

DL-S4 and DL-R3 Outdoor LED – Static Series

What is it used for?

[DL-S4](#) and [DL-R3](#) were originally designed for commercial signage applications – channel letters for instance. They give 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?

This series has a vanishingly thin profile. It can be installed practically invisibly in the thinnest spaces. The series 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. It is an ETL Listed Sign component. Many prefer the physical shape and feel of this product because of its integral housing and mounting means.

Can I dim it?

Can I connect it to my building control system?

Yes. They can be interfaced to most commercial control systems using the LC-DIM5A-HW PWM dimmer. JESCO's PWM (Pulse-width modulation) dimmer, the [LC-DIM-5A](#), offers full range dimming. Options within our dimming products facilitate installation conditions ranging from a simple knob on a power cord (LC-DIM-5A), through to residential architectural wallplate dimming (LC-DIM-5A-HW & DS-DV-TV) and on through to the largest imaginable commercial building control systems (LC-DIM-5A-HW + any control system with 0-10V interface).

This series prefers to be controlled by 0-10V capable building control systems, but it is also able to communicate to multiple other industry standard protocols if need be.

From the very simplest knob mounted under a counter through to interfacing with complex energy management systems JESCO has a solution – contact JESCO customer service for assistance with your next lighting control specification.

What is the standard operating voltage for the DL-S4 and DL-R3?

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 spacing between the modules?

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

There are 3 modules per 12" length of the SL-R3 therefore spacing is 4" between modules.

What is the standard length of the DL-S4 and DL-R3?

Both items are shipped in spools containing 10 foot runs. The DL-S4 comprises of 40 modules per run and the DL-R3 comprises of 30 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 end 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 or DL-R3?

For both series, 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 or DL-R3?

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 and DL-R3?

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 and DL-R3 waterproof?

Yes, this series is waterproof but not submersible.

Can I submerge the DL-S4 or DL-R3 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 or DL-R3 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 different color temperatures of the DL-S4 and DL-R3?

We offer our LEDs in two Kelvin color temperatures of 3300°K and 6300°K.

The lower the color temperature the warmer the color.

What are the recommended applications for the DL-S4 and DL-R3?

Recommended applications for this series include UL Listed Sign shops and other UL general procedure listings, exterior signage, channel letters, halo lettering, wet location covers / 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 this 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.

Do the colors of your LEDs vary?

We offer LEDs in specific white color temperatures. All our LEDs are designed to maintain their color over time and across the maximum length of a run.

We exceed the market's highest standards by specifying the exact color bins when we select LEDs so that they do not fluctuate more than $\pm 200^\circ$ for warm color temperatures and $\pm 300^\circ$ for cool color temperatures. This meets or exceeds the recognized standards for color quality and guarantees uniformity and consistency of hue and color temperature across LEDs, fixtures, and manufacturing runs.

That being said, inherent to any commercial LED product, individual LEDs within a module may vary slightly but the overall color temperature of the module will fall within our tight specifications listed above.

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 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.

