

# DL-RS-xx-RGB Rigid Strip RGB LED Series

## What is it used for?

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[DL-RS](#) Rigid Strip is a dimmable linear LED fixture suitable for wet, damp or dry locations. These fixtures can be used on the outside of buildings, in undercabinet, cove, soffits, and shelf lighting as well as backlighting of signs and panels. The DL-RS can be linked for longer runs.

## What is unique about it?

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Unlike traditional lighting, the [DL-RS-xx-RGB](#) Rigid Strip RGB fixture can be made to change color without gels and can do so very simply.

DL-RS-xx-RGB requires control equipment to change color. Control can range from something as simple as a contractor-installed switch – used to select between single Red, Green and Blue colors or any combination of the three – on up in complexity through to sophisticated digital remote control systems which fade and roll color.

Using JESCO RGB control systems you can alternately dial in a color or select a series of colors in turn – up to 16 million colors are available from JESCO RGB controller systems. Color changes can range from seconds through days in length. Depending on the selected control system you can change color locally, remotely- by wireless radio frequency - or even via the internet or your smart phone. (Internet / smart phone with the assistance of your local digital systems integrator and using JESCO DMX control equipment).

Turning on all colors (R+G+B) on at once produces cool white – at about 10,000 degrees Kelvin color temperature. Tip - add a run of warm white DL-RS-xx-30 next to this product to create a cove system than can change the look, feel and usage of a space in a moment.

The important differences between JESCO DL-RS-xx-RGB and other similar-looking products are as follows:

- 1) **UL listing** – We have several installation options specifically aimed at US residential and commercial NEC code compliant specifications (DL-RS-xx-RGB is UL Listed to UL 2108, low voltage lighting).
- 2) **Product design** – JESCO has the highest quality LED sources of our own specification. Our unique plug-connected DL-FLEX system simplifies installation and is a favorite with installers across the country.
- 3) **Accessories** – JESCO offers a deep line of [accessories](#) with contractor hardwire and plug-connected installation options, mounting channels and light control accessories all intended to simultaneously satisfy the designer, the installer and the electrical inspector all while pleasing the owners bank account and eye.
- 4) **Depth of line** – With DL-RS-xx-RGB JESCO has created the widest variety of options in the industry for lighting power, lighting color, power supply type and lighting control means – a set of specifications much copied but rarely equaled.

Reliable, sophisticated, installation-friendly and code-compliant. All of which add up to a turnkey product line that remains the industry leader today.



## What is the standard operating voltage for the DL-RS-RGB?

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24 volts DC is the standard operating voltage for the product line. For the DL-RS system we recommend our [DL-PS-xx/24](#) series of power supplies. Refer to the specification sheets for JESCO's DL-PS 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.

24V power distribution was selected in order to render the longest, brightest and most consistently lit fixture runs while at the same time complying with the complex UL and NEC code restrictions you will come across on job sites.

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 maximum run length possible using DL-RS-RGB series?

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The DL-RS-xx-RGB is linkable and has a maximum run length of 24 linear feet.

This 24ft length refers to fixture length and does not include any connections between the fixtures thereby extending the overall reach of the product. The overall maximum reach needs to be determined by a qualified electrician based on your power in the building.

## Is there a minimum installed run length for the DL-RS-RGB series?

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The minimum installed length is 1 foot.

## How can I mount the fixtures end-to-end without any gaps?

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Each DL-RS-xx-RGB comes with two, 2-inch lead wires providing a waterproof input and output connection. These wires exit the side of the fixture allowing for fixtures to easily mount end-to-end to form one continuous run which provides a uniform and unbroken output of light.

## How can I connect lengths around obstacles?

### Do you have a jumper cable?

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The DL-RS product line has an extensive offering of [connecting cables](#) for every application – from 18" to 96". Also, available are 2Y and 3Y power splitter cables for separating of runs.

## How do I mount the DL-RS-RGB?

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The DL-RS-xx-RGB mounts with our mounting clips. Two 0° and two 45° clips are provided with each fixture, kit [DL-RS-MC-1](#). We also offer an optional kit of 90° and fully adjustable clips which help meet any mounting situation, kit [DL-RS-MC-2](#). Magnetic mounting strips, [ACC-MT-MAG-01-SET](#), are also available.



## Is the DL-RS-RGB waterproof?

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Yes, the DL-RS-xx-RGB is IP65 rated and designed for use in wet and damp locations.

Please note that the fixture is cannot be submersed in water.

## Can the DL-RS-RGB be mounted in indoor applications?

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Yes. For a non-color changing alternative please refer to our [SG-LED and SGA-LED](#) Sleek Ultra LED product line which is specifically designed for indoor installation applications.

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

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Yes, for indoor applications we provide desktop or wall plug drivers that produce the 24V DC power which plug into a standard wall outlet. See JESCO [DL-PS-xx/24](#) series of plug and play LED drivers.

## Is there anything special I need to do when mounting the fixture outdoors?

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Yes and No. There is no need to silicone around the fixture to keep it waterproof. All the LEDs have a transparent coating that protects them from dust, dirt, and water.

The only requirement is that the end of each run must be capped off using the Outdoor End Cap, [DL-PS-OD-RGB-EC](#), which is provided with each fixture. The other requirement is that the power supply and connection to the DL-RS is done to meet local codes.

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

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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.

## Can I cover the LEDs with a lens?

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Yes. The DL-RS comes standard without a lens but a white opal acrylic lens is available with the fixture by adding the code "[-C](#)" at the end of the fixture part number. The lens provides for an even glow exiting the fixture and greatly diminishes unwanted "point of light" visibility.



## Can I control it?

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

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Yes, that is the fun of the product!

All RGB systems start with a power supply and a means of connecting that power supply to the DL-RS-xx-RGB product. This is usually a [DL-PS-xx/24](#) power supply of some type plus an RGB power interface. The interface is used to vary the amounts of each color – Red plus Green plus Blue – that the DL-RS-xx-RGB product produces.

The interface in turn takes a control signal to tell it what to do moment to moment – usually those orders originate in one way or another from you. Sometimes the interface receives orders down a wire from a computer, sometimes via a wireless control.

Complex interfaces use the industry standard lighting control protocol “DMX” which means our DLRS-xx-RGB fixtures can very easily be connected to even the most complex of entertainment industry controllers.

Talk to your JESCO representative about what you want your fixtures to do – and we will be able to come up with a way of doing it.

## What types of controllers do you offer?

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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 wirelessly 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 wirelessly 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-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?

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[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.

## How do I replace the DL-RS-RGB?

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Typically, you will not see any failures in our DL-RS for many, many years. In the rare event of a premature failure, a section can be replaced within an installed run by simply unplugging the bad section and replacing it with a new one.

## What are the recommended applications for the DL-RS-RGB?

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Recommended applications for the DL-RS series include outside of buildings, coves, display cases, offices, stores and restaurants, architectural features, corporate showrooms and exhibition display, counters, accenting point of purchase display, signage applications, backlighting of glass and acrylic panels or cut out forms, lighting toe-kick areas, undercabinet task lighting.

## How long do your LEDs last?

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JESCO LEDs in the DL-RS family 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?

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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 not 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.

