

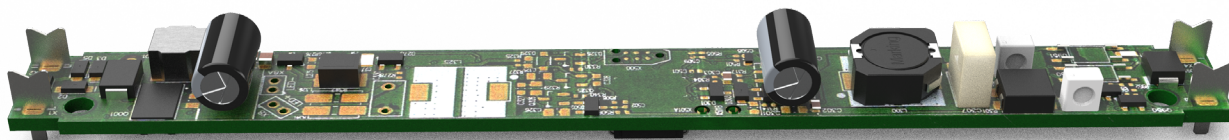
32W DALI-2 LED Driver with Smooth Dimming to 1%

ECOdride

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 that is required for specification-grade track lighting by dimming to 1%, meeting IEEE P1789 recommendations on flicker, and enabling controls interoperability through DALI-2 certification.

Product offering



ECOdride 32P-D1Z0D

Part number P/N	EC32P-D1Z0D1
Product description	ECOdride DC, 32W, DALI-2, 1 control channel, constant current, 1x 40V LED output, open frame, compatible with Stucchi MULTISYSTEM track adapter

Features & benefits

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 1%, smooth brightness changes, excellent flicker performance, adaptable dimming curves, configurable minimum dimming level

Programming tools

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

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 1

Programmable LED output current range 150 - 1050mA

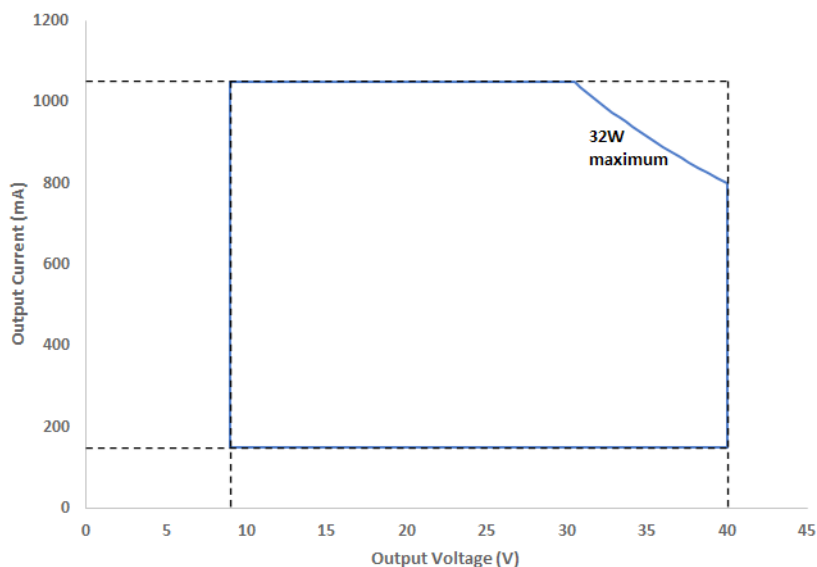
LED output current resolution Programmable in 1mA increments within specified current range

LED output type Constant current

LED output current tolerance \pm 5% at programmed LED output current

LED output voltage range 9 - 40V

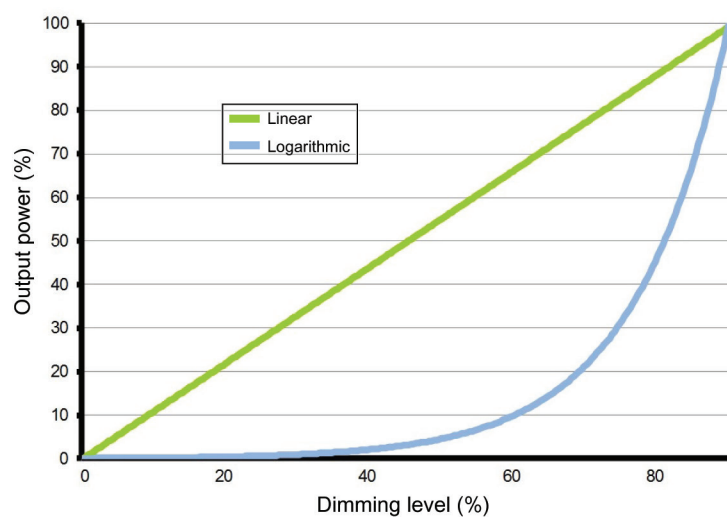
Operating window



Control characteristics

Control channels	1
Control protocol	DALI-2 Device Type 6
Dimming range	100% - 1%
Dimming curve options	Logarithmic (default) Linear
Dimming method	Hybrid HydraDrive

