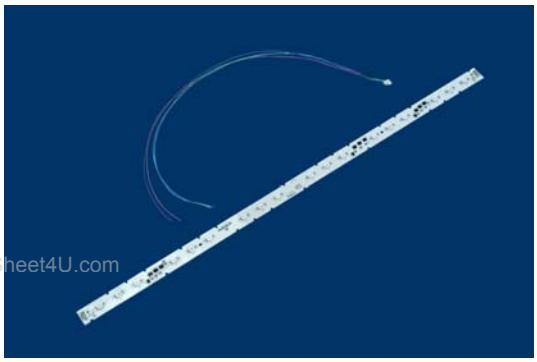
Data Sheet

LINEARlight-DRAGON Colormix

LD18A



Benefits

- Linear Highpower LED-Modul for intensive coloreffects
- Flat an slim dimensions
- Easy connection with OSRAM CONNECTsystem

Applications

- Dynamic color applications
- Wallwashing - with Optics OP1x1-14°x22°
- Large sized colorchanging covelighting

Technical Operating Data

Product	Color	Number of LEDs	Voltage [V DC]*	Power [W]*	Current [A]*	Radiance Angle [°]*	Wavelength [nm] Color Temp [K]*	Lum. Flux [lm]*
LD18A-RGB	red	6	24	8,5	0,35	120	616 nm	185
LD18A-RGB	green	6	24	11,5	0,48	120	531 nm	400
LD18A-RGB	blue	6	24	3,6	0,15	120	468 nm	40

+) Preliminary Data

*) All Data are related to the entire module
Due to the special conditions of the manufacturing processes of LED the typical data of technical parameters can only reflect statistical figures and do not necessarily correspond to the actual parameters of each single product which could differ from the typical data. This product was not optimized for white light illumination.

Technical Features

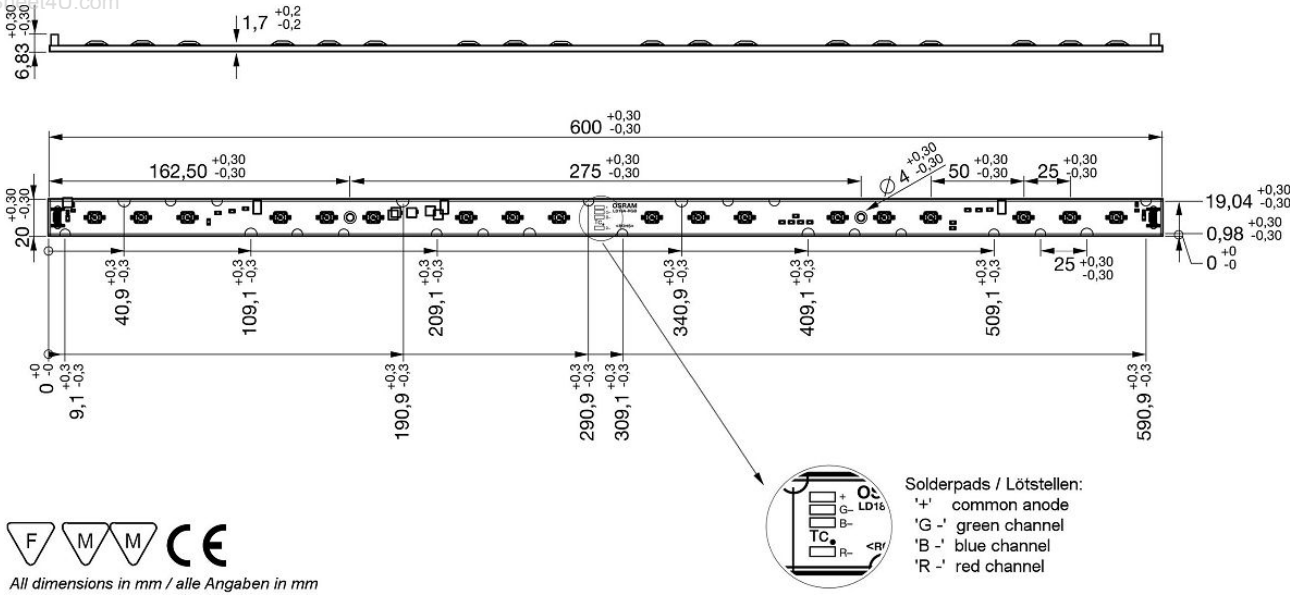
- Each 6 HighFlux LED Golden Dragon in Red / Green / Blue
- Total power / brightness: 23,6 W / 630 lm (at Tc=25°C)
- Size of printed circuit board (L x W x H): 600 mm x 20 mm x 8,5 mm
- To be fixed with screws
- Assembly with optional CONNECTsystem LD-4x or by soldering
- Feeder LD-4PIN is included
- Driven best by power supply OSRAM OPTOTRONIC® OT75/E
- Integrated controll gear/ power supply - OT EASY 60 or OT DALI 25
- Digital controllgear: DALI/ DMX - OT RGB DMX DIM - DALI EASY + OTi DALI DIM
- Analog controllgear with 1-10V interface: - OT RGB DIM / Seqzencer

Minimum and Maximum Ratings

Product	Operating Temperature at Tc-Point [°C] *	Storage Temperature [°C] *	Voltage Range [V dc] *	Reverse Voltage [V dc] *
LD18A-RGB	-30 ... 85	-30 ... 85	23 ... 25	25

*) Exceeding maximum ratings for operating and storage temperature will reduce expected life time or destroy the LED Module.
Exceeding maximum ratings for operating voltage will cause hazardous overload and will likely destroy the LED Module.
The temperature of the LED module must be measured at the Tc-point according to EN60598-1 in a thermally constant status with a temperature sensor or a temperature sensitive label. Drive all channels on 100% to determine the temperature. For exact location of the Tc-point see drawing below.

