

## Hazardous Location LED Fixture - C1D2 - Dimmable - Marine Grade Aluminum - DALI Network HAL-ADC-48-2L-LED-D-V2



### HAL-ADC-48-2L-LED-D-V2 Hazardous Area Dimmable LED Rig Light

**Listing:** United States - Canada

**Surface Mount Dimensions:** 53.74"-L x 7.03"-W x 9.11"-H

**Pendant Mount Dimensions:** 53.74"-L x 7.03"-W x 7.62"-H

**Weight:** 22.7 Lbs

**Voltage:** Universal 120-277VAC 50/60 Hz or 11-25V AC/DC

**Total Watts:** 56 watts (28 Watts Per Lamp)

**Total Lumens:** 7,000 (3,500 Per Lamp)

**Luminous Efficacy:** 125 Lm/W

**LED Lamp Life Expectancy:** 50,000 Hours

**Color Temp:** 5600K, 4500K, or 3000K

**Color Rendering Index:** >80

**Beam Angle:** 150°

**Lighting Configuration:** Flood Pattern

**Power Efficiency:** 90%

**Power Factor:** >0.95

**Ambient Operating Temp Range:** -25° C to +45° C

**Operating Temp Rating:** T4 Rated

**Minimum Operating Temp:** -25°C

**Maximum Case Temp:** +45°C

**Housing Material:** Copper Free Aluminum Extrusion Housing

**Lens Material:** Shatter/Impact Resistant Acrylic Lens

**Gasket Material:** Neoprene

**Mounting:** Surface Standard - Pendant Optional

**Wiring Hub:** 1/2" or 3/4" NPT

### Signal Converter Specs

**Watts:** 0.5W

**Input Voltage:** 90-306V AC or 127-431V DC @ 47- 63Hz

**Current:** 0.1A

**Input Signal:** DALI or Push Dim

**Output Channels:** 4

**Output Signal:** PWM

**Output Logic:** Active High or Active Low

**Dimming Range:** 1-100%

**Relay Switch:** 240V AC, On/Off

**Operating Temperature:** -30? to +60?

**Housing Material:** Fully Isolated Plastic

### Ratings/Approvals

Listed for United States and Canada

Class I Division 2, Groups A, B, C, D

NRTL certified to UL 844

NRTL certified to UL 1598A Marine Type (Salt water)

Certified to Canadian Standards

Meets USCG Specifications

California Title 24 Compliant

T4 Temperature Rating

LEL Listed Dimmable LED Lamps

ABS Approved

Made in the USA

Silicone Free

0-10V Dimmable

Password Protected Network Controls

No Programming Required

Modbus TCP/IP Connectivity

DALI or Push Dim

PWM Output Signal

**Connection:** Terminals (TB1, TB2 and JP1)

**Analog Output Module Specs**

**Dimensions:** 1.41" x 3.88" x 3.1"

**Weight:** 4.8 oz

**Network Type:** 10/100 Base-T Ethernet Port (Static IP address assignment or DHCP, HTTP Port Selectable)

**Protocols:** HTTP, XML, Modbus TCP/IP

**Voltage:** 9-28V DC

**Max Current:** 92mA-163mA @ 24V DC (10 Mbps Network Speed; 126mA-198mA @ 24V DC (100 Mbps Network Speed)

**Configurable Channels:** 5

**Output Ranges:** 0-5V, 0-10V,  $\pm 5V$ ,  $\pm 10V$ , 4-20mA (Software Selectable)

**Resolution:** 16-bit DAC (0-65535)

**Current Output (Voltage Mode):** 10mA Max (Min Load = 1K), 30mA Max Short Circuit

**Voltage Output Inaccuracy:**  $\pm 0.2\%$  FSR Includes Offset Error, Gain Error and Non-linearity Error

**Max Load Capacitance:** 20nF (no load), 5nF (1K load)

**Current Output Range:** 4-20mA

**Output Compliance Voltage:** 11.50V Minimum

**Isolated Power Supply:** Internal DC to DC Converter

**Isolation:** Galvanic, 1500V AC

**ESD Protection:** Integrated, 15kV Protection

**Output Protection:** Integrated Over-temperature, Open-line and Short Circuit Protection

**Output Alarms:** Open Current Loop, High Internal Temperature

**Output @ Power Up:** Programmable

**LED Indicators:** (8) Power On, Fault Condition (Channels 1-5), Network Linked, Network Activity

**Operating Temperature:** -40°C to 65.5°C

**Housing Material:** Lexan 940 Polycarbonate Plastic

**Mount:** Surface, Wall or DIN Rail

**Password Protection:** Yes @ Setup (Base 64 Encoding, 13 Characters)

**Connectors:** 12-position/Removable (Power/Outputs), 8-pin RJ-45 (Network)

**Special Orders- Requirements**

Contact us for special requirements

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**Made in the USA**

**The Larson Electronics HAL-ADC-48-2L-LED-D-V2 Hazardous Location LED Fixture is a U.S./Canada approved connected lighting solution for Class 1 Division 2 Groups A, B, C and D locations. Equipped with a DALI-PWM signal converter, this hazardous location dimmable LED light has a T4 temperature rating and carries a United States Coast Guard approval. Controls for the dimmable LED unit is facilitated by an analog output module using Modbus TCP/IP protocol. No programming is required during setup.**

