eldoLED
your product | *our drive*

Colour is our nature

Highly Integrated 15 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 Pico

The L-Dot Pico is the ideal choice for powering 350mA – 700mA high brightness and high power LED packages and LED arrays, especially where cost-effective colour-mixing is needed. The L-Dot Pico is available in a 1, 2, 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. With its true 15 bit resolution per output channel the L-Dot is capable of accurate dimming and extremely fine colour mixing.

In stand-alone mode, one of 10 pre-defined shows can be selected.
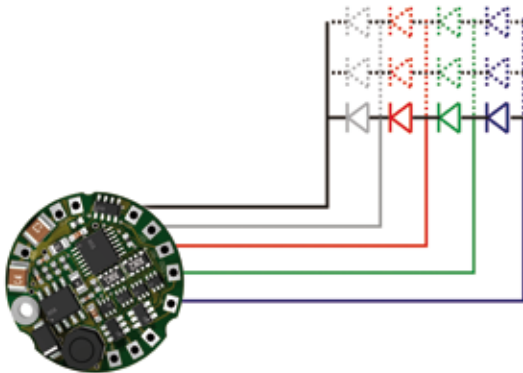
Principle schematic of LED group wiring

Features

RGB(W) colour mixing driver

Up to 15W power output

Power efficient (up to 95%)

Ultra small size (25 mm)

Long life (5 years)

12V-28V supply range

LedSync-and DMX-compatible

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

Form factor

The L-Dot is a breakthrough in LED drive, networking and control form factor. This 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 and control (no external boxes)

Smooth colour control

Simplifies total system solution

Accurate dimming solution

Drive and control per fixture
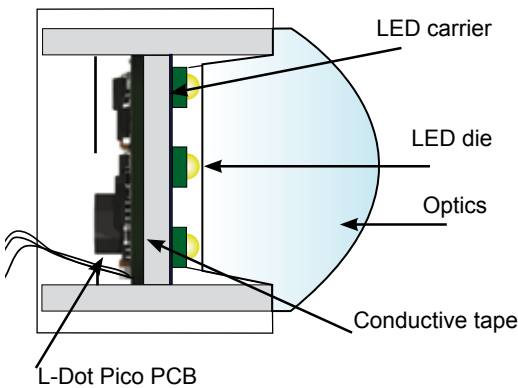
Thermal protection per fixture

Output

Output current setting:
  up to 700mA LED current*

Power output range: 0 - 15W

Nr of independent LED groups: 1,2,3 or 4*

Nr of LED's per L-Dot: 1 to 18**

External current setting: via external
  resistor 350mA (no resistor) to 700mA

Network Control

Input Protocol: LedSync or
  USITT DMX -512A

Input 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

Connections

Power connection: Soldering pad (2x)

Data connection : Soldering pad (3x)

LED connection: Soldering pad (5x)

NTC connection: Soldering pad (2x)

Current setting: Soldering pad (2x)

example wiring of 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

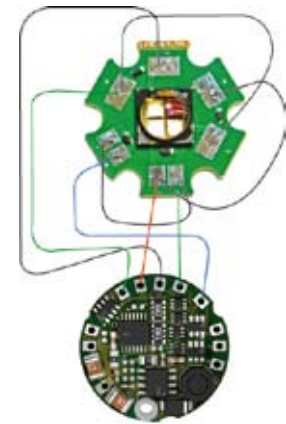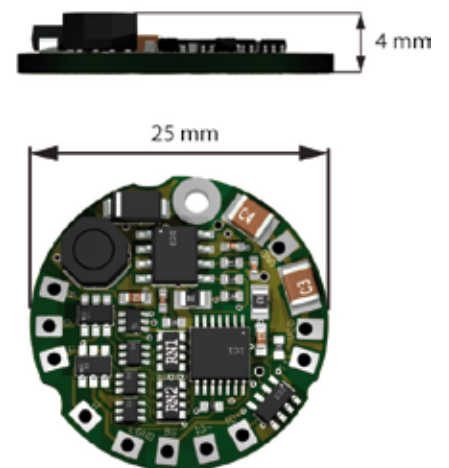Contrast ratio: up to 8000:1

Control and Programming

LedSync adress setting: via Programmer

Stand-alone options: 10 pre-programmed
  shows or 10 factory set custom shows.

Electrical

Power: 12V - 28V DC

Efficiency: Up to 95%

Processor: eldolab FluxLogic 1600 series

Miscellaneous

Orientation: Any

Mounting: One mounting hole for M2
  screw

Relative Humidity: Non-Condensing

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

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

Example of typical heat sink mounting

Mechanical Dimensions

4 mm

25 mm

Note: All dimensions are in millimeters

Ordering information

Description	Product	Ordernr	Qty
L-Dot Pico 1 Channel	L-Dot/P 1010	LDP10101	50
L-Dot Pico 2 Channel	L-Dot/P 2010	LDP20101	50
L-Dot Pico 3 Channel	L-Dot/P 3010	LDP30101	50
L-Dot Pico 4 Channel	L-Dot/P 4010	LDP40101	50

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