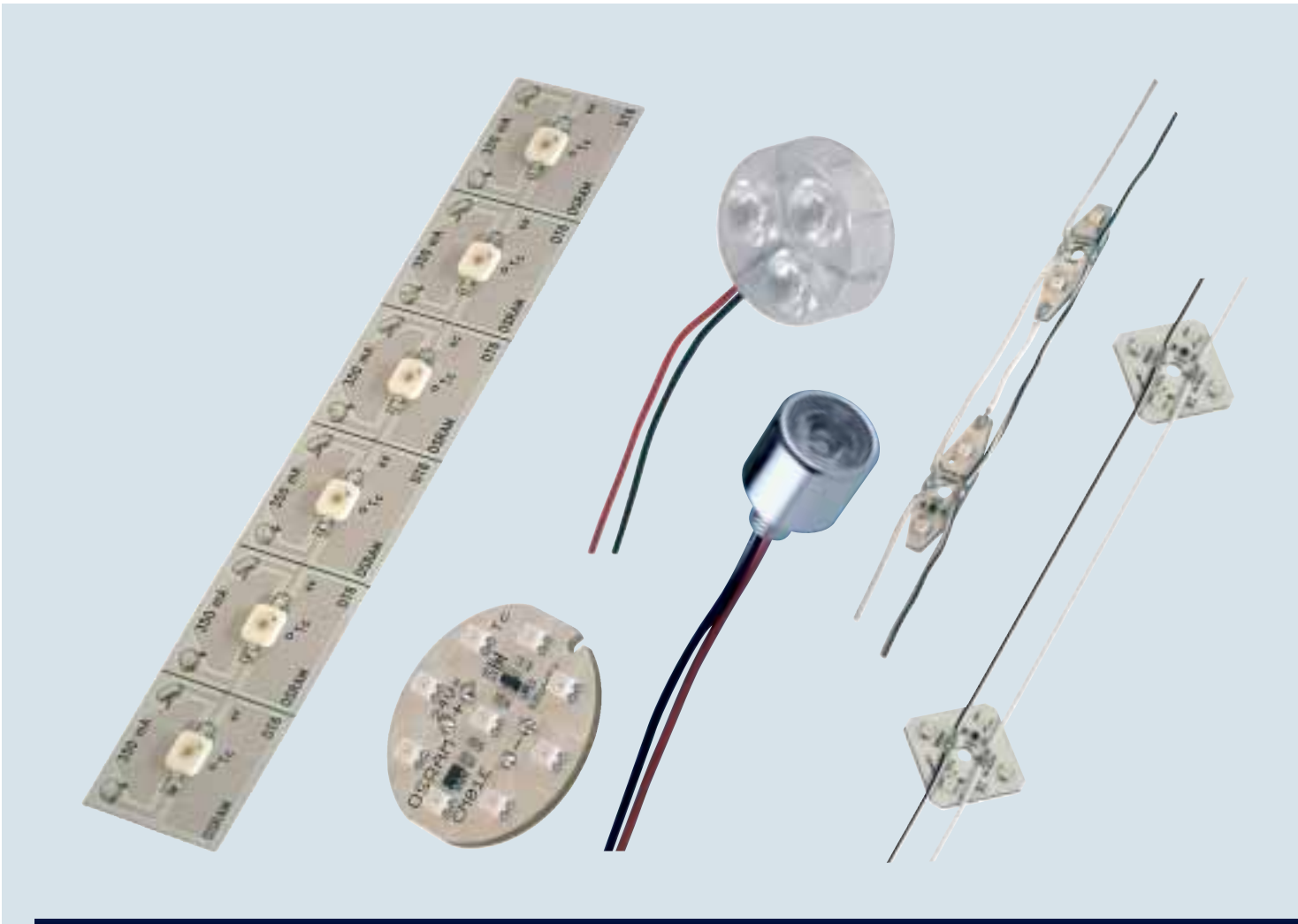
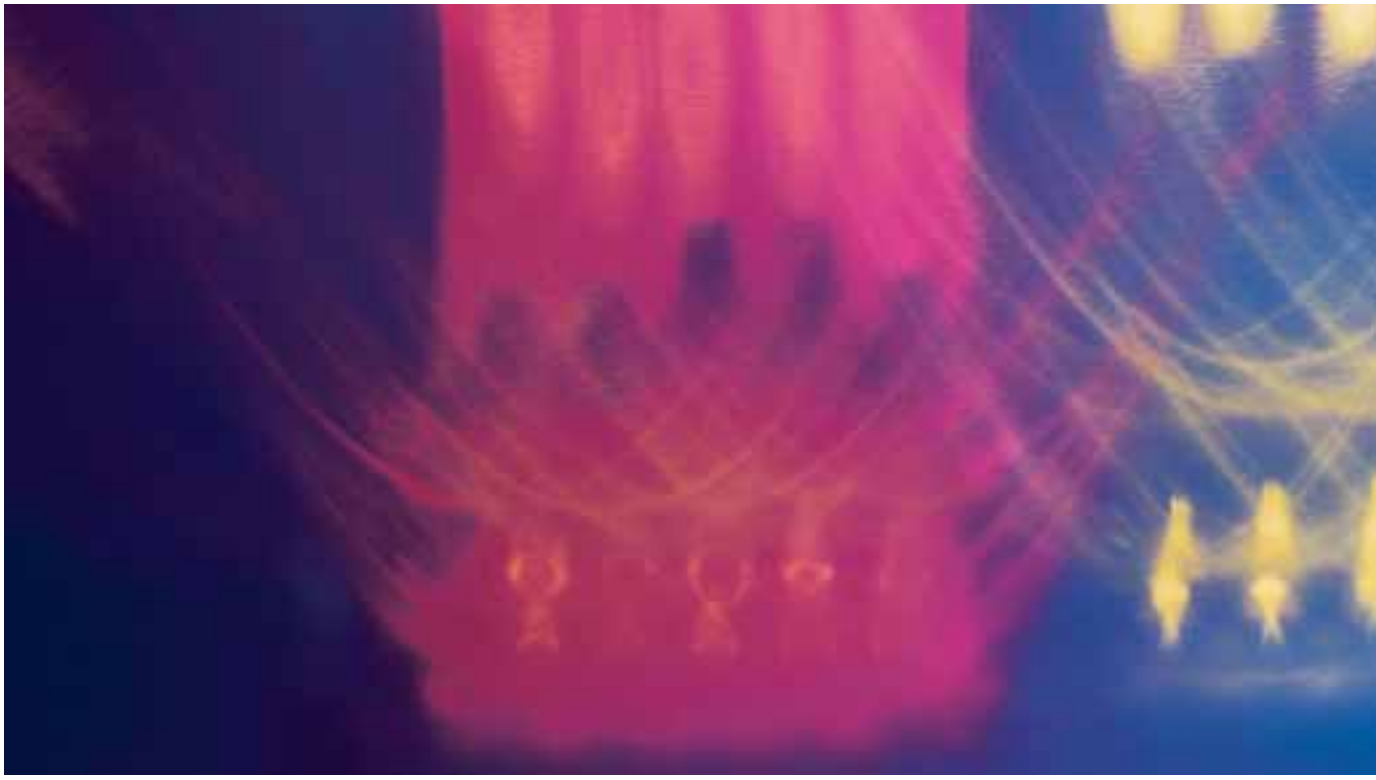