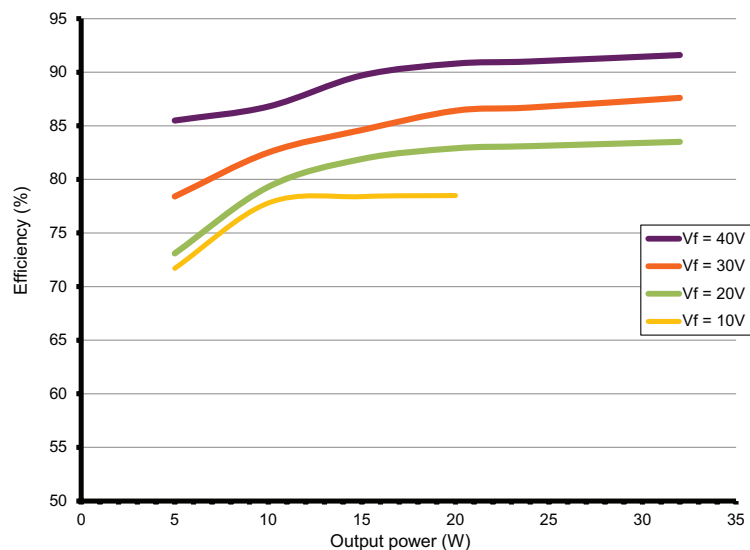
Dimming curves



Performance

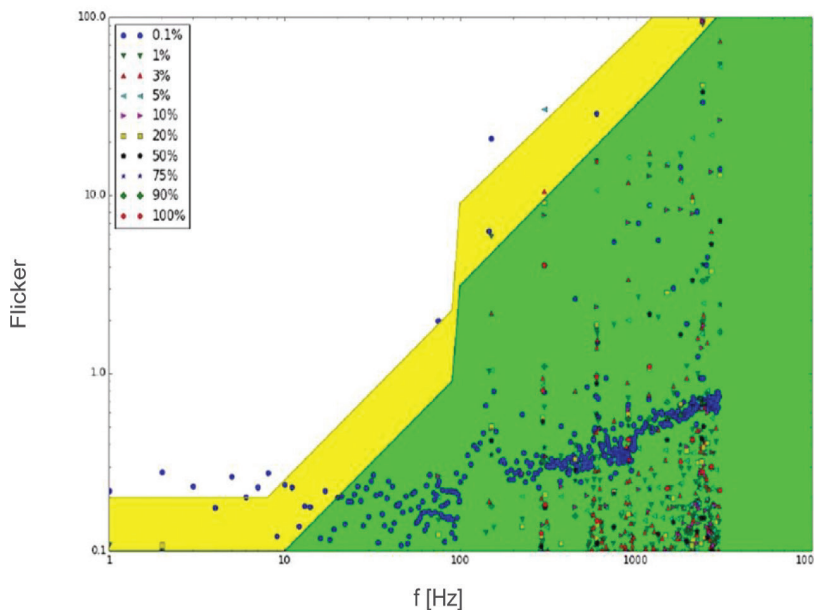
Typical efficiency vs load

Tested with the specified loads at 25°C ambient temperature.



