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ActiveLED[®] Solar

Parking, Roadway and Streetlight Solutions

Ringdale Inc., is a technology company that has demonstrated excellence in its electronic, optical and mechanical design for more than 3 decades.

Producing truly the most energy efficient LED light fixtures for roadways and highways. ActiveLED streetlights are ANSI-136.31 CALIPER-Lab verified, making them fit for installation on bridges, combined with a 10 year no light loss guaranty puts ActiveLED ahead of its peers.

Ringdale is the longest player in the LED fixture design and manufacturing business and has more experience in solar and battery applications in connection with lighting than any of the larger or smaller of brands.

ActiveLED is the only product range that takes meticulous care about optical safety limiting the light output of its fixtures to a maximum of 4800 lm/sq. Inch of emitting surface.

Ringdale turnkey solutions for Solar parking lot, roadway and street lighting are based on its patented and patent pending technology for light fixtures, LED drivers, solar chargers and controls.

State-of-the-art and patented reflector technology allow pole spacing of 230' at a height of 19', using a 50W or 75W ActiveLED fixture depending on the application.

Our IESNA lighting engineers are able to model any parking lot, roadway or major highway making sure Department of Transport (DOT) requirements are met.

Deploying an ActiveLED Solar total solution, the only part that will require changing from time to time are the batteries.



Solar Assist Streetlights - Hwy 1431



Texas National Guard - Solar Only



US Army - Solar Only - Motion Control

ActiveLED Solar Lighting can be deployed in a wide variety of applications and be competitive to conventional lighting technologies while producing better light output and a maintenance free installation.

Car Parking Lots

Solar & Grid Assist

At a LaQuinta Hotel in a prominent location, the theme was Low Carbon Emissions. The owner needed a mission critical lighting system for approach road and car park. Ringdale provided a grid assisted solar lighting system based on its streetlights and solar controllers.

Annual cost to light roadway and car park US\$50.00 for 21 poles.

Solar Only

When grid power comes at a premium or is just not viable, Ringdale can provide an ActiveLED lighting solution without compromise.

Batteries can be sized to provide 3..10 days of uninterrupted light availability at night.

Solar panel sizes can be dimensioned to provide a full charge within 1..3 days depending on your requirements.

The expected battery life is 3..5 years depending on the quality and type of the battery.

ActiveLED Solar chargers support Lead Acid, Lithium Ion, and LiFePO battery chemistries.

Ringdale has vast experience and expertise in successful solar applications for roadways, parking, and billboard sign lighting.

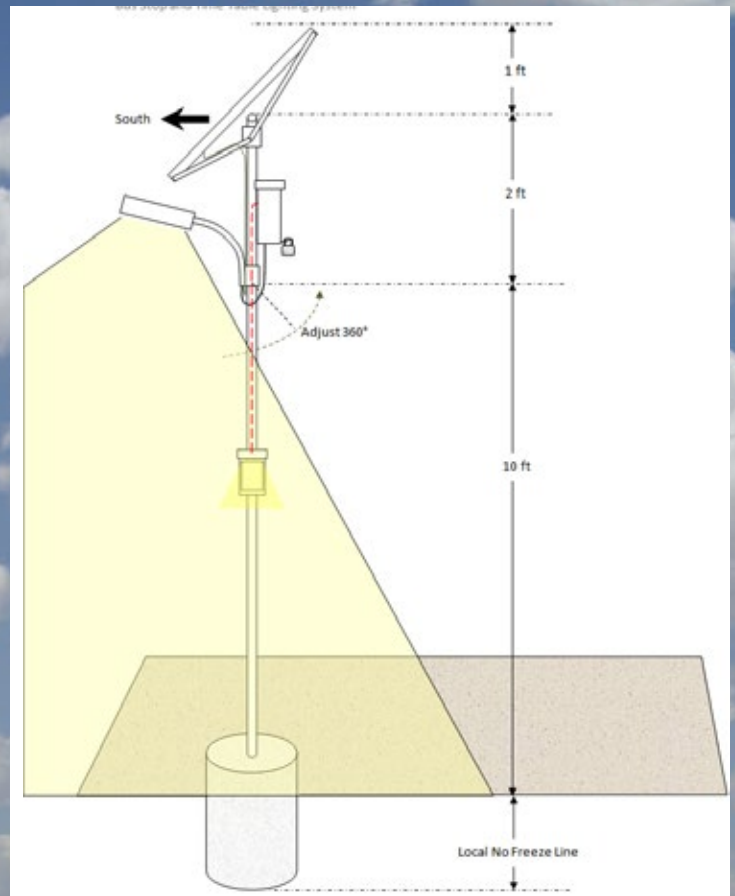
All of our solar installations have been in flawless operation for up to 4 years.