LEDs

LEDs – for 1001 new ideas.

OSRAM offers a wide range from single LEDs and LED modules to complete LED systems. As a manufacturer we can provide carefully matched systems from a single source. Our complete solutions make it easier for customers to use LED technology, for example with standard modules. OSRAM customers also benefit from our know-how in opto-semiconductors and from our experience in electronics and lighting applications of all kinds.

Our LED modules in particular make installation and operation of these innovative light sources much easier. The focus is on flexibility. There are a wide range of shapes and sizes to choose from.



Contents

LEDs
LEDs – for 1001 new ideas

Small, colourful and trendy

Light emitting diodes are the perfect basis for creative ideas and new lighting solutions. They are therefore being used in more and more lighting applications. They give designers an immense amount of freedom to create innovative lighting.

Versatile.

- Illuminated signs
- Interior design and general lighting
- Traffic signalling
- Direction lighting in buildings
- Escape route marking
- Designer lights and built-in luminaires
- Illuminated signage
- Architecture lighting

Decorative OSRAM LED lighting solutions

Nowadays, LEDs[1)] and systems[2)] from OSRAM are being used in countless applications such as effect lighting, backlighting, accent lighting, safety lighting and RGB displays. They are at their best when coloured light is needed. Unlike lamps, LEDs emit coloured light directly without part of the spectrum having to be filtered out.

LEDs in general lighting

OSRAM LED modules are available in the latest wattage classes. Luminous efficacy is being improved at a rapid rate, making LEDs more and more suitable for general lighting tasks. White light is particularly important for such tasks. For a long time there were no white LEDs on the market.

