



Light
is our passion

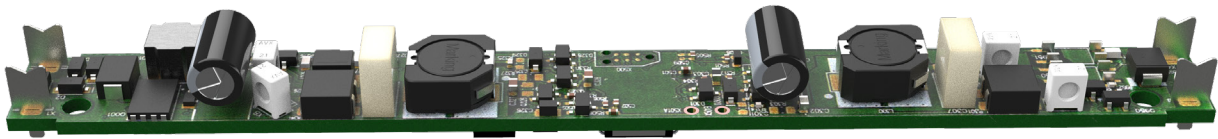
32W DALI-2 DT8 'Dim to Dark' LED Driver

DUALdrive

LED technology enables further miniaturization of track lighting. To meet the ever-tighter form factor constraints, these tracks rely on small LED drivers that are powered by a remote 48V DC power supply.

eldoLED developed a family of LED drivers that are mechanically designed to offer a seamless integration into the track adapters of the Stucchi MULTISYSTEM and MULTISYSTEM EVO track systems. This LED driver delivers the Quality of Light and Dynamic White Lighting functionality that is required for specification-grade track lighting by dimming to 0.1%, meeting IEEE P1789 recommendations on flicker, enabling controls interoperability through DALI-2 certification, and supporting tunable white with eldoLED LightShape technology.

Product offering



DUALdrive 32P-D2Z0C

| | |
|---------------------|---|
| Part number P/N | DL32P-D2Z0C1 |
| Product description | DUALdrive DC, 32W, DALI-2, 2 control channel, constant current, 2 x 40V LED output, open frame, compatible with Stucchi MULTISYSTEM track adapter |

Features & benefits

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|----------------------|---|
| Stucchi MULTISYSTEM | Compatible with the Stucchi MULTISYSTEM track adapter 9519-166 single spot series |
| Programmable | Fine-tune your driver across a wide operating window for any application |
| Camera compatibility | Hybrid HydraDrive technology is proven to work in TV studios and security camera environments |
| Natural dimming | Dim to dark, smooth brightness changes, excellent flicker performance, adaptable dimming curves, configurable minimum dimming level |
| LightShape | Tunable White: colour temperature and intensity control |
| Interoperability | DALI-2 Device Type 8 certified for simplified commissioning of tunable white applications |

Programming tools

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| Programming interface | TOOLbox pro (TLU20504) |
| Programming cable set | TOOLbox pro to LED driver, programming cable, 5pcs (TLC03051) |
| Programming | Hand-held, Touch-and-Go PJ0050HL1 |
| Programming software | FluxTool |

Warranty

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| Warranty period | General Terms and Conditions |
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Input characteristics

Nominal input voltage range 48VDC \pm 2VDC

Efficiency at full load 91%

Maximum standby power < 5mW

Output characteristics

Maximum LED output power 32W

Number of LED outputs 2

Programmable LED output current range 150 - 1050mA (per LED output)
1200mA (cumulative)

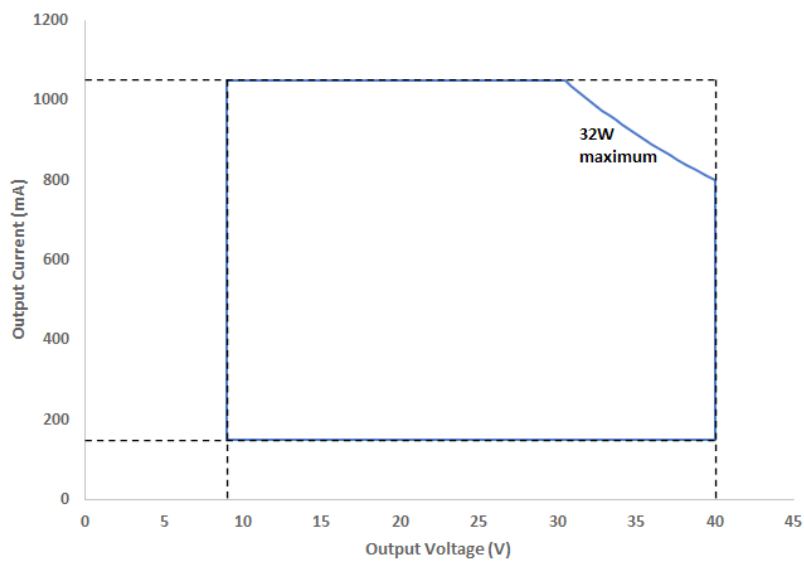
LED output current resolution Programmable in 1mA increments within specified current range