This four foot long, two lamp 0-10V dimmable LED fixture is ideal for operators seeking a top quality hazardous location light that will reduce operating costs, improve lighting quality and reduce downtime incurred from frequent servicing intervals. The HAL-ADC-48-2L-LED-D-V2 fixture is listed Class 1 Division 2 Groups A, B, C and D hazardous area LED light that takes the reliability and efficiency of a fluorescent fixture and adds even longer lamp life and efficiency with high output LEDs. This fixture is T4A temperature rated and comes standard with our high power 28 watt LED lamps which each produce 3,500 lumens of lighting power. The lamps are protected by an aluminum framed shatter and heat resistant clear acrylic lens secured with ten draw latches and the fixture is constructed of copper free aluminum alloy. The lamp reflector is corrosion resistant heavy gauge aluminum and coated with a high gloss reflective finish.

This LED light fixture features 0-10V dimming capabilities. This gives operators the

ability to manually adjust the brightness of the LED lamp quickly and easily. The 0-10V dimming allows for adjustments to fit the brightness needs of any lighting situation. A 0-10V dimmable light works through the use of a DC control signal that ranges between zero and ten volts. The basic idea is that at 10 volts of input the light is at its brightest level with 0 volts being the lowest possible dimness setting. The smooth, continuous and flicker-free dimming of a 0-10V dimmable LED light is ideal for a wide range of different lighting applications.

We now offer our second generation dimmable LED tube lamps with this fixture which have increased this hazardous location light's performance. This two lamp HAZLOC LED linear fixture is lighter in weight and produces more light than hazardous location fluorescent fixtures. The four foot long LED tube design bulbs included with this unit are rated at 50,000+ hours of service life, which is over twice as long as standard T8 bulbs.

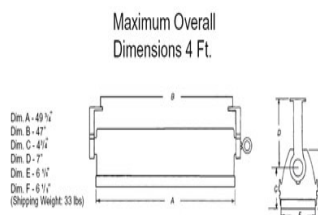
This fixture carries a T4A temperature rating and is NRTL certified to U.L. 595 and NRTL certified to UL 1598A Marine Type approved for use marine environments. The HAL-ADC-48-2L-LED-D-V2 is weatherproof and provides operators in hazardous locations with a highly efficient, reliable and affordable lighting solution for open areas where flammable chemicals and vapors may occasionally be present. [Click here to read the NEC description for explosion proof and hazardous locations.](#)

**Aevum Network Controlled Lighting Solution:** The Aevum Network Controlled Lighting Solution from Larson Electronics enables connected and intelligent illumination using cutting-edge and existing networks. Using Modbus TCP/IP or DALI (for fixtures with dimming features), businesses can seamlessly control lights and sensors from remote locations, without traditional light switches. Web-based panels facilitate real-time monitoring of connected equipment and allows operators to switch units on/off, configure activation settings and more. Businesses may utilize their own systems and software with these controllers, ensuring robust flexibility and cost savings (no contracts). The Aevum Network Controlled Lighting Solution can improve productivity in the workplace by automating basic lighting controls and making lighting controls widely accessible in the facility, via local networks or the internet. Operators also have the option to monitor the status of fixtures from a remote location, which can improve maintenance and reduce downtimes. Larson Electronics offers equipment and accessories required for a DALI network.

**Controls:** Controls for the LED fixture is accessible using a web-based control panel. Compatible with HTTP, XML, or Modbus TCP/IP protocols, network configuration is accessible using web-based pages (no programming required). Operators can monitor or setup controls from a remote area using the internet or local IP network and any standard web browser. Protective features include: integrated 15kV protection (ESD protection), integrated over-temperature, open-line and short circuit. Output alarms can be set for open current loop and high internal temperature. LED indicator lights on the device provide the real-time information about power, fault condition for all 5 channels and network link/activity. Password protection for the setup page is available (13 characters maximum). Operators can upload scripts during setup using the web-based panel.



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[Click Photo to Enlarge](#)



Surface Mount



Pendant Mount

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We have eliminated the ballast normally associated with fluorescent fixtures which reduces overall weight and overall complexity of installation. 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 fluorescent bulbs. This second generation lamp is offered in 5600K cool white, 4500K natural white, and 3000K warm white. Our standard unit ships with 5600K unless different color temperature is specified.

Unlike the glass tube design of traditional fluorescent lamps, these dimmable LED T-Style lamps have no filaments or fragile housings to break during operation. Instead of using a combination of gases to produce light, light emitting diodes (LEDs) use semi-conductive materials that illuminate when electric current applied and emitting light. The LED assembly is mounted to the "tube" constructed from extruded aluminum, with a polycarbonate lens protecting the LEDs. With LED lights, there is no warm up time or cool down time before re-striking and provide instant illumination when powered on, adding to the reliability of LED technology. By nature, LED light sources run significantly cooler than fluorescent lamps, reducing the chance of accidental burns and increased temperatures due to heat emissions. This solid state design of light emitting diodes provides a more reliable, stable, durable, and energy efficient light source over traditional fluorescent lighting.