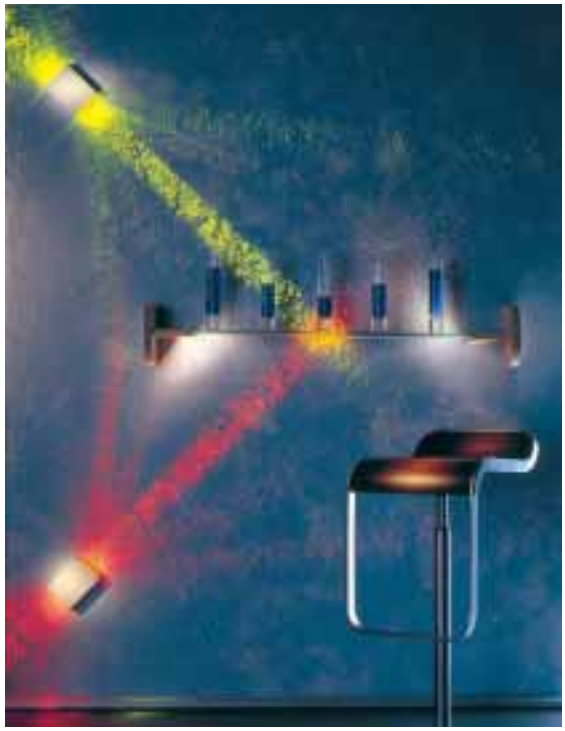
Even now, no semiconductor material has yet been found that produces white light directly.
The solution was to use the principles of additive colour mixing or luminescence conversion.

Technological highlights

- Creative design options thanks to a variety of colours, compact dimensions and the versatility of the modules
- Major economic benefits thanks to low energy consumption, long life and low maintenance
- Maximum reliability even under adverse ambient conditions
- Compact dimensions and versatility of the modules

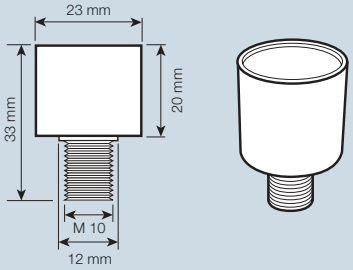
The modules are operated on ECGs in the OSRAM Optotronic range. Special optics in different designs are used to expand the number of possible applications in general lighting. These applications include effect lighting, marker lights and illuminated signs. The small optics enable the light to be efficiently controlled.

LEDs can be dimmed, are available in all colours and can be easily adapted to suit different requirements. Their long life (many times that of conventional light sources) can drastically reduce the maintenance and repair costs for lighting systems. Where maintenance is expensive, for example if the light sources are difficult to access, LEDs offer significant benefits. Operation at safety extra-low voltage (SELV) means high levels of safety.



1) For further information on discrete LEDs go to www.osram-os.com
2) Photometric data is subject to rapid change. For the latest information on new products and technical data go to www.osram.com/Products/LED Systems

DRAGONeye®



Product reference	Product number	COLOR		I[mA] 1)	W 1)	1)	λ 1)	K 1)	
DRAGONeye®									
DE1-W3-854	4008321**909725**	white	1	350	1.1	15		5400	–
DE1-W3-733	4008321**909718**	warm white	1	350	1.1	15		3300	–
DE1-A2	4008321**909732**	red	1	350	0.8	18	617		–
DE1-Y2	4008321**909756**	yellow	1	350	0.8	18	587		–
DE1-T2	4008321**909763**	green	1	350	1.1	15	528		–
DE1-B2	4008321**909749**	blue	1	350	1.1	15	465		–

Other data (valid for all types):
Photometric data: current values as per data sheet
Operating temperature: –30 to +65 °C at the Tc point

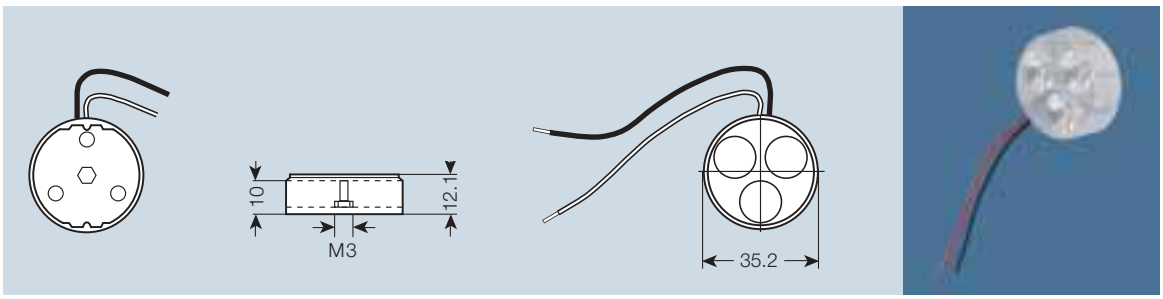
DRAGONeye®

DRAGONeye® is an IP65 compact mini light with 1 high-flux Golden DRAGON® LED. The metal package ensures optimum heat removal. DRAGONeye® is ideal as a small luminaire head in single-LED luminaires or as part of an accent lighting, orientation lighting or route lighting system.