Drawing



All dimensions in mm / alle Angaben in mm

Safety Information

- The LED module itself and all its components must not be mechanically stressed.
- Assembly must not damage or destroy conducting paths on the circuit board.

The LED Module incorporates no protection against short circuits, overload or overheating. Therefore it is absolutely necessary to operate the modules with a electronically stabilised power supply offering protection against the above mentioned safety risks.
For dimming applications attention should be paid to specific references in "OPTOTRONIC ® Technical Guide".

OSRAM OPTOTRONIC ® power supplies are specifically designed with protection features for safe operation.

When using power supplies other than OPTOTRONIC ® the following basic safety features are required, in addition to any other application specific concerns and local safety codes:

- Short circuit protection
- Overload protection
- Overheat protection

- Installation of LED modules (with power supplies) needs to be made with regard to all applicable electrical and safety standards. Only qualified personnel should be allowed to perform installations.
- Observe correct electrical polarity!
  For all W3 / W3F types (except LM10P / LD06A / DC02A) wrong polarity will lead to emission of red light. Attention, the module can be destroyed! Correct polarity immediately!
  For all other types, including LM10P / LD06A / DC02A), wrong polarity will lead to no light emission only (see also reverse voltage, page 2)
- Parallel connection is highly recommended as safe electrical operation mode.
  Serial connection is not recommended. Unbalanced voltage drop can cause hazardous overload and damage the LED module.
- A maximum of 2 Modules can be installed consecutively from any power feed. Operation with more than 2 modules in one string will reduce photometric performance and exceed the current carrying capacity which leads to damage.
- The LINEARlight DRAGON Colormix can typically survive transient current levels of up to 1 A per colorchannel. As general design precaution, if the maximum output current of the power supply is more than 1 A, fast-blow fuses should be incorporated into the wiring plan.
- Dimming / changing of the colors is only possible with PWM. We recommend to use OSRAM OPTOTRONIC® devices.
- The module cannot be divided.
- Pay attention to standard ESD precautions when installing the module. Avoid touching metallic parts.
- The module, as manufactured, has no conformal coating and therefore offers no inherent protection against corrosion.
- For applications involving exposure to humidity and dust the module must be protected by a fixture or housing with a suitable protection class. The module can be protected against condensation water by treatment with an appropriate circuit board grade conformal coating. The conformal coating should have the following features:
  - Optical transparency
  - UV-resistance
  - thermal expansion matching the thermal expansion of the module 15-30*10^-6 cm/cm/K
  - low permeability of steam for all climatic conditions
  - resistance against corrosive environment
  The lacquer APL of the company Electrolube http://www.electrolube.com met the conditions for the LINEARlight Colormix in our tests.
- Damage by corrosion will not be honored as a materials defect claim. It is the user´s responsibility to provide suitable protection against corrosive agents such as moisture and condensation and other harmful elements.
- In order to entirely protect the module against corrosion, the connection must be done by soldering wires. The solderings must be protected as well. Also all metallic parts of the connector must be laquered completely.

Assembly Information

- The module is connected either with the CONNECTsystem LD-4x or by soldering at the designed solderpads (see drawing).
- To connect one module, the feeder LD-4PIN must be plugged into the connector. To attach a second board, connect with the LD-4CONN-100 connector. For longer gaps two Feeders LD-4PIN can be used. The CONNECTsystem LD-4x is protected against wrong polarity.
- The black wire of the connector must be attached to the '+' 24V output of the controllgear. The others are to be connected according to their colors to the 'R-', 'B-' und 'G-' channels.
- The module has to be mounted on a heat sink, e.g. a thermally well conducting surface.
- For mounting minimum 8 M3 screws together with plastic washers are recommended to enable maximum heat sinking. Therefore use the cutouts on the sides of the module.
- For an optimum heat dissipation the module needs to be in good thermal contact with the designed metallic mounting surface. The use of an appropriate thermal interface material (e.g. thermal grease) is recommended to eliminate air gaps. The metal surface needs to be planar and clean (dirt and oil free).
- The additional optics OP1x1 are fixed with M3 screws at the cutouts on the module's sides.
- To obtain maximum LED lifetime please carefully read the recommended procedures concerning thermal management in our application note "Lifetime of LED-modules" before beginning construction of luminaires. This application note is available via OSRAM representative or the internet (see "Related and Further Information").

Ordering Guide

Productgroup	Productname	EAN *	S-Unit *
LINEARlight-DRAGON Colormix	LD18A-RGB	4008321248572	

*) EAN: Ordering number per single module
S-Unit: Modules per shipping unit

Note: Typical performance data are subject to change without any further notice, particularly as LED technology evolves.

Sales and Technical Support

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Sales and technical support is given by the local OSRAM subsidiaries.
On our world wide homepage all OSRAM subsidiaries are listed with complete address and phone numbers.

Related and Further Information

The new dimension of light	153 S006 GB
OSRAM LED systems	www.osram.com/led-systems
OPTOTRONIC® Technical Guide	130 T008 GB
OPTOTRONIC® Data Sheets	http://catalog.myosram.com
Datasheet CONNECTsystem LD-4x / brochures and technical guides	www.osram.com/led-systems-downloads
Application Note: Life Expectancy	www.osram.com/led-systems-downloads