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LEDP10W-50E

50W High Intensity LED Light - 5, 10-Watt LEDs - 4300 Lumens - Extreme Environment - 525' Spot

Product ID: 49728

Please see last page for supporting documentation for this product(certificates, CAD files & drawings, IES files, wiring diagrams, etc).



Larson Electronics LLC manufactures a wide variety of products, including custom built to spec designs. The pictures displayed for this unit are a general representation of form factor for the product line and may not accurately represent this exact configuration in every detail due to custom builds and changes between similar products in our standard catalog. The specifics for this configuration are listed in the specification table and supporting documentation (CAD files, Dimensional Drawing, Name Plate Diagram, Wiring Diagram, etc.). This means that specific details (receptacles, plugs, wires, connections, mounting brackets, external finishes, etc.) may not be accurately represented in images vs specifications. Please review specifications and do not order based solely on images.

LEDP10W-50E LED Light Bar

Lamp Type: CREE XLamp MC-E® LED
Dimensions: 4.68"-L 4.30"-H 3.5"-D
Watts: 50
Weight: 5.11 Lbs

Voltage: 9-46 VDC

Lighting Configuration: 20° Spot or 40° Flood

Mounting: Flat Surface or Tube - Adjustable

Wiring: Deutsch IPD / LADD DT04-2P connector

Amps: 4.17 (on 12 volts) 2.9 amps (on 24 volts)

Lumens: 4,300
LED Light Color: 6000K

LED Life Expectancy: 50,000 hours

Optics Efficiency: 90%

Materials: Aluminum Housing, Polycarbonate Lens

Housing Colors: Black or White
Flood Beam: Lux @1 meter= 8,950 @3 meters= 1,225
Spot Beam: Lux @1 meter= 13,750 @3 meters= 1,850
CE Certified
3 year warranty replacement on this LED light. After 30 days, the customer ships the failed LED light and/or LED bulb to Larson Electronics at their expense. If the failure is a

Internal LED Driver Features

Fast average current control
Programmable off-time switching
Linear dimming input
PWM dimming input

Short protection w/Skip mode

Ambient Op Temp -40C to +125C

Pin-compatible with the HV9910B

View Avg-Mode Driver Control PDF

Special Orders - Special Requirements
Contact us for special requirements

Toll Free: 1-800-369-6671

Intl: 1-903-270-1187

E-mail: sales@larsonelectronics.com

manufacturer defect, we will ship a new replacement to the customer. If failure occurs within 30 days of receipt, Larson Electronics will provide a return label via email to the customer. When the failed light is returned, Larson Electronics will ship a new replacement.

Buy American Compliant

The LEDP10W-50E LED Light Bar is ideal for a wide variety of uses including equipment, vehicle, military, law enforcement and industrial manufacturing applications. 4,300 lumens of light output with low voltage and amp draw, a 50,000 hour rated service life, and 9 to 46 volt compatibility provides operators with a versatile and powerful LED lighting solution.

The LEDP10W-50E LED light bar from Larson Electronics produces 4,300 lumens of bright light while drawing only 50 watts @4.2 amps from a 12 volt electrical system. Five CREE XLamp MC-E® ten watt LEDs producing 860 lumens each are paired with high purity optics to produce a 20 degree spread spot beam approximately 525’ long by 75’ in width. We also offer floodlight versions with a 40 degree beam spread to provide more light over a larger area nearer the fixture, making flood versions ideal for use as work lights. These LED light bars are waterproof to 3 meters, sealed against intrusion by dust and dirt, and very ruggedly constructed to withstand the most demanding environments, conditions and applications.
An integral Pulse Width Modulation controller, small profile, low power requirements, high durability and versatile mounting system makes these LED light emitters a superior lighting solution for a wide array of applications including but not limited to: military, industrial manufacturing, machine visioning, security and law enforcement, boating, vehicles and commercial structure illumination.

Heat Management: Heat is the single largest factor in premature LED failure and color shifting. These LED units contain advanced drivers which use pulse width modulation to control heat buildup rather than simple voltage regulators which are typically harsh on sensitive electronics and can contribute to early LED failure. These units automatically sense the temperature of each LED and adjust the energy frequency or “duty cycle” accordingly to maintain heat levels within acceptable ranges. This system in essence flashes current at an extremely fast on and off rate to each LED based upon the LED’s core temperature.
This flash rate is too fast to detect with the human eye, but provides precise control of the current flowing to each LED and thus the heat it generates. This allows the LEDs to be driven at up to 100% capacity without overheating or visible loss of light output. The LEDs are always driven at the same voltage but the duty cycle, however, is changed to alter how long the LEDs are actually on or off. The end result is more light with less heat and longer LED life with an average 70% lumen maintenance after 50,000 hours.
PWM Control: The pulse width modulation drivers in this unit also provide secondary benefits through the ability to tap into a provided input wire with an external pulse generator and adjust the duty cycle of the current being applied to the LEDs. Thus you can connect an external dimmer, switch, or pulse control and adjust the perceived output of the light, effectively causing the light to flash, dim or brighten to the desired levels.
Additionally, this method of controlling light output results in a corresponding drop in amperage draw, so if the duty cycle is cut back to 50% there will be a matching 50% reduction in amperage draw. These units are also able to monitor and adjust input current to maintain the correct LED voltage levels regardless of input levels across a specific range. These LEDP10W series light bars can operate on current