Technical characteristics

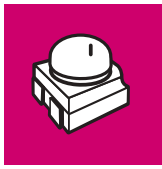
- Basic dimensions of DRAGONeye® H: 25 mm, ∅: 22 mm
- Integrated M10 thread for simple installation
- Two-core connecting cable 200 mm with open cable ends
- For backlighting and orientation lighting
- Type of protection IP65 to DIN EN 60529
- Metallic package for optimum heat removal
- Narrow beam angle for use as a spot source
- The modules can only be connected in series

Current data sheets, product references and product numbers can be found on the internet at www.osram.com
1) All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.



Product reference	Product number	COLOR		I[mA] 1)	W 1)	1)	λ 1)	K 1)	
DRAGONpuck®									
DP3-W3-865	4008321**909848**	white	3	350	3.6	20	–	6500	16
DP3-W3-854	4008321**909824**	white	3	350	3.6	20	–	5400	16
DP3-W3-847	4008321**909831**	white	3	350	3.6	20	–	4700	16
DP3-W3-733	4008321**909930**	warm white	3	350	3.6	20	–	3300	16
DP3-W2-865	4008321**033406**	white	3	350	3.6	20	–	6500	16
DP3-W2-854	4008321**033383**	white	3	350	3.6	20	–	5400	16
DP3-W2-847	4008321**033369**	white	3	350	3.6	20	–	4700	16
DP3-W2-733	4008321**087683**	warm white	3	350	3.6	20	–	3300	16
DP3-A1	4008321**033185**	red	3	350	2.4	16	617	–	16
DP3-Y1	4008321**033420**	yellow	3	350	2.4	16	587	–	16
DP3-V1	4008321**033345**	verde	3	350	3.6	16	505	–	16
DP3-B1	4008321**033208**	blue	3	350	3.6	16	470	–	16

Other data (valid for all types):
Photometric data: current values as per data sheet
Operating temperature: –30 to +85 °C at the Tc point

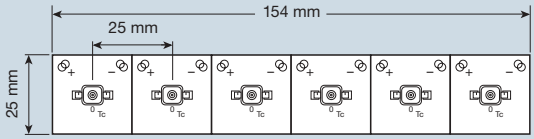


DRAGONpuck®
DRAGONpuck® is a compact high-intensity LED light source with 3 high-flux Golden DRAGON® LEDs and an efficient optical system.
- Very low profile, same diameter as QR CBC lamps
- Basic dimensions H: 12 mm, ∅ 35 mm
- M3 screw fixing
- Two-core connecting cable 200 mm with open cable ends

Applications:
- Reading lights with high safety requirements
- Accent lighting for buildings
- Light source for furniture luminaires
- Light source with long life
- For backlighting and orientation lighting
- Narrow beam angle for use as a spot source

Current data sheets, product references and product numbers can be found on the internet at www.osram.com
1) All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

DRAGONtape®



Product reference	Product number	COLOR		I[mA] 1)	W 1)	1)	λ 1)	K 1)	
DRAGONtape®									
DT6-W3-865	4008321**909817**	white	6	350	7.2	120	–	6500	25
DT6-W3-854	4008321**909794**	white	6	350	7.2	120	–	5400	25
DT6-W3-847	4008321**909800**	white	6	350	7.2	120	–	4700	25
DT6-W3-733	4008321**909923**	warm white	6	350	7.2	120	–	3300	25
DT6-W2-865	4008321**015822**	white	6	350	7.2	120	–	6500	25
DT6-W2-854	4008321**015808**	white	6	350	7.2	120	–	5400	25
DT6-W2-847	4008321**015846**	white	6	350	7.2	120	–	4700	25
DT6-W2-733	4008321**087669**	warm white	6	350	7.2	120	–	3300	25
DT6-A1	4008321**015747**	red	6	350	4.8	120	617	–	25
DT6-Y1	4008321**015860**	yellow	6	350	4.8	120	587	–	25
DT6-V1	4008321**015785**	verde	6	350	7.2	120	505	–	25
DT6-B1	4008321**015761**	blue	6	350	7.2	120	470	–	25

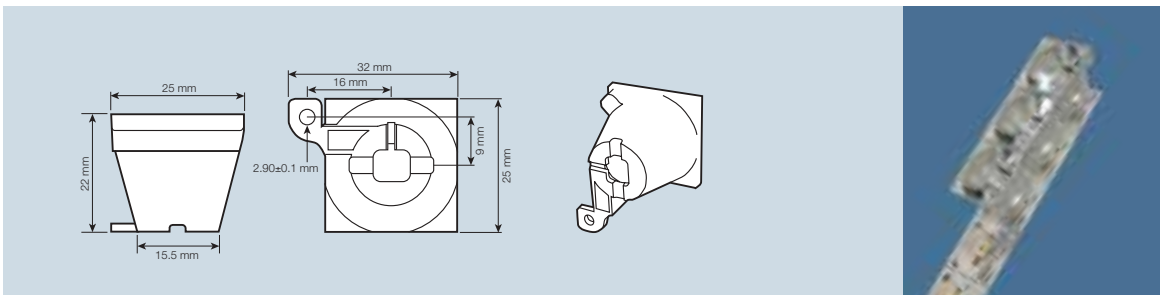
Other data (valid for all types):
Photometric data: current values as per data sheet
Operating temperature: –30 to +65 °C at the Tc point