Ringdale gives a **10 year no-light-loss guaranty** for all its ActiveLED indoor and outdoor lighting products.

Bus Stop Lighting

Solar Only Bus Stop lighting with timetable light in various configurations for deployment in regions from the Equator to 58° North or South.

A Wind Generator version may be more appropriate in other climates. However, solar and wind do have problems in areas of high snowfall as both systems can not operate well in such conditions without daily maintenance.



Solar Bus Stop Safety and Timetable Light

Four Lane Highways and Intersections

These two 52 Watt Wide Pattern Streetlights are solar powered from one 200W (usable Watts) solar panel and have four 120Ah flooded and sealed lead acid batteries.

This highway is in Sun City, Texas and has been operating flawlessly since its installation in 2011.

Ringdale provided all parts for the installation including brackets for mounting of the solar panels which were fabricated in our US manufacturing location.

Georgetown City engineers were trained at Ringdale's training facilities.

There are two concepts supported by ActiveLED Solar; one is the Solar (or Wind) only application, the other is a solar assist application where the fixture is connected to battery and to grid power, taking power from the battery in preference to grid power.



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Sun City Blvd. - West



Batteries

Depending on the geographical region of operation we recommend putting batteries on the ground or in the ground.

Rarely on poles due to reasons of problematic maintenance and them getting too hot in the summer and too cold in the winter. Most battery chemistries do not perform well when charged over 45°C or below 0°C, doing so will shorten their cycle life and capacity considerably.

Ringdale battery chargers do not attempt to charge batteries above 45°C or below freezing point. We like to set expectations to what is really achievable rather than not being clear as to the limitations of a solar only system.

What this means in a climate like Singapore or very close to the Equator where the daytime and nighttime temperatures as well as the summer and winter temperatures are between 20°C and 36°C the batteries may be located on a pole or on the ground as long

as the battery box is painted white to reflect sunlight and reduce heating up by the sun.

In a climate like United Arab Emirates, Oman and Saudi Arabia where daytime temperatures can easily reach 55°C during the daytime and not drop below 45°C at night, the battery has to be buried in the ground with a deep foundation to get the benefit of the ground averaging the year's temperatures which will be below 45°C.

You can rely on our expertise and experience to specify the right solution for your region.

Our chargers support battery chemistries of Lead-Acid, Li-Ion and LiFePO_4

The Right Light Fixture for the Job

Ringdale has the largest range of streetlight, security light, path lighting and parking lot lighting LED fixtures.

All ActiveLED fixtures are either solar/wind only or solar and grid assist capable.

With ActiveLED you do not have to fit one light fixture to all applications, but select the most appropriate one.

In addition our SWP series can be used with pole spacings up to 100m or 300 feet, the widest in the industry.

Optimum pole heights vary from 19 feet to 29 feet and depend on the span and light levels required.

SSL and SSCY fixtures have been tested and comply to ANSI-136.31-2001 and are fit to be deployed on major roadways and bridges.

We provide full simulation services from IESNA accredited lighting engineers.

All ActiveLED Solar lights are programmable in the field and on the pole using an IR link with a special and secure USB dongle from Ringdale.