LED output type Constant current

LED output current tolerance +/- 5% at programmed LED output current

LED output voltage range 9 - 40V

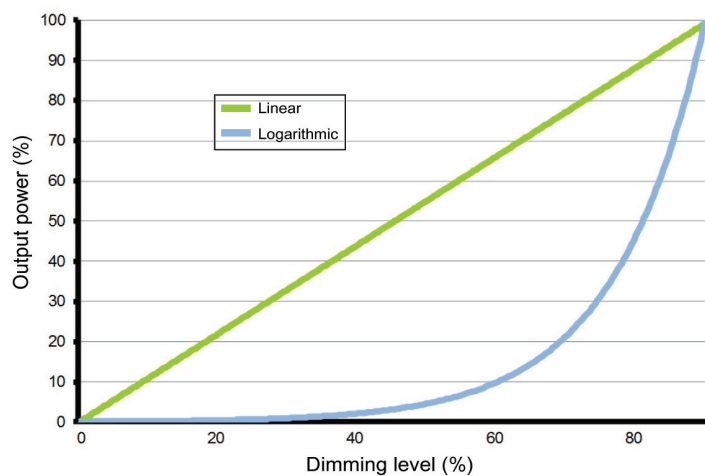
Operating window



Control characteristics

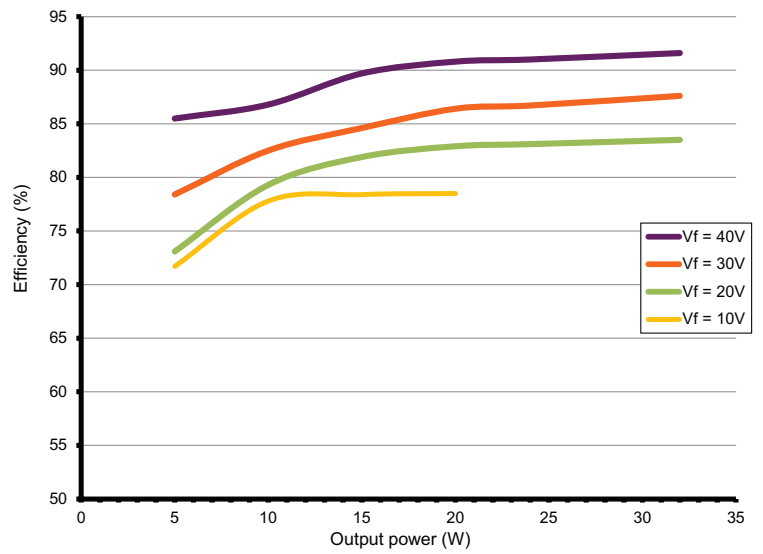
| | |
|-----------------------|---------------------------------|
| Control channels | 2 |
| Control protocol | DALI-2 Device type 8 (Tc) |
| Dimming range | 100% - 0.1% |
| Dimming curve options | Logarithmic (default) Linear |
| Dimming method | Hybrid HydraDrive |
| LightShape | Tunable White, 2x pc-white |

Dimming curves



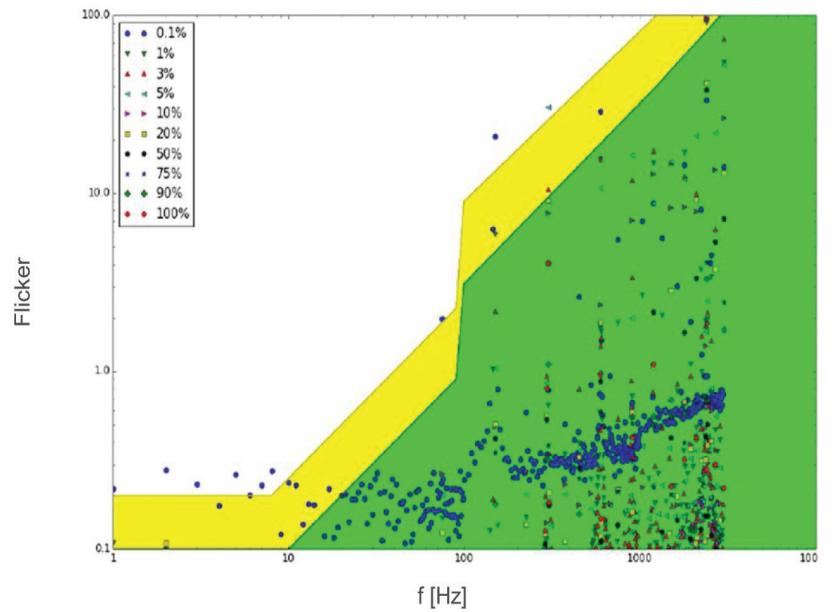
Performance

Typical efficiency vs load
Tested with the specified loads at 25°C ambient temperature.