DRAGONtape®
6 high-flux series-connected Golden DRAGON® LEDs on a flexible dividable pcb substrate.
- Self-adhesive backing for simple installation
- Can be divided into units of 1 to 6 LEDs
- Contact is made by soldering two wires at the relevant solder points
- Dimensions of DRAGONtape® (L x W x H): 150 mm x 25 mm x 2 mm
- Basic dimensions of smallest unit (L x W): 25 mm x 25 mm
- Optimum operation on constant-current control gear OT 9/220-240/350 or OT 9/100-120/350
- Can be dimmed by pulse width modulation with OT 9/10-24/350 DIM

Applications:
- Ideal for very low-profile luminaires
- For backlighting and orientation lighting
- Applications in the luminaire industry include shop and furniture lights, small signals, effect lighting and industrial applications

Puppet Theatre, Zagreb
Photo: Boris Cvjetanovic

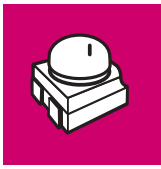
Current data sheets, product references and product numbers can be found on the internet at www.osram.com
1) All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.



Product reference	Product number	l [mm] 1)	b [mm] 1)	h [mm] 1)	
DRAGONtape® Optics					
0P1x1-10	4008321**909893**	32	25	22	150
0P1x1-30	4008321**909770**	32	25	22	150
0P1x1-14x22	4008321**909787**	32	25	22	150

DRAGONtape® Optics
DRAGONtape® Optics are additional optics for the DRAGONtape®. They reduce the beam angle from 120° depending on the light colour. Whereas OP1x1-10 and OP1x1-30 distribute the light symmetrically, the distribution is asymmetrical with OP1x1-14x22.

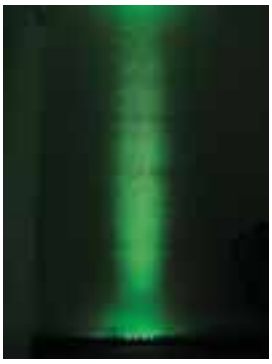
- Suitable for all colours
- High optical efficiency
- The dimension of the lens is adapted to the smallest unit of the DRAGONtape®
- The optics are placed over the LED
- Simple and secure fixing with a screw in the mounting hole (∅ 2.9 mm) of the optic holder or by the luminaire construction

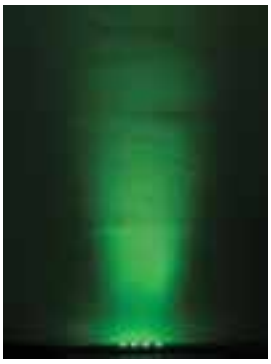



10°


30°


14° x 22°


10°

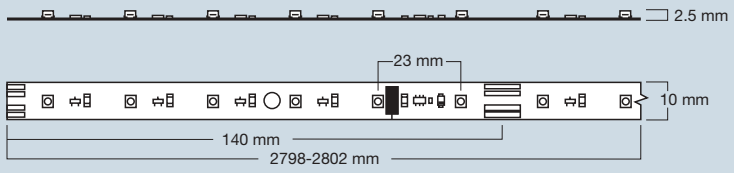

30°


14° x 22°

Current data sheets, product references and product numbers can be found on the internet at www.osram.com