ranging from 9 to 46VDC without any modifications necessary as a result. This ability to sense and adjust input current also provides protection against voltage spikes and drops that can occur in vehicle electrical systems which would otherwise result in burning up or premature LED failure without it.

Durability: As well as unparalleled heat control, the LEDP10W series of LED light bars from Larson Electronics also offer IP68 rated construction that is designed to withstand extremes of environmental and operating conditions. These units can withstand rapid temperature changes of -40 degrees Celsius to 85 degrees Celsius, are waterproof to three meters, and resist ingress of dust, dirt and humidity. The housings are formed from extruded aluminum and the lenses are unbreakable polycarbonate. The CREE XLamp MC-E® LEDs offer resistance to shocks and vibrations and are rated at 70% lumen maintenance after 50,000 hours of use.

Mounting: Each unit is equipped with aluminum mounting blocks which slide within the aluminum housing to allow users to adjust their positioning to match existing or user drilled mounting holes. Each aluminum mounting block has an integrated rubber bushing to absorb vibrations and shocks. To secure the lights in place users simply slide the mounting bolts through the aluminum mounting block and rubber isolator, through the mounting surface, then secure the bolt with a locking nut on the opposite side of the mounting surface. This mounting system enables mounting to flat or round surfaces and allows for minimal 7 degrees of flexibility of angle placement of the light. For increased adjustability please see our trunnion mounted versions which add a wider degree of vertical angle adjustment.

Note: Most Larson Electronics LEDLB, LEDP3W, LEDP10W, and LED10W series LED spotlights and floodlights are terminated with a Deutsch IPD / LADD DT04-2P connector. The mating connector plug is DT06-2S. Most LEDLB and LED10W series lights ship with the mating connector as part of a harness or pigtail depending on the model. Some larger LED lights like the LEDLB-160X2 or LEDLB-200X2 or multiple function LED lights (i.e. high/low beam, modulating, IR/Visible combos) will have different Deutsch connectors.

LEDP10W-50E 40° Flood Beam (Opt)



LEDP10W-50E 20° Wide Spot Beam (Stnd)



CONDITIONS

Vin min (V) = 9	**toff (us) = 2.9**
Vin nom (V) = 12	**R1 (kohm) = 50.2**
Vin max (V) = 50	**L1 (uH) = 3.0**
Vo min (V) = 6.5	**L-Pk (A) = 2.9**
Vo nom (V) = 6.8	**L-rms (A) = 2.9**
Vo max (V) = 7	**Ipk (A) = 2.5**
I-LED (A) = 2.2	**R2 (ohm) = 0.10**
Efficiency = .85	**I-FET (A) = 2.2**
fsw nom (kHz) = 150	**fs min (kHz) = 77**
Ts nom (us) = 6.666667	**fs max (kHz) = 301**
Base frequency-	= 36~37Khz @ 12V
Amplitude of pulse width-	= 27Ms
Outside: External dimmer-	= 500Hz
Inside : Current sensing from-	77KHz at 12V to 300KHz at 50V

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Frequently Asked Questions (FAQ)



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LEDP10W-50E

Product ID: 49728

Harmonized System (HS) Code: 9405.41.84.10
Export Control Classification Number (ECCN): EAR99

Options:

LEDP10W-50E-Beam Pattern-Housing Color

Example: LEDP10W-50E-SP-BLK

Beam Pattern	
SPOT	-SP
FLOOD	-FL

Housing Color	
BLACK	-BLK
WHITE	-WHT

Links (Click on the below items to view):

- CE Certificate
- MSDS (Material Safety Data Sheet
- Operations Manual
- RoHS Certificate (Restriction of Hazardous Substances)
- HigResPic1
- HigResPic2
- HigResPic3
- HigResPic4
- HigResPic5
- HigResPic6
- HigResPic7
- HigResPic8
- ISO 9001 Certification
- Business Certificate
- Shipping Time Map