Typical flicker performance

Typical flicker percent as a function of frequency, measured across the dimming range. The results are overlaid with the low-risk (yellow) and no observable effect (green) levels as defined in IEEE P1789.

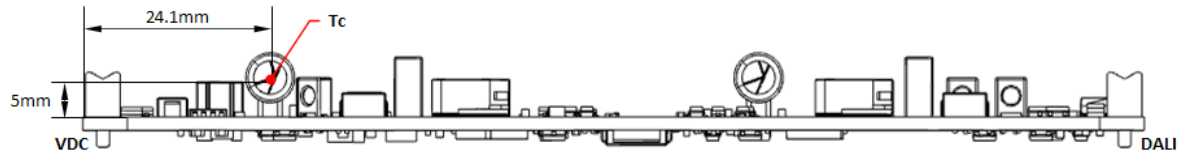


Environmental conditions

Operating ambient temperature (Ta) range -20 °C to +48 °C (see the Design Guide for details)

Lifetime 50000 hours at a maximum case temperature (Tc) of 83 °C

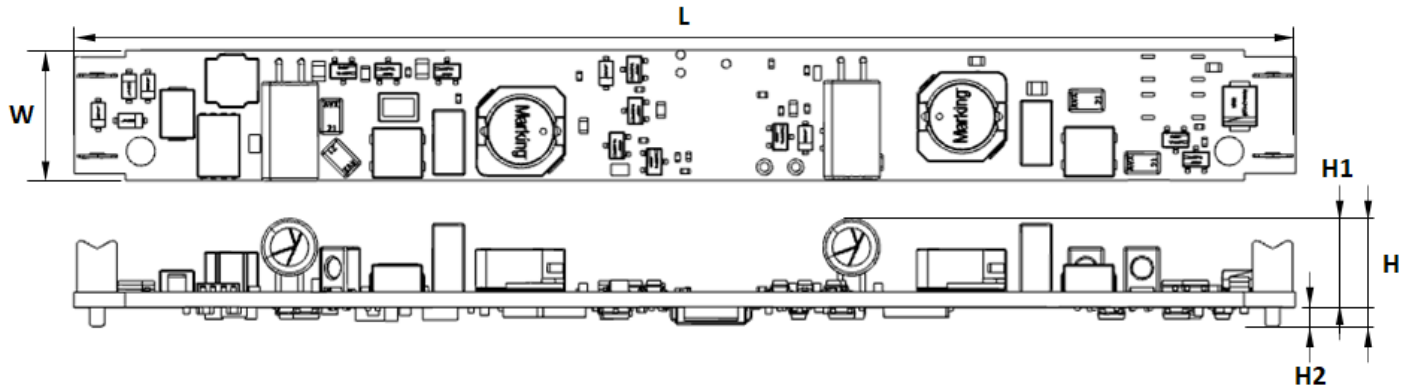
TC point location



LED driver protection

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|--------------------------|---|
| Thermal | The LED output current is decreased whenever the internal LED driver temperature exceeds factory preset temperature. The LED output current is increased again once the internal LED driver temperature drops below this internal temperature threshold. If the internal LED driver temperature continues to increase, despite a decrease in output current, the LED driver will shut down. |
| LED output short circuit | The LED output current is cut off whenever the LED driver detects a short-circuit. The LED driver will attempt a restart every 400ms after a short-circuit is detected. |
| LED output overload | The LED driver decreases the LED output current sequentially, until it reaches its maximum rated power, whenever a load that exceeds the LED driver's maximum rated power is connected to the LED output. |
| Reverse polarity | The LED driver will not yield any current if the polarity of the load on the LED output is reversed. This situation will not damage the LED driver but may damage the LED load. |