1) All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

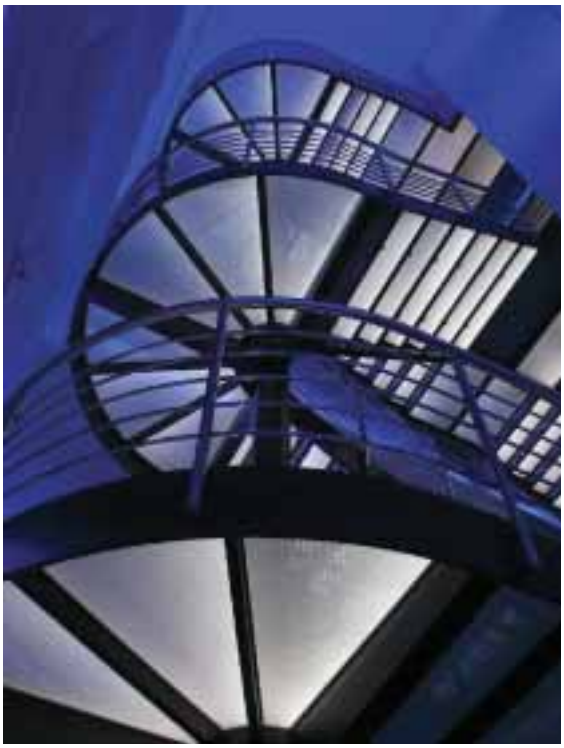
LINEARlight POWER Flex



Product reference	Product number	COLOR		I[mA] 1)	W 1)	A 1)	1)	K 1)	
LINEARlight POWER Flex									
LM10P-W2-865	4008321**127501**	white	120	24	72	3	120	6500	8
LM10P-W2-854	4008321**127488**	white	120	24	72	3	120	5400	8
LM10P-W2-847	4008321**127464**	white	120	24	72	3	120	4700	8

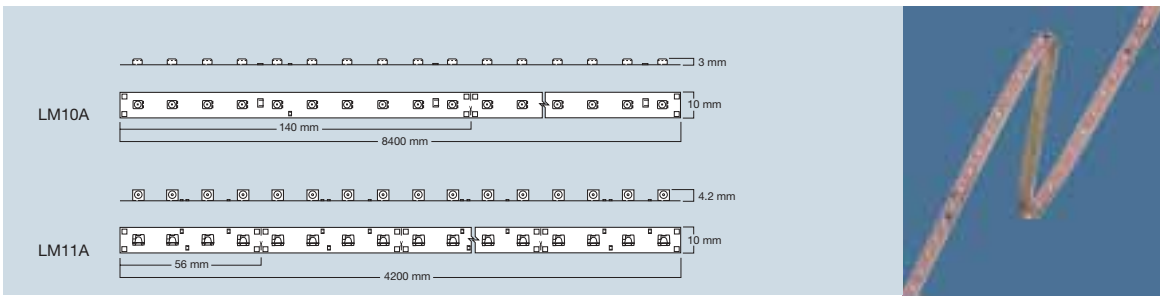
Other data (valid for all types):
Photometric data: current values as per data sheet
Operating temperature: –20 to +85 °C at the Tc point

LINEARlight POWER Flex
LINEARlight POWER Flex is a compact and powerful light source. LINEARlight POWER Flex is ideal for illuminating counters, arches or handrails and also for edge lighting of transparent or diffuse materials.



- Dimensions of overall module (L x W x H): 2800 mm x 10 mm x 3 mm
- Basic dimensions of smallest unit with 6 LEDs (L x W): 140 mm x 10 mm
- Can be divided into units of 6 LEDs or multiples thereof with no loss of function for the parts
- Can be connected to the front of the module or at the division points
- Flexible board with self-adhesive backing
- Dimmable by pulse width modulation (PWM)
- Perfectly matched to OSRAM OPTOTRONIC® electronic control gear

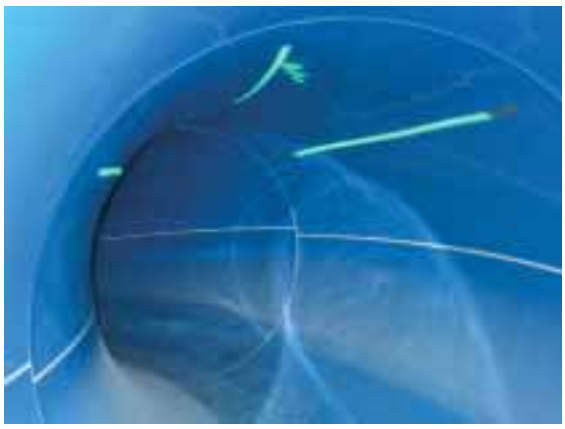
Current data sheets, product references and product numbers can be found on the internet at www.osram.com
1) All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.