The following parameters may be changed:

- Light Level 1 during Timer 1
- Light Level 2 during Timer 2
- Light Level 3 during Timer 3
- On Light Level from 10% to 100% in 2% steps
- Ambient Light Level to Turn on Light
- Motion Control Option

This functionality allows fine adjustments without pain after the fixture has been installed.



SSL50 Series



SSL75-WP Series



SSL75-SWP Series



SSL24-WP Series



SSL100-WP Series



SSCY Series



SSLT100 Series



SBB-50 & SBB-75 Series



SSB-48 & SSB-75 Series



Solar Only Road and Walkway - El Salvador



US Coast Guard Station - All ActiveLED



La Quinta Hotel Car Park - Solar Assist

Providing Light in Difficult Locations

In El Salvador summer is mostly rainy and only 5.5 hours of usable sunshine can be expected for several months during the rainy season.

This means the solar panel has to collect more energy in a shorter space of time.

The batteries have to hold 3 days of energy.

Steel poles were selected in this new neighborhood as the best locally made pole and in line with what locals are accustomed to.

This 285 solar streetlight project was managed by CTS a local reseller in conjunction with a sub-supplier for battery-box, solar panel and pole.

Ringdale can provide the total solution:

- Pole

- Battery Box

- Solar Panel

- Fittings for Panel and Light

- ActiveLED Light Fixture with Charger

We are conscious about transport costs and are also willing to assist some of the items to be manufactured or sourced locally where such resources exist.

Poles and Fittings

We can provide a wide range of poles and fittings to existing poles.

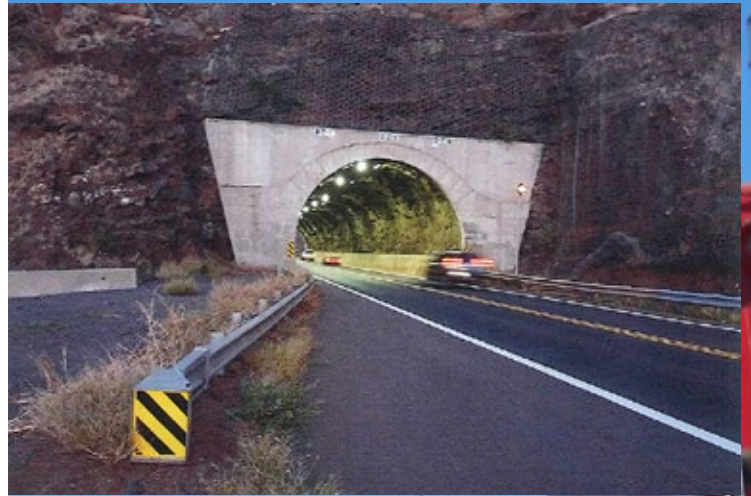
Ringdale manufactures and fabricates mounting hardware in its own factory from mainly stainless steel for salt water resistance and general durability.

Ringdale gives also a 10 year guaranty on all its stainless steel fittings and poles up to wind speeds of 120km/h as long as foundations, bolts used and torqued as specified and mounting has been carried out as instructed.

Tunnels can now be lit by Solar

ActiveLED directional forward throw tunnel light as used in a Roadway Tunnel in Hawaii which uses a 48 Volt DC Solar System to drive the light fixtures.

The light when installed over each driving lane has a BUG rating of B0-U0-G0.



Solar Only 2 Lane Road Tunnel

Roadside Lighting

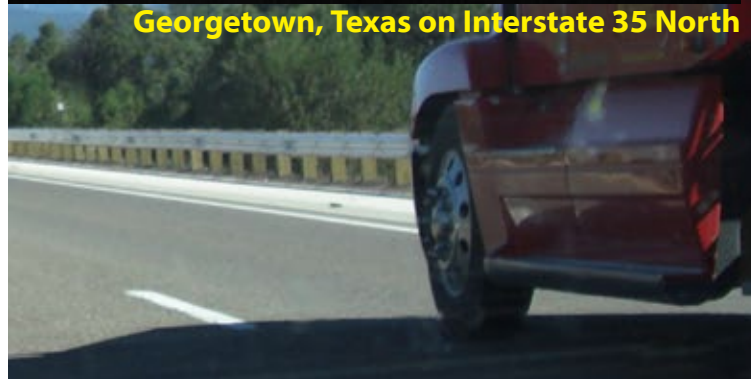
Often Municipalities like to position a well lit monument sign indicating their city boundary, welcoming the passers by.

