DL-S4-RGB Outdoor LED – RGB Series

What is it used for?

DL-S4-RGB was originally designed for commercial signage applications – channel letters for instance. Its gives a controlled, directional light – equivalent to a few watts per foot of flexible LED product. Spacing between the modules can be adjusted during installation – modules can be pushed closer together for increased intensity and/or mounted in a non-linear fashion. Both will work in both wet and dry locations when installed in accordance with your local electrical code. Use JESCO DL-PS-xx/12 power supplies – hardwire or plug-in. Selecting Class 2 power supplies (*less than 60 watts per fixture run in this case*) will give you more code installation flexibility in most applications.

What is unique about it?

DL-S4-RGB is a color changing LED fixture. The DL-S4-RGB requires control equipment in order to change color. A simple contractor-installed, dry contact closure switch is also a control option which can select between the Red, Green and Blue colors or any combination of the three. All colors on at once produces cool white – at about 10,000 degrees Kelvin color temperature. Using JESCO control systems you can alternately dial in a color or select a series of colors – up to 16 million colors are available from JESCO RGB controller systems. Depending on the selected control system, you can control the fixture locally, remotely (by wireless radio frequency) or even via the internet or your smart phone. (Internet smart phone control is achieved with the assistance of your local digital systems integrator and using JESCO DMX control equipment).

JESCO can also supply DL-S4-RGB preset to one or a series of particular colors – say your corporate logo colors. Corporate can select colors at the point of use or remotely to a practically unlimited number of installations from a central corporate office location.

DL-S4-RGB has a vanishingly thin profile. It can be installed almost invisibly in the thinnest spaces. DL-S4-RGB is waterproof. The housing is more robust due to the use of modules and connecting cables which allow for non-linear placement than a comparable flexible tape (DL-FLEX) product. Many prefer the physical shape and feel of this product because of its integral housing and mounting means. Due to its light distribution it makes a very good back light for acrylic backlit panels. DL-S4-RGB is an ETL Listed Sign component.

Can I dim it?
Can I control it?
Can I connect it to my building control system?

Yes. DL-SQ-RGB can be interfaced to most commercial control systems using the LC-200-INT interface plus other equipment. Contact JESCO customer service for system design advice. In general, for a complete system you will need a fixture + power supply + interface + controller. Simple systems can be fabricated using only a simple power supply and switches. The DL-S4-RGB can also be controlled from a variety of residential wall plates and controls – see accessories below. RGB control options are also available.

What types of controllers do you offer?

We offer various control systems depending on your design specifications and budget.

LC-RF-300 is a radio frequency control interface that offers preset color changing modes – this is one of our simplest control solutions. It is user adjustable with an included hand held remote control that wireless reaches to 30 feet maximum. This controller can be hidden and does not require the remote to be in line of sight in order to control it.

LC-IR-300 is an infrared control interface that offers preset color changing modes – this is also one of our simplest control solutions. It is user adjustable with an included hand held remote control that wireless reaches to 30 feet maximum. This controller requires the remote to be in line of sight in order to control it.

LC-200-INT is an interface that assigns a DMX address to the RGB LED fixture runs – this is the backbone of any complex system. DMX controlled runs are expandable to unlimited lengths with our LC-200-RPT (power repeater). This controller can be used with our LC-PC-100, LC-PC-200, LC-PC-400 and LC-PC-500 DMX controllers. It is also compatible with third party DMX 512 based lighting controller systems. It is a 24V DC unit, 5 amps per channel / 120 watts per channel. An external power supply is required.

LC-PC-100 This unit is a DMX control – software based and user programmable via PC USB. Programs are loaded via a software programming interface. You can program 512 individual lighting zones - each with 255 levels of dimming possible. The unit can be used with our LC-200-INT interface. The unit features a 2 button user interface.

LC-PC-400 is similar to the LC-PC-100 but comes with a programmable wall switch. This unit is a DMX control – software based and user programmable via PC USB. Programs are loaded via a software programming interface. You can program 512 individual lighting zones - each with 255 levels of dimming possible. The unit can be used with our LC-200-INT interface. The unit features a 3 button user interface.

