eldoLED
your product | *our drive*

Colour
is our **nature**

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 Standard

The L-Dot Standard product range is the ideal choice for powering 350mA-1,5A high brightness and high power LED packages and LED arrays, especially where cost-effective colour-mixing is needed. The L-Dot Standard is available in a single, dual, 3 and 4 channel version.
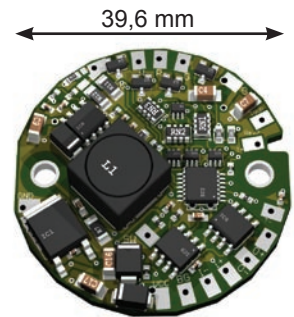
The LedSync network interface allows for high resolution, quick setup and lower cabling costs compared to other networking solutions. The L-Dot product range also accepts standard DMX as input protocol. For stand-alone applications one of 10 pre-defined shows can be selected. With its true 15 bit resolution 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 Standard can broadcast the selected show to all connected L-Series devices.

Features

RGB(W) colour mixing driver
Up to 50W power output
Power efficient (up to 95%)
Ultra small size (39,6mm!)
Long life (5 years)
24V-35V supply range
LedSync and DMX compatible
Low EMI through smart
  electronics design
High-resolution colour mixing with HydraDrive Algorithm
  Based Modulation (Propietary Technology)
L-Dot Over-temperature protection with on board thermal
  throttling
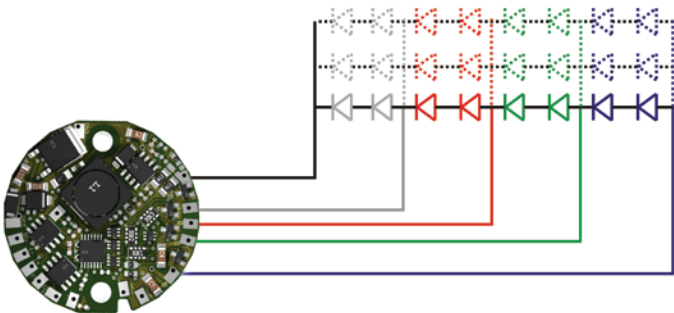LED Thermal sensor interface (NTC) included

39,6 mm

Form Factor

The L-Dot is a breakthrough in LED Drive, Networking & Control form factor. The very small form factor 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%)
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

Principle schematic of LED group wiring
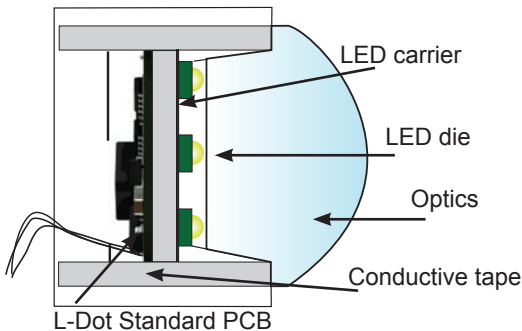

Output

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: via external resistor 350mA (no resistor) to 1500mA

On board current settings: 350mA / 460mA 700mA / 900mA / 1100mA

Network Control

Input Protocol: LedSync or USITT DMX-512A

Output Protocol: LedSync

Input/output network: RS485

Input 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

Connections

Power connection: Soldering pad (2x)

Data connection : Soldering pad (5x)

LED connection: Soldering pad (5x)

NTC connection: Soldering pad (2x)

Current setting: Soldering pad (2x)

External switch: Soldering pad (1x)

Example wiring of a LedEngin 10W RGB

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

Control and Programming

LedSync address setting: Auto-addressing or via programmer

Standalone features: 10 standard shows or 10 factory set custom shows, or (showmaster versions) 20 customer designed and uploaded shows.
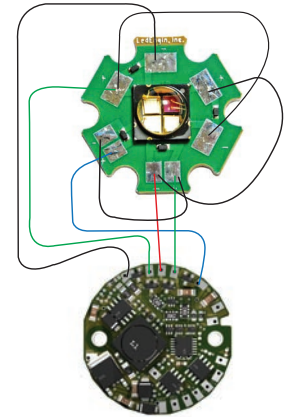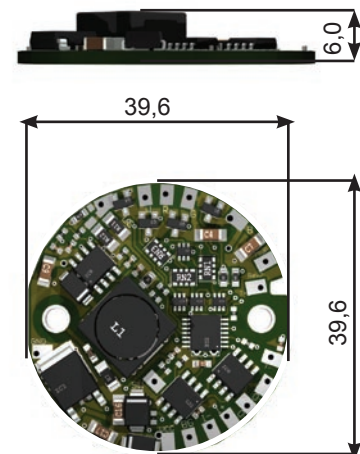
Show selection: Via external switch

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

Show Programming (ShowMaster Versions)

Max nr of shows: 20

Max nr of scenes: 50

Show upload: Via LedSync

Miscellaneous

Orientation: Any

Mounting: Common TO-3 center holes for using M3 screws (2x)

Relative Humidity: Non-Condensing

Storage ambient Temperature: -40°C to 95°C

Example of typical heat sink mounting

Electrical

Power: 24V - 35 V DC

Efficiency: Up to 95%

Processor: eldoLab FluxLogic 1600 series

Mechanical Dimensions

Note: All dimensions are in millimeters

Ordering information

Description	product	Ordernr	Qty
L-Dot Standard 1 Channel	L- Dot/S 1050	LDS10502	50
L-Dot Standard 1 Channel, ShowMaster	L- Dot/S 1055	LDS10552	50
L-Dot Standard 2 Channel	L- Dot/S 2050	LDS20502	50
L-Dot Standard 2 Channel, ShowMaster	L- Dot/S 2055	LDS20552	50
L-Dot Standard 3 Channel	L- Dot/S 3050	LDS30502	50
L-Dot Standard 3 Channel, ShowMaster	L- Dot/S 3055	LDS30552	50
L-Dot Standard 4 Channel	L- Dot/S 4050	LDS40502	50
L-Dot Standard 4 Channel, ShowMaster	L- Dot/S 4055	LDS40552	50

The L-Dot is also available with connectors. For details please see the L-Dot /Connector 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