



Highly Integrated 50 Watt RGB(W) LED Driver

L-Series Description

A single current source (Proprietary Technology) enables a highly integrated Drive, Networking & Control solution for high power (RGBW) LED lighting applications. L-Series products support a wide range of LED topologies.

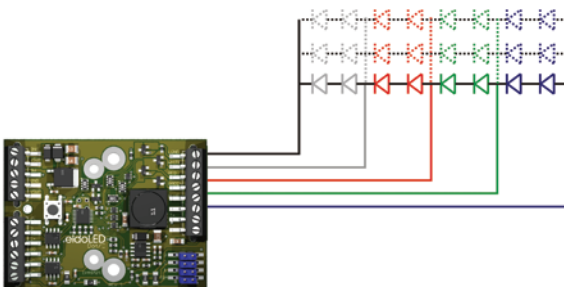
L-Dot Connector

The L-Dot Connector product range is the ideal choice for powering 350mA-1,5A high brightness, high power LED packages and LED arrays, especially where cost-effective colour-mixing is needed. The L-Dot Connector is available in a single, dual, 3 and 4 channel versions.

The LedSync network interface allows high resolution, quick setup and lower cabling costs compared to other networking solutions. The L-Dot product range also accepts standard DMX as input protocol. For stand-alone applications 10 pre-defined shows can be selected. With its true 15 bit resolution per output channel the L-Dot is capable of accurate dimming and extremely fine colour mixing.

ShowMaster

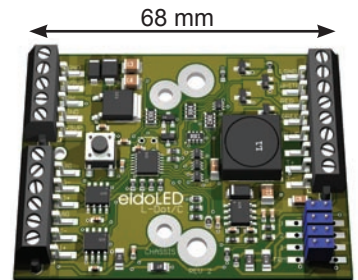
The "ShowMaster" versions of the L-Series products support custom design of scenes and shows that can be uploaded via the LedSync network. The L-Dot can broadcast the selected show to all connected L-Series devices.



Principle schematic of LED group wiring

Features

- RGB(W) colour mixing driver
- Up to 50W power output
- Power efficient (up to 95%)
- Small size (68x50mm)
- Long life (5 years)
- 24V-35V supply range
- LedSync and DMX
- Low EMI through smart electronics design
- High-resolution colour mixing with HydraDrive Algorithm Based Modulation (Proprietary Technology)
- L-Dot over-temperature protection with on board thermal-throttling
- LED thermal sensor interface (NTC) included
- Optional DIN-Rail(EN50022) mounting set available



Form Factor

The L-Dot is a breakthrough in LED Drive, Networking & Control form factor. The very small size enables integration of L-Dot into the lighting fixture. This feature guarantees lower EMI emissions than other solutions, where the control unit is placed externally. The L-Dot can be thermally attached to the heat sink that is also used for LED cooling. By using one heat sink and housing total system costs are dramatically lowered.

Advantages

- Power-efficient (up to 95%)
- Easy installation, via screw connections
- Fewer and shorter cables
- Integration of Drive & Control (no external boxes)
- Smooth colour control
- Simplifies total system solution
- Accurate dimming solution
- Drive & Control per fixture
- Thermal protection per fixture
- Easy network setup

Output

Output current: up to 1500mA LED current*
 Power output range: 0 - 50W
 Nr of independent LED groups: 1,2,3 or 4*
 Nr of LED's per L-Dot: 1 to 36**
 External current setting: by external resistor 350mA (no resistor) to 1500mA
 On board current settings: 350mA /460mA 700mA / 900mA / 1100mA (by jumper)

Dynamic Effects

Hydra Drive Algorithm Based Modulation
 Control channel 1 (R): 0-100%
 Control channel 2 (G): 0-100%
 Control channel 3 (B): 0-100%
 Control channel 4 (W): 0-100%
 Resolution: 15 bit
 Contrast ratio: up to 8000:1

Thermal

Cooling: Passive; Heat sink mounting
 Maximum ambient temperature: 60°C
 Minimum ambient temperature: 0°C
 LED thermal sensor: NTC interface
 L-Dot thermal protection on board