Product reference	Product number	COLOR		K [1]	λ [1]		V	A [1]	W [1]	
LINEARlight Flex®										
LM10A-W1-865	4050300**873817**	white	600	6500	–	120	24	2.4	57.6	8
LM10A-W2-865	4050300**887265**	white	600	6500	–	120	24	3.6	86.4	8
LM10A-W1-854	4050300**817170**	white	600	5400	–	120	24	2.4	57.6	8
LM10A-W2-854	4050300**887289**	white	600	5400	–	120	24	3.6	86.4	8
LM10A-W1-847	4050300**817156**	white	600	4700	–	120	24	2.4	57.6	8
LM10A-W2-847	4008321**040145**	white	600	4700	–	120	24	3.6	86.4	8
LM10A-A1	4008321**040060**	red	600	–	617	120	24	3.0	72.0	8
LM10A-Y1	4050300**946030**	yellow	600	–	587	120	24	3.0	72.0	8
LM10A-T2	4008321**132628**	green	600	–	525	120	24	3.0	72.0	8
LM10A-B1	4050300**945491**	blue	600	–	470	120	24	3.0	72.0	8
LM11A-W1-865	4050300**873879**	white	300	6500	–	120	10	3.0	30.0	8
LM11A-W1-854	4050300**817217**	white	300	5400	–	120	10	3.0	30.0	8
LM11A-W1-847	4050300**817194**	white	300	4700	–	120	10	3.0	30.0	8
LM11A-A	4050300**938554**	red	300	–	615	120	10	1.5	15.0	8
LM11A-Y1	4050300**946016**	yellow	300	–	587	120	10	2.25	22.5	8
LM11A-T	4050300**938578**	green	300	–	528	120	10	3.0	30.0	8
LM11A-B	4050300**938561**	blue	300	–	470	120	10	3.0	30.0	8

Other data (valid for all types):
Photometric data: current values as per data sheet
Operating temperature: –30 to +75 °C, 85 °C at the Tc point depending on colour

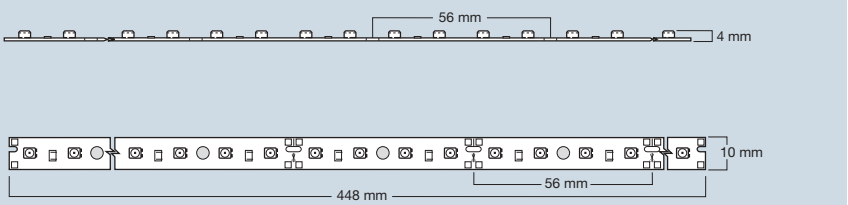
LINEARlight Flex®
LINEARlight Flex® is an LED module on a flexible pc board with light emitted either at the top (LM10A) or at the side (LM11A). The modules can be used for long illuminated lines, for backlighting complex structures and for illuminated signs.



- LINEARlight Flex® is perfectly matched to OSRAM OPTOTRONIC® electronic control gear
- Dimmable by pulse width modulation (PWM) with OT DIM electronic control gear
- Dimensions (L x W x H)
- LM10A: 8400 mm x 10 mm x 3 mm and for
- LM11A: 4200 mm x 10 mm x 4.2 mm
- Can be divided into units or their multiples with no loss of function in the parts. The smallest units are 10 LEDs (140 mm x 10 mm) for LM10A and 4 LEDs (56 mm x 10 mm) for LM11A
- Flexible installation on curved surfaces is possible. Minimum bending radius 2 cm
- The double-sided adhesive tape on the back of the module makes mounting even easier
- Wide beam angle: 120°

Current data sheets, product references and product numbers can be found on the internet at www.osram.com
1) All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

LINEARlight



Product reference	Product number	COLOR		K [1]	λ [1]		V	A [1]	W [1]	
LINEARlight										
LM01A-W1-865	4008321**015945**	white	32	6500	–	120	10	0.32	3.2	10
LM01A-W2-865	4050300**887043**	white	32	6500	–	120	10	0.4	4.0	10
LM01A-W1-854	4008321**015921**	white	32	5400	–	120	10	0.32	3.2	10
LM01A-W2-854	4050300**887081**	white	32	5400	–	120	10	0.4	4.0	10
LM01A-W1-847	4008321**015907**	white	32	4700	–	120	10	0.32	3.2	10
LM01A-W2-847	4008321**015983**	white	32	4700	–	120	10	0.4	3.2	10
LM01A-S1	4050300**888002**	super red	32	–	633	120	10	0.4	4.0	10
LM01A-A1	4050300**887128**	red	32	–	617	120	10	0.4	4.0	10
LM01A-O1	4050300**888040**	orange	32	–	606	120	10	0.4	4.0	10
LM01A-Y1	4008321**015969**	yellow	32	–	587	120	10	0.4	4.0	10
LM01A-T2	4050300**887845**	green	32	–	525	120	10	0.4	4.0	10
LM01A-B1	4050300**888088**	blue	32	–	470	120	10	0.4	4.0	10

Other data (valid for all types):
Photometric data: current values as per data sheet
Operating temperature: –30 to +75 °C, +85 °C at the Tc point depending on colour

