eldoLED

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Datasheet L-Strip Standard **L Series**

Highly Integrated 20 Watt LED Driver/Controller

L Series

The L Series products are highly integrated, constant current driver/controllers for high-brightness LED lighting applications, targeted at in-fixture installation.

The L Series driver/controllers can be used in a network or as standalone devices. ShowMaster, supported on all eldoLED driver/controllers, allows you to upload show sequences for use in standalone mode. Create and manage your own show sequences using the TOOLbox and freely available PC software.

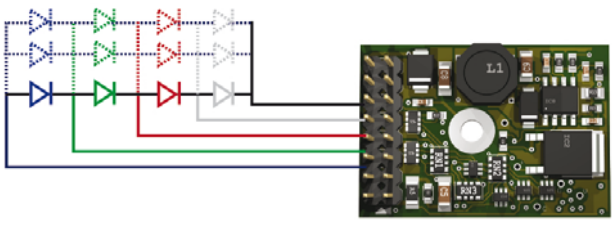
The L Series driver/controllers feature one LED current source for up to 4 LED groups. They are DMX- and LedSync-compatible, allowing 15-bit dimming and colour control and bidirectional communication for driver configuration and temperature read-out.

L-Strip Standard

The L-Strip Standard is the ideal choice for powering 350mA - 700mA, high-brightness LEDs and is available in a 1-, 2-, 3- and 4-channel version. Thanks to LedSync Out, the L-Strip Standard allows daisy-chaining of SSL fixtures and can broadcast running show sequences to all connected L Series devices.

Single current source, multiple LED colour groups

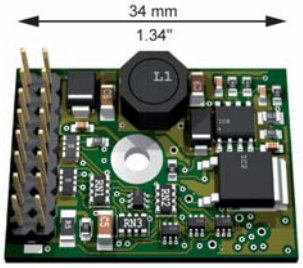
eldoLED technology drives up to 4 LED (colour) groups from a single, high-precision LED current source, which not only gives the L Series driver/controllers a power efficiency of up to 95% but has also resulted in a break-through form factor.



Example of an LED group wiring schematic

Small form factor: in-fixture installation

The remarkably small size of the driver/controller makes it ideally suited for in-fixture installation, leading to less cabling, increased design freedom and improved system cost for luminaire manufacturers.



High control resolution

The L-Strip Standard supports a 15-bit control resolution per output channel for accurate dimming and fine colour mixing.

Low EMI

Shorter LED wires due to in-fixture installation, slew-rate controlled dimming, shielded conductors and the use of a single LED current source all contribute to keeping the driver's EMI emissions at a very low level.

Robust thermal management

The L Series' high efficiency results in less heat at the same light output. This means you can have an equal light output from a smaller package. Furthermore, its NTC interface enables various ways of thermal protection, including LED throttling, a graceful decrease of light output until normal operating temperatures are reached.

Features

- USITT DMX512A- and LedSync-compatible
- Break-through form factor: 34mm x 24mm / 1.34" x 0.94"
- Power output of up to 20W
- Operating supply voltage range: 24V - 28V DC
- Onboard thermal interface for NTC

Advantages

- In-fixture installation
- Accurate, smooth dimming and high-res colour mixing
- Power efficiency of up to 95%
- Drive, control and thermal protection per fixture
- Easy network setup
- Low EMI

Electrical data

- LED current settings: up to 700mA (with external resistor)
- Power output range: 0-20W
- Operating supply voltage range: 24V-28V DC
- Efficiency: up to 95%
- Processor: eldoLED FluxLogic 1600 Series
- Independent LED groups: 1, 2, 3 or 4, depending on driver version

Dynamic effects

- Hydra Drive Algorithm Based Modulation
- Control of channel 1 (R), 2 (G), 3 (B) and 4 (W/A): 0 - 100% in 15-bit set point resolution
- Contrast ratio: up to 8,000:1

Thermal data

- Passive cooling
- Built-in protection against overheating
- NTC interface: for connection of negative temperature coefficient (NTC). NTC enables temperature read-out of driver or LED engine and can be used for thermal throttling function

Network control

- Network input: USITT DMX512A or LedSync
- Network output: LedSync
- Network input/output: based on RS485 specification
- Input signal update rate: 8ms
- Network resolution: 8 or 16 bit, set at factory or with TOOLbox and PC software
- Network channels used by driver in 8-bit resolution: 1, 2, 3, or 4
- Network channels used by driver in 16-bit resolution: 2, 4, 6 or 8
- Communication: bidirectional for driver configuration and temperature readout
- Start address configuration (LedSync): manually with TOOLbox and PC software or auto-addressing if daisy-chained
- Start address configuration (DMX): with TOOLbox and PC software

ShowMaster

- Nine standard shows or up to 20 customer-defined shows set at factory.
- User-defined shows (ShowMaster): up to 20 shows, via TOOLbox and PC software.
- Show selection: via in-fixture switch or TOOLbox and PC software

Connections

- Power: pins (2)
- Data: pins (5)
- NTC: pins (2)
- External switch: pin (1)
- LED current setting: pin (1)
- LED groups: pins (5)

Environmental ratings

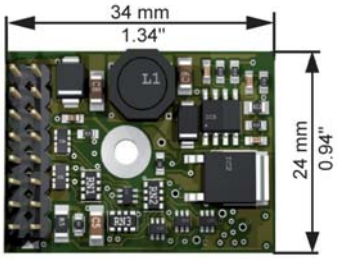
- Maximum ambient temperature: 60°C (140°F)
- Minimum ambient temperature: 0°C (32°F)
- Storage ambient temperature: -40°C to 95°C (-40°F to 203°F)
- Relative humidity: non-condensing

Mounting data

- Mounting orientation: any
- Mounting hole: for M3 screws (1)

Dimensions

- LxWxH: 34 mm x 24mm x 12 mm
  1.56” x 0.94” x 0.47”



Sample mounting on linear LED engine

Ordering information

Description	Product	Order nr
L-Strip Standard 1 Channel 20W	L-Strip/S 1025	LSS10251
L-Strip Standard 2 Channel 20W	L-Strip/S 2025	LSS20251
L-Strip Standard 3 Channel 20W	L-Strip/S 3025	LSS30251
L-Strip Standard 4 Channel 20W	L-Strip/S 4025	LSS40251

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