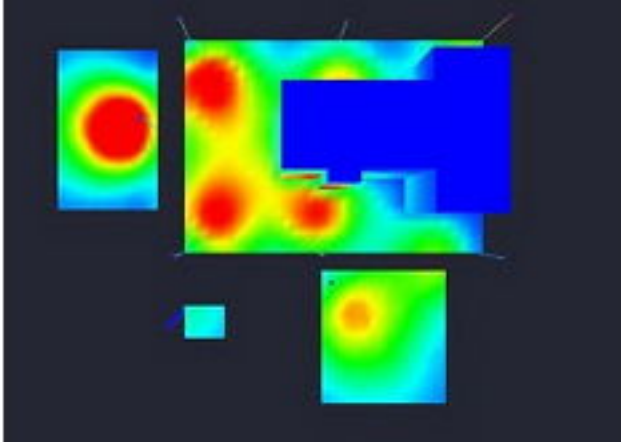


Explosion Proof Solar Derrick Light Package - 9 LED Fixtures - 4 Hour Runtime - 24V DC Assembly

Part #: EXPLED-SOL-2X48.2L-4X150RT-4X300RT

**Made in the USA**

This Explosion Proof Solar Derrick LED Light Package from Larson Electronics is designed to provide up to 3.75 hours of illumination for remote derricks without a stationary power source. This low voltage solar package includes nine explosion proof fixtures for illuminating the oil derrick during inspections and repairs. Included with this package are the solar panels, battery bank, and charge controllers needed to operate the explosion proof LED light fixtures.

Lights:

This LED light package comes with nine low voltage, high output LED light fixtures. Four 150 watt EPL-LED-150W-RTs, four 300 watt EPL-LED-2X150W-RTs, and one 56 watt EPL-48-2L-LED-G2. These LED fixtures are Class 1 & 2, Divisions 1 & 2 rated and approved for marine and wet locations.

The EPL-LED-150W-RT and EPL-LED-2X150W-RT fixtures are Class 1 Division 1 & 2, Class 2 Division 1 & 2 explosion proof flood light fixture provides high quality light while drawing. The copper free aluminum alloy body is powder coated for added durability and an attractive aesthetic appearance. Special heat dissipating design in conjunction with LED technology helps this fixture to achieve an excellent 60,000 hour rated lifespan with 80% lumen retention.

The EPL RT series of explosion proof LED lights features multiple LED drivers which helps to increase the operational life of the fixture. With traditional LED lights, in the event an LED array or driver fails, the entire fixture no longer illuminates. This series of light fixtures contains twelve (150 watt model) or twenty-four (300 watt model) individual LED boards configured in a series of banks. Each bank contains two LED boards with an individual driver. In the event of a driver failure, only one bank of LEDs will be effected while the other banks will continue to operate. In the event that of an LED failure, the mating LED will continue to operate.

The EPL-48-2L-LED-G2 is equipped with specially designed LED T-series bulbs which produce 30% more foot candles of illumination at 8 feet as compared to standard T8 lamps when measured with an Extech light meter. Our LED-T series bulbs are visibly brighter than standard T8s and have consistently surprised many of our customers with their unexpectedly high light output levels. We have replaced two 8 foot dual lamp T8 fixtures in our own facility with our LED T series lamps and produced more illumination in the work area with only one 2 lamp 4 foot long LED fixture.

We have eliminated the ballast box normally associated with fluorescent fixtures which reduces overall weight and creates a slimmer unit profile. There is no ballast in this unit and the included LEDT8-28W-V1 LED lamps have a 50,000+ hour service life, both of which result in extreme efficiency and greatly reduced maintenance costs. The solid state design of the LED lamps give this fixture superior resistance to damage from vibration, extremes in temperature and a lamp service life over twice that of standard T8 bulbs.

Solar Assembly:

This unit is comprised of seven 300-watt solar panels, generating a total maximum output of 2.4 KW. This 2.4KW solar generator system replenishes 300 amp hours of usable battery capacity per day, assuming 5 hours of peak charging sunlight. These solar panels are enclosed in a powder coated steel frame. In order to optimize the sun capture, operators must mount the solar panels to +/- 15 degrees of the latitude of the physical location of the panels. Houston, Texas, for example, is at latitude of 30 degrees, so the winter setting is 45 degrees and the summer setting would be 15 degrees. While this doesn't make a huge difference, every little bit helps.

Solar Charging System:

In this 24 volt system, each panel is terminated with a fused combiner box with a single lever action cut-off switch. With the switch set to the 'on' position, the combiner box passes power to the 80-amp capacity Outback Extreme charge controller.

This solar light tower uses the Outback Extreme series since its standard temperature threshold is more than 160 degrees Fahrenheit, due to its integrated heat sink and fan assembly. Oddly enough, most charge controllers aren't rated past 104 degrees Fahrenheit despite the fact they will always be close to direct sunlight. In the summer time in Texas, our fabrication shop is normally warmer than that, so this solar light tower uses a charge controller that would support the southern heat. We improve on that capability by shading the charge controller and adding additional air flow from the exhaust of a 1400 CFM component cooling system.

The charge controller charges a 600-amp capacity battery bank. This 24 volt battery system is comprised of 6 volt batteries tied together in series and parallel. Of course, with most battery technology, the battery bank cannot be drained below 50% without destroying the batteries. With that in mind, this effectively reduces the total capacity of this system to 300 amps at 24 volts.

The panels produce approximately 12 amps per hour to charge this system. On a bright sunny day, the seven panels would generate and deliver more than 400 amps back to the batteries in 5 hours. This conservative number of 5 hours is pretty standard conservative number for the solar industry. Many parts of the world have more and some have less. While this solar system can be optimized for the angle of the sun, the panel assemblies do not follow the path of the sun, so we use this conservative number to ensure successful operation. In areas with longer

Specifications / Additional Information**EXPLED-SOL-2X48.2L-4X150RT-4X300RT Solar Derrick****Panes:** (7) 300-Watt panels**Average charge capacity:** 84 amps per hour**Panel protection:** Fused combiner box**System Protection:** Battery over/under and ground fault**System Voltage:** 24 Volts**Battery Bank:** 12 X 6-volt 200ah batteries**Battery capacity:** 600ah total and 300ah usable**Fixtures:** (4) EPL-LED-150W-RT, (4) EPL-LED-2X150W-RT, (1) EPL-48-2L-LED-G2**Features**

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Part #: EXPLED-SOL-2X48.2L-4X150RT-4X300RT (71472)