LC-PC-500 is an advanced RGB and dimming controller that is user programmable via a PC USB. Programs are loaded via software programming interface. It features touch screen wall plate with advanced scene, dimming and color control. You can program 512 individual lighting zones - each with 255 levels of dimming possible. The unit features a 3 button user interface. It can also be interfaced via internet / smart phones. The unit can be used with our LC-200-INT interface. An additional power supply is required for both the controller and the interfaces.

Are any accessories available for the DMX controllers?

LC-DMX-AMP1 is a 1 port DMX distribution amplifier. It repeats control signals to multiple interface locations – see spec sheets. It is required for use of DMX control runs over 1,000 feet to maintain DMX signal integrity.

LC-DMX-AMP2 is a 2 port DMX distribution amplifier. It repeats control signals to multiple interface locations – see spec sheets. It is used to split otherwise daisy-chained DMX control signal in 2 or more directions.

What is the spacing between the modules?

There are 4 modules per 12” length of the DL-S4-RGB series therefore spacing is 3” between modules.

What is the standard operating voltage for the DL-S4-RGB?

12 volts DC is the standard operating voltage for the product line. For this series we recommend our DL-PS-xx/12 series of power supplies. Refer to the specification sheets for JESCO's line of LED power supplies and drivers for more information.

Typically the necessary power supply will install on a single 15 or 20 Amp circuit.

JESCO DL-PS power supplies can operate at 120 volts, 277 volts and other European and international power utility company supply voltages. Many of our DL-PS plug-connected power supplies also have the ability to accept world-market power cords (by others) permitting operation in multiple territories with one single product – one product for the entire world in other words.

What is the standard length of the DL-S4-RGB?

DL-S4-RGB is shipped in spools containing 10 foot runs. It comprises of 40 modules per run.

JESCO custom cuts this series to meet your design parameters and allow for quick installation in the field. If needed, the length may be cut in the field anywhere between modules. For outdoor locations, capping and waterproofing the cut will be the responsibility of the installer.

Spacing between the modules can be adjusted during installation – modules can be pushed closer together for increased intensity and/or mounted in a non-linear fashion.

What is the maximum run length possible using DL-S4-RGB?

The maximum continuous installed run length is 10 feet per each home run to a power supply.

Runs of unlimited length can be created with judicious power distribution design and/or the use of JESCO repeaters to extend power handling of the product. JESCO's LC-200-RPT 3 channel signal repeater can be utilized between every 10 foot run. Please note that an independent power supply is required for each LC-200-RPT repeater.

Is there a minimum installed run length for this series?

4" is the minimum length that can be purchased from JESCO. Please note that our DL-PS electronic power supplies do not have a minimum load requirement but our DL-PS magnetic power supplies do. Please check the specification sheets for the exact requirements of the chosen power supply.

Can I cut the DL-S4-RGB?

Yes. JESCO custom cuts this series to meet your design parameters and allow for quick installation in the field. If needed, the length may be cut in the field anywhere between modules. For outdoor locations, capping and waterproofing the cut will be the responsibility of the installer.

Careful cutting will allow enough wire for splicing making the cut length reusable.

How do I mount the DL-S4-RGB?

The module comes standard with a waterproof, high strength, 3M™ tape backing. Just peel the tape cover off the back and firmly apply to any smooth, clean, dry surface categorized as having a high surface energy. For surfaces not meeting this requirement, the molded plastic modules have mounting holes on each end allowing for the product to be nailed or screwed to a surface. The installer must determine the correct mounting means with regards to the application and the surface found on the jobsite.

Is the DL-S4-RGB waterproof?

Yes, this series is waterproof but not submersible.

Can I submerge the DL-S4-RGB series in water?

You cannot. This fixture is not UL listed as a submersible power supply system. In Europe we sell this product as "submersible up to xx feet", but due to US code requirements (although the product would in theory operate perfectly well submerged) it would be impossible to power it and pass an electrical inspection here in the US. Further to this, pools and spas are treated differently to decorative water-features. JESCO does not have a pool and spa UL listing for this product.

Can I plug the DL-S4-RGB directly in to a standard 120V US outlet?

Yes, we provide desktop or wall plug drivers that produce the 12V DC power which plug into a standard wall outlet. See JESCO's [DL-PS-xx/12](#) series of plug and play LED drivers. Please note that JESCO's DC power connector and terminal block are required – consult your licensed electrical contractor for advice on local wiring rules in your area. Listed Sign shops normally install these fixtures via hardwire means under their own specialist UL procedures.