The 28 watt dimmable LED lamps produce 30% more illumination than standard T8 bulbs while offering lower amp draw and increased reliability. Each lamp produces 3500 lumens at 125 lumens per watt, for a combined 7,000 total lumen light output. An HAL-48-2L-T8 hazardous location fluorescent light, with a combined total of 64 watts, draws 0.54 amps at 120 volts AC. This dimmable LED version of the same light, with a total of 56 watts, draws only 0.46 amps at 120 volts AC at full intensity. This results in a lower amp draw while still providing increased reliability and light output.

The HAL-ADC-48-2L-LED-D-V2 is universal voltage, not multi-tap, and operates on any voltage from 100-277V AC 50/60hz without any modifications. The internal LED driver is a "smart" driver, sensing the incoming voltage and adjusting accordingly to provide the current required by the lamp. This allows operators to simply wire the fixture to voltage within the 100-277V range, no modifications required. Separate grey/violet dimming control wires provide dimming capabilities for this fixture. Standard 0-10V dimming switches (mounted outside the hazardous location) are compatible with these hazardous location fixtures. Larson Electronics offers an [explosion proof dimmer switch](#) for mounting within the hazardous location.

**Network:** The analog output module is equipped with five configurable channels. This unit works with 10/100 Base-T ethernet ports and allows static IP address assignment or DHCP, HTTP port selectable during setup. Compatible with 9-28V DC, the module features a 12-position, removable connector for power and outputs, as well as an accessible 8-pin RJ45 port. Operators can mount the device on walls, surfaces or din rails for space-saving benefits.

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### Energy Consumption Comparison

T5HO

T8

LED



Wattage	108 watts	64 watts	56 watts
Amp Draw @ 120V AC	0.90 amps	0.54 amps	0.47 amps
Amp Draw @ 220V AC	0.49 amps	0.29 amps	0.25 amps
Amp Draw @ 240V AC	0.45 amps	0.27 amps	0.23 amps
Amp Draw @ 277V AC	0.39 amps	0.24 amps	0.20 amps
Lamp Life Expectancy	20,000 hours	24,000 hours	50,000 hours
Operation cost per year (12hs/day @ 12c/kWh)	\$56.77	\$33.64	\$29.43

**Mounting Options:** Unless otherwise specified, our standard, most popular configuration is the bracket end mounting shown enlarged below. We also offer a pendant mount for those needing to suspend the fixture away from the ceiling surface (i.e. suspend from pipe or conduit). Additional mounting configurations can be customized to meet the requirements on the application. Please contact us for special mounting configurations. A sliding bracket mount is available so operators can retrofit this LED light fixture to use the per-existing mounting holes from other fluorescent fixtures. Below, in the related items area you can order the sliding mount bracket option.

**Adjustable Surface Mount Brackets:** Each bracket is cinched to the bracket mounting peg on each side of the light. The angle of the bracket is set by tightening two cap screws on either side of the bracket. The cap screws act as a set screw. The bracket itself is mounted via a single bolt hole at the top the bracket. There are two brackets, one on each end of the light. Once the brackets are mounted to a surface (ceiling, floor or wall), the light fixture can be removed from the brackets by loosening the cap screws that hold the bracket to the mounting peg.

**Suspension Mounting:** Pendant mount fixtures hang from the ceiling and are suspended by rigid pipe. Each fixture is equipped with either two 1/2" or 3/4" NPT hubs, one on each end of the fixture. Operators bring rigid pipe down to the threaded mounting hubs. Wiring is fed down through the rigid pipe to one of the NPT hubs and tied in to the fixture's lead wires, completing the electrical connection. The remaining pendant hub provides support for the opposite end of the fixture.

**Suggested Applications:** DALI lighting networks, remote lighting networks, aircraft maintenance, oil drilling rigs, refineries, marine and salt water environments, ships, tankers, offshore, solvent and cleaning areas, chemical manufacturing, waste treatment plants, gas processing plants.

At Larson Electronics, we do more than meet your lighting needs. We also provide replacement, retrofit, and upgrade parts as well as industrial grade power accessories. Our craftsmen can custom build any lighting system and/or accessories to fit the unique demands of your operation. A commitment to honesty, quality, and dependability has made Larson Electronics a leader in the lighting and electronics business since 1973. Contact us today at 800-369-6671 or message [sales@larsonelectronics.com](mailto:sales@larsonelectronics.com) for more information about our custom options tailored to meet your specific industry needs.

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**Options:**

**HAL-ADC-48-2L-LED-D-V2-Mount-Color Temp-Hub Config**

**Example: HAL-ADC-48-2L-LED-D-V2-SFC-56K-0.5IN**

Mount	
SURFACE	-SFC
PENDANT	-PND

Color Temp	
5600K	-56K
4500K	-45K
3000K	-30K

Hub Config	
1/2IN	-0.5IN
3/4IN	-0.75IN

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