Network Control

Input Protocol: LedSync or USITT DMX-512A
 Output protocol: Ledsync
 Input /output network: RS485
 Update rate: 8ms
 Network channels: 1,2,3 or 4*
 Network resolution: 8 or 16 bit
 Communication: bi-directional for configuration or reading sensor values

Control and Programming

LedSync address setting: Auto-addressing via Programmer
 Standalone features: 10 standard shows or 10 factory set custom shows, or (ShowMaster versions) 20 customer designed and uploaded shows.
 Show selection: Via external switch

Show Programming (showmaster Versions)

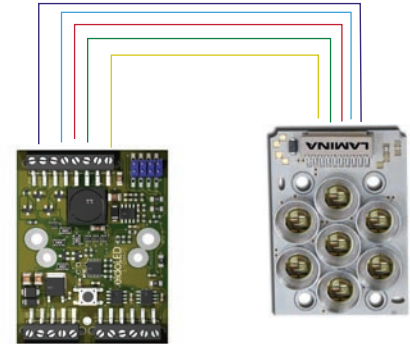
Max nr of shows: 20
 max nr of scenes: 50
 Show upload: Via LedSync

Electrical

Power: 24V - 35V DC
 Efficiency: Up to 95%
 Reverse polarity protection Power supply
 Processor: eldoLab FluxLogic 1600 series

Connections

Power connection: Screw fitting (4x)
 Data connection : Screw fitting (6x)
 LED connection: Screw fitting (5x)
 NTC connection: Screw fitting (2x)
 Current setting: Screw fitting (1x)
 External switch: Screw fitting (1x)



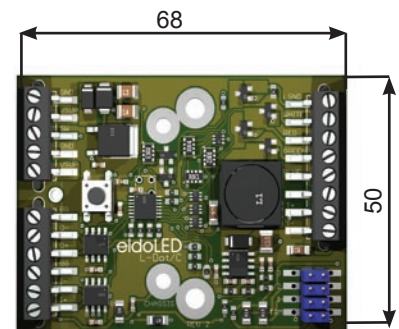
Example schematic of a Lamina Titan RGBW

Miscellaneous

Orientation: Any
 Mounting: Common TO-3 center holes for using M3 screws (2x) M4 screws (2x)
 DIN-Rail EN50022 Form factor
 Relative Humidity: Non-Condensing
 Storage ambient Temperature: -40°C to 95°C

Ordering information

| Description | Product | Ordernr | Qty |
|--|---------------|----------|-----|
| L-Dot Connector 1 Channel | L-Dot/C 1050 | LDC10502 | 50 |
| L-Dot Connector 1 Channel, ShowMaster | L-Dot/C 1055 | LDC10552 | 50 |
| L-Dot Connector 2 Channel | L-Dot/C 2050 | LDC20502 | 50 |
| L-Dot Connector 2 Channel, ShowMaster | L-Dot/C 2055 | LDC20552 | 50 |
| L-Dot Connector 3 Channel | L-Dot/C 3050 | LDC30502 | 50 |
| L-Dot Connector 3 Channel, ShowMaster | L-Dot/C 3055 | LDC30552 | 50 |
| L-Dot Connector 4 Channel | L-Dot/C 4050 | LDC40502 | 50 |
| L-Dot Connector 4 Channel, ShowMaster | L-Dot/C 4055 | LDC40552 | 50 |
| (Optional) DIN rail clip with alu spacer | DIN rail Clip | DRC10101 | 50 |



Note: All dimensions are in millimeters

The L-Dot is also available with soldering pads. For details please see the L-Dot /Standard datasheet. For special form factors, connectors or other customised solutions, please contact our OEM support desk. More information, application notes and user manuals available at www.eldoled.com

Disclaimer: eldoLED b.v. reserves the right to make changes without further notice to any products herein to improve function or design. (*) depends on applied L-Dot type, connections, and supply voltage. (**) see application notes for possible LED topologies. This product is protected by one or more Dutch Patents and their foreign counterparts. "eldoLED", "HydraDrive", "L-Dot", "LedSync", and "FluxLogic" are registered trademarks of eldoLab Technologies. © 2008 eldoLED; all rights reserved. "Lamina Titan" is a registered trademark of Lamina Inc. V.3.1