LED driver mechanical details



Length (L) typical: 136.4 mm / 5.37 in

Width (W) typical: 14.5 mm / 0.57 in

Height (H) typical: 12.0 mm / 0.47 in

Height PCB + top components (H1) typical: 9.8 mm / 0.39 in

Height bottom components (H2) typical: 2.1 mm / 0.08 in

3D files available on product web page IGS
STEP

Weight 18g

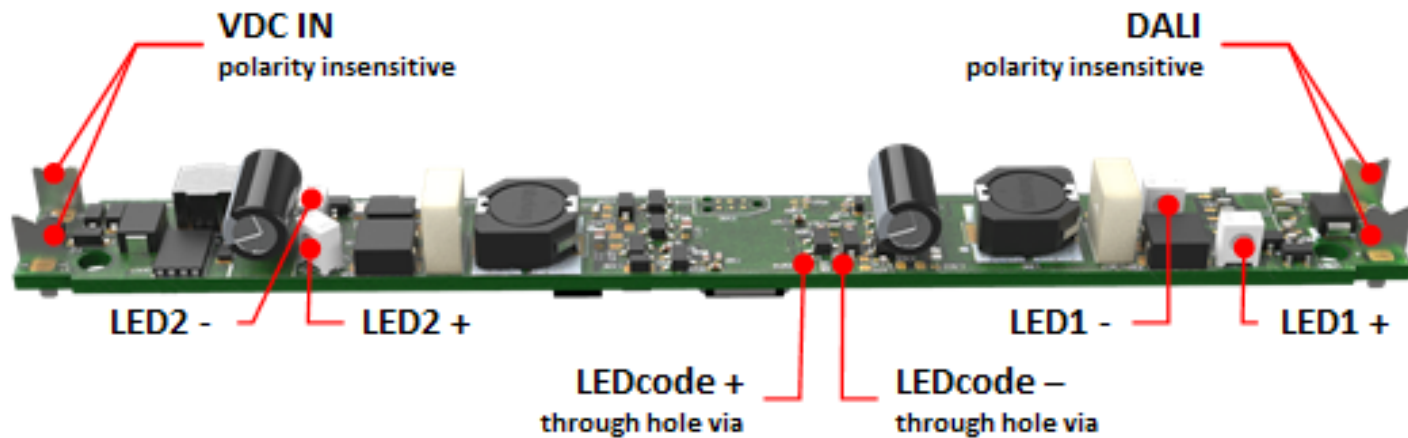
Packaging

Length x Width x Height 337 x 178 x 159 mm / 13 x 7 x 6 in

Weight (including products) 1.4 kg

Products per box 50 pcs

Connector layout



Output wiring specifications

| | |
|-------------------------------|----------------------------|
| Connector type | Insulation Displacement |
| Connector supplier and series | AVX 009176001601906 |
| Wire type | stranded copper |
| Wire core cross section | 0.5 mm ² AWG 20 |

Standards and compliance

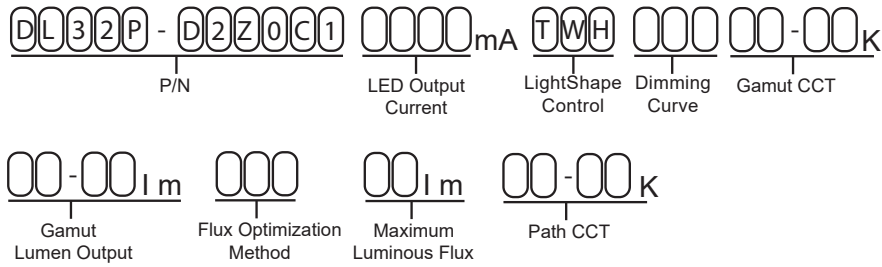
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| UL, Recognized component | UL 1310 UL 8750 |
| ENEC safety | EN 61347-1 EN 61347-2-13 |
| ENEC performance | EN 62384 |
| Conducted emissions | EN 55015, Class B FCC Title 47 CFR part 15 Class B |
| Radiated emissions | EN 55015 Class B FCC Title 47 CFR part 15 Class B |
| Radio disturbance characteristics | EN 55022 |
| Electrostatic discharge | EN 61000-4-2 |
| Conducted radio frequency | EN 61000-4-6 |
| Restriction of hazardous substances | RoHS3 (Directives 2011/65/EU-2015/863/EU) |
| SVHC-list substances | REACH Art.33 |
| DALI-2 | IEC 62386-101 Edition 2.0, IEC 62386-102 Edition 2.0, IEC 62386-207 Edition 1, IEC 62386-209 Edition 1 |