Ringdale provides complete turn-key solutions as well as training on how to install our systems, for electricians, installers or city engineers if the municipality wants to self install.

We insist in training installers and electricians as it is the cornerstone of a successful installation.



Georgetown, Texas on Interstate 35 North



And, of course, we use our own lights for lighting security lights and business signs from solar only.

The battery has a 10 day capacity to drive 70 Watts of light, 18 Watts for the security light and 48 Watts for the Sign Light which is rare in Texas but has happened.

ActiveLED Lighting and Controls are manufactured in carbon neutral or low carbon emission lite manufacturing facilities where all office lighting, air conditioning and solder processes are Solar or Wind generated with the grid as a backup.



Solar Only Business Sign and Security Light



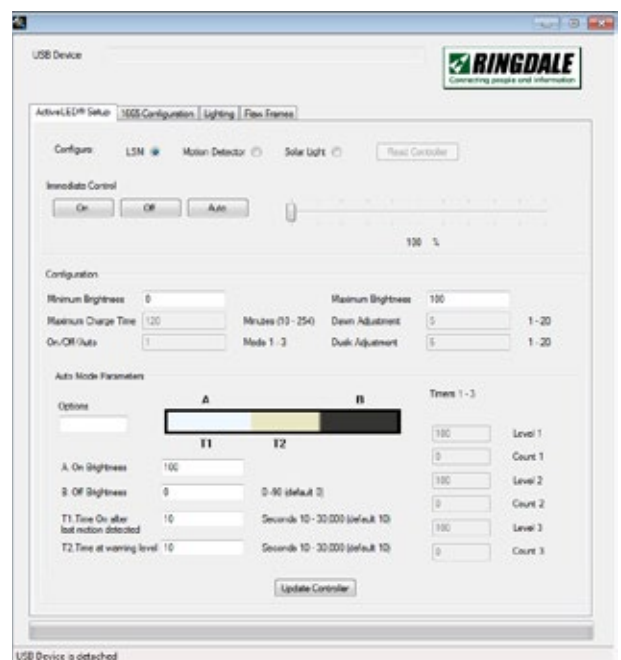
Programming an ActiveLED Light Fixture

We made it easy and practical to program ActiveLED lights.

All you need is a laptop and a Ringdale USB to IR Dongle and the *ActiveSet* software installed on a Windows operating system.



An intuitive screen layout where you fill in the parameters you want to change and submit the new setting to the light fixture.



Safety

Human Safety

ActiveLED limits its light output to 4800 lumens per square inch for any fixtures that can be operated within 30 feet or less of a human observer.

The reason is that higher light output will not only appear to have more glare but also has the potential to do real damage to the retina of a person.

A test of too much light output per square inch is easily made by looking into a bright light, closing your eyes and see how long the image will be retained on your retina with eyes closed.

Mechanical Safety

Arm mounted streetlights are clamped using 4 bolts making it safer in case of a single bolt failure.

ActiveLED lights have been vibration tested by UL to ANSI-136.31-2001 and passed to make them safe to use on bridges and areas with high vibrations.