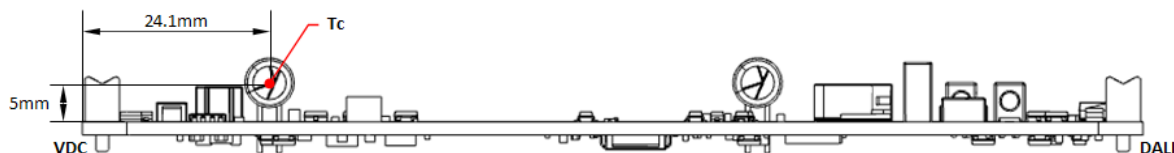
Typical flicker performance

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

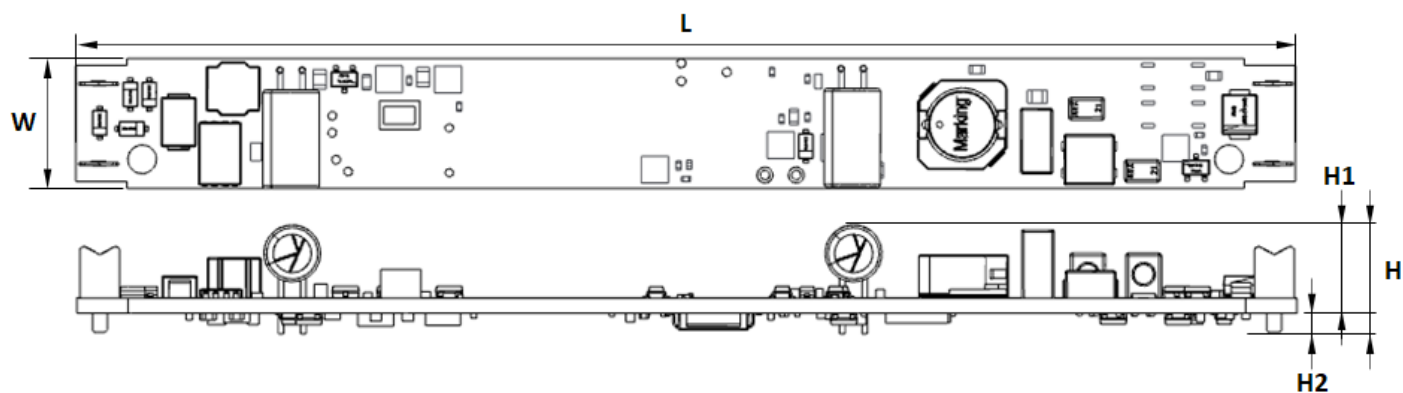
Operating ambient temperature (Ta) range	-20 °C to +48 °C (see the Design Guide for details)
Lifetime	50000 hours at a maximum case temperature (Tc) of 83 °C
TC point location	



LED driver protection

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
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Width (W)	typical: 14.5 mm / 0.57 in
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Height (H)	typical: 12.0 mm / 0.47 in
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Height PCB + top components (H1)	typical: 9.8 mm / 0.39 in
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Height bottom components (H2)	typical: 2.1 mm / 0.08 in
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3D files available on product web page	IGS STEP
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Weight	15g
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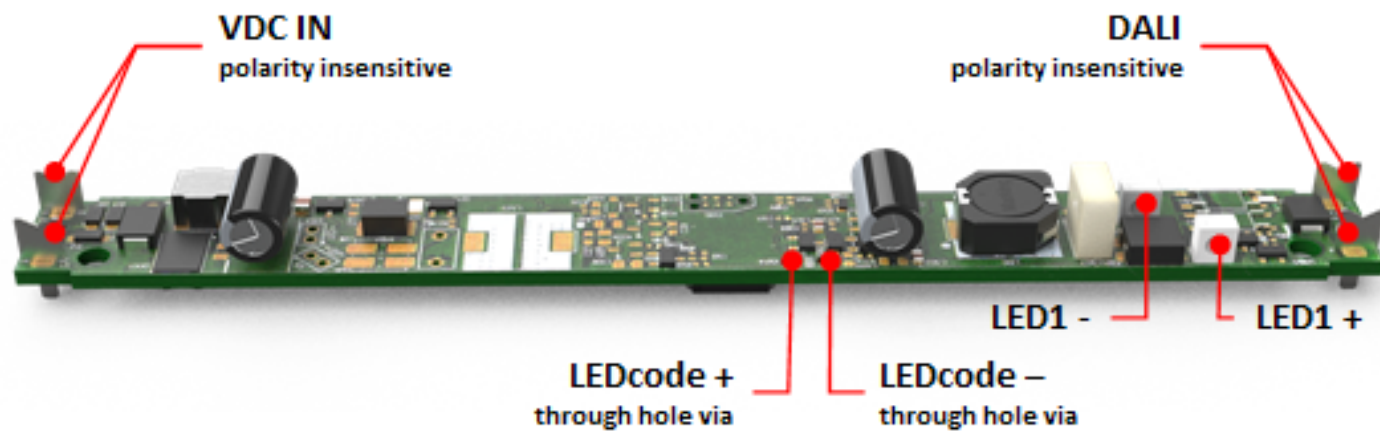
Packaging

Length x Width x Height	337 x 178 x 159 mm / 13 x 7 x 6 in
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Weight (including products)	1.4 kg
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Products per box	50 pcs
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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

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
ECODesign 2019/2020: Controlgear + luminaire	Flicker for LED: Pst LM \leq 1.0 at full-load Stroboscopic effect for LED: SVM \leq 0.4 at full load
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

Certifications



Order number configurator

EC32P - D1Z0D1 0000 mA 000 00.0 min

P/N LED Output Current Dimming Curve Minimum Dimming Level

P/N

LED driver part number.

LED output current

Enter value in 1mA increments, e.g. "811" for 811mA.

Dimming curve

"LOG" for logarithmic (default)
"LIN" for linear

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%.

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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