Certifications

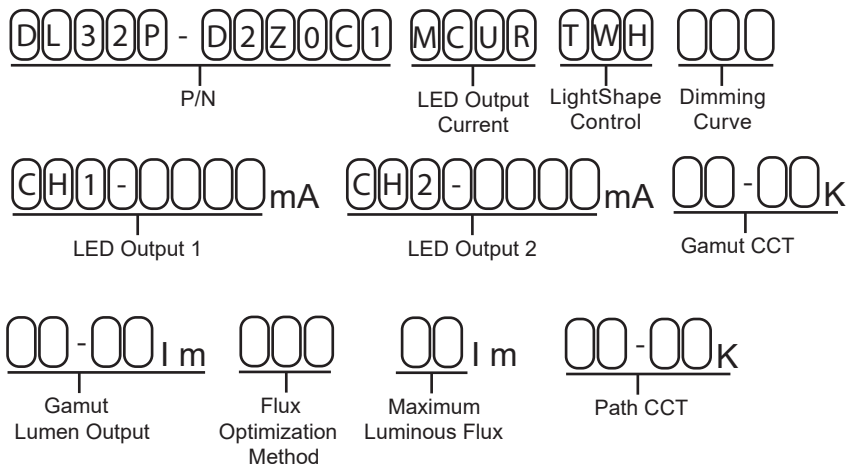


Order number configurator

LightShape



LightShape Multi-Current



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|-----|-------------------------|
| P/N | LED driver part number. |
|-----|-------------------------|

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| LED output current, Standard | Output current identical for all outputs? Enter value in 1mA increments, e.g. "411" for 411mA. |
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| LED output current, LightShape | Output current different per output? Enter "MCUR" in LED output current and specify the different currents for LED outputs 1 and 2. Note that the cumulative current is limited. |
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| Dimming curve | "LOG" for logarithmic (default) "LIN" for linear |
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| Minimum dimming level | Leave blank for default minimum dimming level of 0.1%. Specify in 0.1% increments, e.g. "10.5" for 10.5%. |
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| LightShape control type | "TWH" stands for Tunable White |
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| Gamut CCT | Enter the LEDs' CCT as "XX-YY" where XX is LED output 1 and YY is LED output 2. Available options per output: 18, 20, 22, 25, 27, 30, 35, 40, 50, 57 and 65. e.g. "18-50" for 1800K on LED output 1 and 5000K on LED output 2 |
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| Gamut lumen output | Enter the lumen output range for LED output 1 and 2 as "XX-YY" where XX is LED output 1 and YY is LED output 2. Available range per output: from "01" for 100lm to "99" for 9900lm. e.g. "10-12" for 1000lm on LED output 1 and 1200lm on LED output 2. |
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| Flux optimization method | Leave blank if a consistent luminous flux output over the full CCT range is required (default); enter "MAX" if the luminous flux must be limited to a maximum value for all outputs combined. |
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| Maximum luminous flux | If Flux optimization method is set to "MAX", specify the required lumen output, e.g. "12" for 1200lm. If left blank it is constant (default). |
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| Path CCT | Leave blank if Path CCT requires the same values as Gamut CCT. Or specify the Path CCT values as "XX-YY" where XX is LED output 1 and YY is LED output 2. Available options per output: 18, 20, 22, 25, 27, 30, 35, 40, 50, 57, 65. e.g. "18-50" for 1800K on LED output 1 and 5000K on LED output 2. |
|----------|---|

Safety



Risk of electrical shock. May result in serious injury or death. Disconnect power before servicing or installing.



The LED driver may only be connected and installed by a qualified electrician. All applicable regulations, legislation, and building codes must be observed. Incorrect installation of the LED driver can cause irreparable damage to the LED driver and the connected LEDs. Pay attention when connecting the LEDs: polarity reversal results in no light output and often damages the LEDs.



LED drivers are designed and intended to operate LED loads only. Powering non-LED loads may push the LED driver outside its specified design limits and is, therefore, not covered by any warranty.



eldoLED products are designed to meet the performance specifications as outlined at certain operating conditions in the data sheet. It is the responsibility of the fixture manufacturer to test and validate the design and operation of the system under expected and potential use cases, including faults.



Please observe voltage drop over long cable lengths. Longer cable lengths increase EMI susceptibility.



Product renderings and dimensional drawings are generic for the housing type. Product label, connector type and quantity may vary.

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