What gauge wire do I run between the LED and the power supply?

In order to eliminate voltage drop, cables specifications of 14/2 AWG and up are typically used.

Your contractor will assist you in specifying the correct gauge of cable required to remotely locate the power supply relative to your fixture location and to determine how to eliminate voltage drop from remote supplies.

Typically you should think in terms of 20' – 50' max feeds to/from remote locations, although any distance is theoretically possible with your contractor's assistance in specification of correct supply cables.

What are the recommended applications for the DL-S4-RGB?

Recommended applications for the DL-S4-RGB include UL Listed Sign shops and other UL general procedure listings, exterior signage, channel letters, halo lettering, wet location coves / eaves and soffits, hospitality wet area features and accents, exterior backlit panels, exterior soffits, booths and kiosks

How long do your LEDs last?

JESCO LEDs in the DL-S4-RGB are designed to meet or exceed a Rated Lumen Maintenance Life or L_{70} of 50,000 hours (Meaning the LEDs will maintain at least 70% of their original light output after the fixture has been on for 50,000 hours).

That being said, exceeding the operating temperature values may damage the LEDs by reducing the lifespan, lumen output, and/or adversely impact color consistency. It is recommended that adequate airflow and heat sinking be taken into consideration in the installation and application of this product. Improper thermal management may lead to premature product failure and void the warranty. See the product specification sheets for more information.

Why choose LED over any other type of lighting?

LEDs have caused a revolution in lighting. JESCO has helped lead that revolution.
We were one of the first manufacturers to make the shift to the LED light source many years ago. Our LEDs are of the highest quality and they are time-tested to be dependable.

There are many reasons to make the switch to LED products. Some of the reasons include:

Technological Impact
LEDs are solid state, light emitting chips that are not encased in fragile glass enclosures or use delicate and inefficient filaments. LEDs are vibration resistant. They also do not need to warm up as they are an instant-on light source. LEDs currently offer life expectancy of 50,000 hours, on average. LEDs offer much more control of correlated color temperatures and provide the option to add color(s) either monochromatically or through RGB technology. The chips are miniscule in size which allows manufacturers to design much smaller fixtures and allows designers and end users much greater flexibility incorporating and installing these fixtures on their projects.

Financial Impact
The long life expectancy means a higher rate of return on investment – installed fixtures can last, at least, 10 years (depending on the design, the lifespan of the power source and the duty cycle of the fixture) with no maintenance. No maintenance means no labor costs and no replacement lamp costs associated with installed fixtures and lamps over the life of the fixture. Fixtures mounted in high or hard-to-reach locations are the prime candidates for LED lighting. LEDs are very efficient light sources and are cool to the touch unlike incandescent light sources which release 90% of their energy generated as heat. Due to the inherent cooler running temperatures of LEDs, HVAC system design loads can be scaled down. LEDs use much less energy per fixture than standard light sources guaranteeing savings in electrical costs far into the future. Lastly, many local energy providers are currently offering rebates to customers making the switch to LED fixtures.

Environmental Impact
LEDs are easily recyclable. They contain no mercury or lead which require special handling and disposal. LEDs do no emit harmful UV/IR which discolors fabric, furniture and artwork. The U.S. Department of Energy [estimates](#) that rapid adoption of LED lighting in the U.S. by 2027 could deliver savings of about $265 billion, avoid the building of 40 new power plants and reduce lighting electricity demand by 33% in 2027.

All or even one of the above stated reasons may be the right reason for you to choose a fixture with an LED light source.

The last important factor when choosing an LED fixture is scrutinizing the manufacturer of the LED chip and the incorporation of this chip into the design of the lighting fixture. As the United States EPA and DOE Energy Star program states on its website "Bad design can lead to a wide range of problems, some immediately observable and some not. Poorly designed products often come with exaggerated claims while failing to deliver on the quality specifications provided." Our LED products are designed around

the LED light source and not the other way around making for a well-designed, color consistent and extra long-life fixture with a proven track record. With all our LED products, JESCO offers layout assistance and technical support helping make specification, as well as installation, simple.

Therefore, always look for reputable and trusted sources of LEDs and LED fixtures - be it JESCO Lighting or anyone else.