 of 2)

(This is Pre Set at the Factory per client’s request and are provided here for informational purposes only)



ON OUR SOLSTICE BOARD YOU WILL FIND TWO DIP-SWITCHES PICTURED ABOVE.

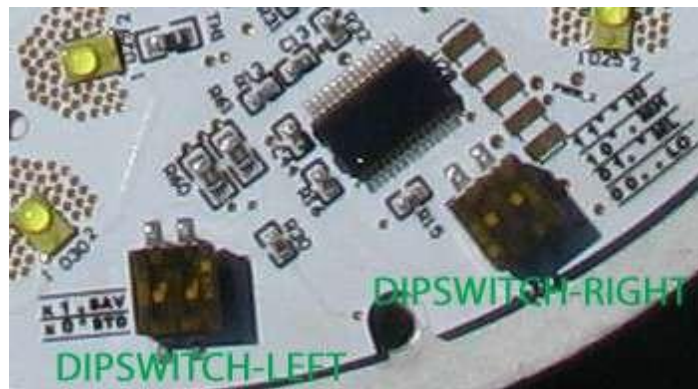
THE SWITCH TO THE LEFT IS THE PROGRAM SELECTION SWITCH. AT THIS TIME YOU CAN CHOOSE 1 OF 2 PROGRAMS PROVIDED.

WITH BOTH SWITCHES PUSHED TOWARDS THE CENTER OF THE BOARD IS THE STANDARD POSITION. IN THIS POSITION THE UNIT WILL OPERATE AT FULL SELECTED OUTPUT.

WITH BOTH SWITCHES PULLED TOWARDS THE EDGE OF THE BOARD SELECTS THE (561) ENERGY SAVING PROGRAM. THIS PROGRAM SELECTION MAKES THE SOLSTICE UNIT OPERATE FOR THE FIRST 5 HOURS AT 100% OUTPUT. FROM THE 6-11HOURS IT WILL DIM TO 50%. FOR THE LAST HOUR BEFORE SUNRISE THE UNIT WILL RAMP UP TO 100% OUTPUT.

DIP SWITCH SETTINGS 6.2 (Part 2 of 2)

(This is Pre Set at the Factory per client’s request and are provided here for informational purposes only)



THE SWITCH TO THE RIGHT SELECTS YOUR LIGHT LEVEL. YOU HAVE 4 LEVELS TO CHOOSE FROM (HIGH, MEDIUM HIGH, MEDIUM LOW, LOW) WHEN BOTH SWITCHES ARE MOVED TOWARDS THE CENTER OF THE BOARD YOU HAVE SELECTED THE HIGH OUTPUT. TO THE LEFT YOU WILL SEE A TABLE EXPLAINING EACH POSITION. THE DOTS REPRESENT A VISUAL SETTING FOR THE SWITCH.

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LEDs vs. traditional light sources

LEDs differ from traditional light sources in the way they produce light. In an incandescent lamp, electric current heats a tungsten filament until it glows or emits light. In a fluorescent lamp, an electric arc excites mercury and argon atoms, which emit ultraviolet (UV) radiation. After striking the phosphor coating on the inside of glass tubes, the UV radiation is converted and emitted as visible light.

An LED is a semiconductor diode. It consists of a chip of semi-conducting material treated to create a structure called a p-n (positive-negative) junction. When connected to a power source, current flows from the p-side or anode to the n-side, or cathode, but not in the reverse direction. Charge-carriers (electrons and electron holes) flow into the junction from electrodes. When an electron meets a hole, it falls into a lower energy level, and releases energy in the form of a photon (light).

All light sources convert electric power into radiant energy (visible and invisible light) and heat in various proportions. Incandescent lamps emit primarily infrared (IR), with a small amount of visible light and heat. Fluorescent and metal halide sources convert a higher proportion of the energy into visible light, but also emit IR, ultraviolet (UV), and heat.

LEDs generate little or no long wave IR or UV, but convert only 15%-25% of the power into visible light; the remainder is converted to heat that must be conducted from the LED die (p-n junction) to the underlying circuit board and heat sinks, housings, or luminaire frame elements. Controlling the junction temperature is what thermal management is all about. This is what makes our retrofit LED different.

Benefits of LEDs vs. high-intensity discharge (HID) lamps

The primary benefits of LEDs are their reduced energy consumption, minimal lumen depreciation, longer lifetime, directionality and durability. One of the greatest advantages of LED fixtures is their lifetime, which reduces maintenance costs. At a ten-year lifetime (compared to two years for a metal halide bulb), municipalities and sign owners will need to change far fewer bulbs, ballasts, and igniters. In fact, maintenance savings alone are sufficient to make LED fixtures cheaper on a lifecycle basis than conventional fixtures.

The "instant-on" and dimming ability of LEDs offer additional energy savings through control strategies that can brighten and dim based on time of day, ambient light, or any other control parameters desired. Motion sensors can turn LEDs on or off instantly, allowing lighting to be used only when needed. Typical outdoor lighting (MH or HPS) has a re-strike time of a few minutes before they can turn on and therefore cannot be used with motion sensors.

LED fixtures use a fraction of the energy of traditional lamp sources. This reduces emissions of mercury from coal power plants, which leads directly to reducing greenhouse gas emissions. LED products contain no lead or mercury, and are made from fully recyclable materials.

Finally, because LEDs emit directional light, there is more control over what is illuminated (streets and sidewalks) and what is not (the night sky). This makes for easier compliance with the Dark Skies Initiative, which aims to reduce light pollution and its associated wildlife impacts.

Importance of LED lumen output vs. HID lamps

Comparing the lumen output of LEDs to a discharge source is not an accurate way of measuring effective light output of a Luminaire. HID lamp lumens are measured spherically, counting all the lumens being produced over 360 degrees. The discharge arc tube is NOT a point source and is difficult to optimize optically, making for poor light collection efficiency and utilization. Many light fixtures have to redirect most of the lumens produced by a bulb, losing as much as 50% of the output.

LEDs on the other hand are directional and have practically no wasted lumens. Virtually every LED lumen is directed and placed to maximize efficiency. A more accurate evaluation is to measure actual foot-candles or LUX on the ground. In addition, HPS and MH lamps have a considerable initial light output loss within the first 6 months. LEDs have no such drop and deliver useful light [with only 30% depreciation] for 12 to 15 years before needing replacement.