Ease of Installation

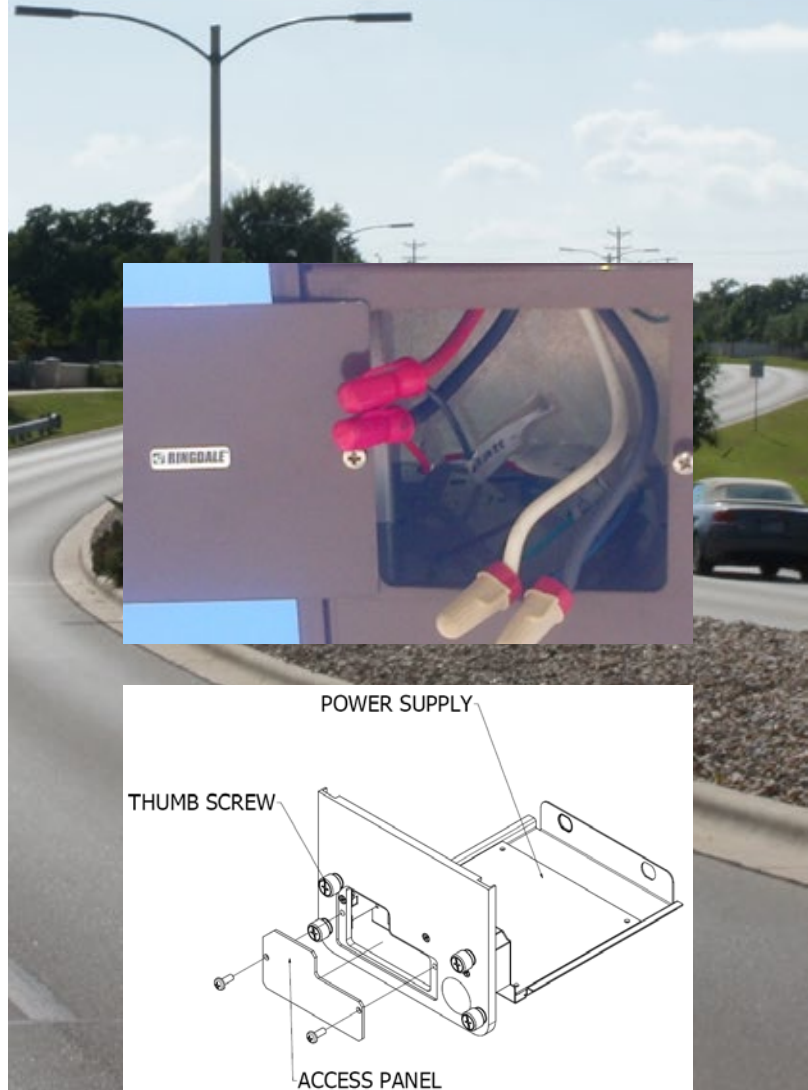
To make installation easy the junction box is accessible without tools.

The Solar Only versions of fixtures have charger and driver integrated in the fixture so you just need to connect to the batteries and the solar panel.

Field Maintainability

For SL24, SL50, SL75 and SL100 type fixtures, the power supply / LED driver is accessible and changeable in the field on the pole without tools by simply undoing four thumb screws.

An EDSaP programming and communication port is accessible so that wireless or motion control options can be added.





ActiveLED streetlight fixtures, apart from their solar-only configuration in this brochure are also available for;

- 100V to 277V AC, 50 or 60 Hz,
- 300V..485V AC, 50/60Hz,
- 48V DC supply,
- 12V to 100V DC,

making ActiveLED streetlight fixtures future proof for solar or wind and battery operation.

Streetlights, path lights, security lights and parking lot lights, solar or grid connected, can be remotely adjusted and programmed using a Ringdale wireless link dongle connected to the USB port of a laptop.

ActiveLED extends its 5 year power supply warranty for grid connected devices to 10 years if a Ringdale surge suppression device is used with each fixture.

Ringdale provides light-level simulation and layout services for its lighting products as well as specialty lighting design for backlit signs of any shape.

ActiveLED light fixtures carry a 10 year "no light loss" guaranty for 90,000 hours of continuous or interrupted operation the light output will be at least 90% of the original light output.

Ringdale operates under the ISO-9001:2008 Quality Assurance Standard designing, manufacturing and supporting its Solid State Technology.

For 37 years Ringdale has been serving every corner of the world from its own manufacturing operations in USA and in the United Kingdom.

We manufacture more than 100 light fixture types, so if you do not see what you are looking for in this brochure, contact us and we would be delighted to help.

www.ActiveLED.com

Call us now

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