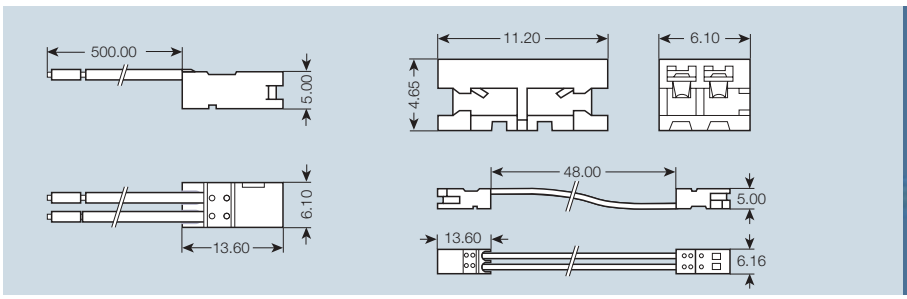
LINEARlight
LINEARlight is an LED module on a rigid board with 32 LEDs. Because it can be divided and extended, LINEARlight is extremely versatile and can be adapted to any length.

Photo: Bayerischer Hof, Falk's Bar

Applications:
Contour lighting
Injecting light into diffused or transparent light guides

- Perfectly matched to OSRAM OPTOTRONIC® electronic control gear
- Dimmable by pulse width modulation (PWM) with OT DIM electronic control gear
- Can only be connected in parallel
- Can be divided into units of 4 LEDs or multiples thereof with no loss of function for the parts
- Mounting holes (∅ 4 mm) in the boards enable them to be installed easily with screws or mechanical connectors
- Dimensions of individual board (L x W x H): 448 mm x 10 mm x 4 mm
- Dimensions of smallest unit with 4 LEDs: 56 mm x 10 mm
- For large module lengths see LINEARlight Flex® LM10A or LM11A

Current data sheets, product references and product numbers can be found on the internet at www.osram.com
1) All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

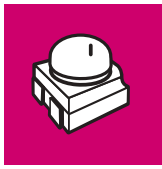


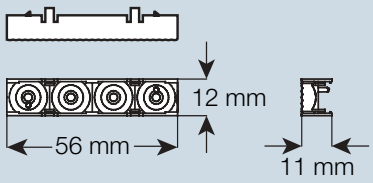
Product reference	Product number	V	A	Cable cross-section	Cable length	
CONNECTsystem for LINEARlight						
LM-2PIN	4008321**908629**	11	2	0.35	500	500
LM-2CONN	4008321**908634**	11	2	–	–	500
LM-2CONN-50	4008321**908667**	11	2	0.35	50	500

CONNECTsystem for LINEARlight and EFFECTlight
The CONNECTsystem provides simple connection of LINEARlight LM01A and EFFECTlight WL01B modules with feeders and connectors.

Highlights
- Simple installation; no soldering required
- No tools required
- Reduced installation time
- Low profile
- Extremely vibration-proof

Applications
- LM-2PIN feeder with end sleeves
- LM-2PIN feeder and LM-2CONN-50 with 90° flexible cable
- LM-2CONN connector for rigid connection of two LINEARlight units
- LM-2CONN-50 cable connector for flexible connection of two LINEARlight units
- Available in packs of 10
- Coded to prevent polarity reversal
- Tested to IEC 60512 (shock and vibration tests). LM-2PIN feeder for connecting to the control gear
- For use only in indoor applications or appropriately protected luminaires



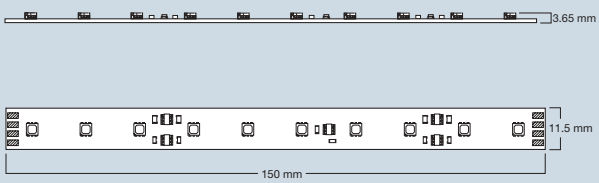


Product reference	Product number	l [mm]	b [mm]	h [mm]	
LINEARlight Optics					
0P4x1-20	4008321**908704**	56	12	11	80

LINEARlight Optics
LINEARlight Optics is an add-on optical element for LINEARlight that reduces the beam angle from 120° to between 20° (white 26°)

- Suitable for all LED colours
- Uniformly illuminated surface
- High efficiency thanks to low transmission losses
- The length of the optics is matched to the smallest LINEARlight unit at 56 mm
- Available in packs of 8

LINEARlight Colormix



Product reference	Product number	COLOR		λ 1)		V	A 1)	W 1)	
LINEARlight Colormix									
LM01M-RGB-B7	4050300**820873**	red	30	617	120	24	0.075	1.8	10
LM01M-RGB-B7	4050300**820873**	green	30	525	120	24	0.15	3.6	10
LM01M-RGB-B7	4050300**820873**	blue	30	467	120	24	0.12	2.88	10
LM01M-RGB-B8	4050300**820897**	red	30	617	120	24	0.075	1.8	10
LM01M-RGB-B8	4050300**820897**	green	30	525	120	24	0.15	3.6	10
LM01M-RGB-B8	4050300**820897**	blue	30	473	120	24	0.12	2.88	10

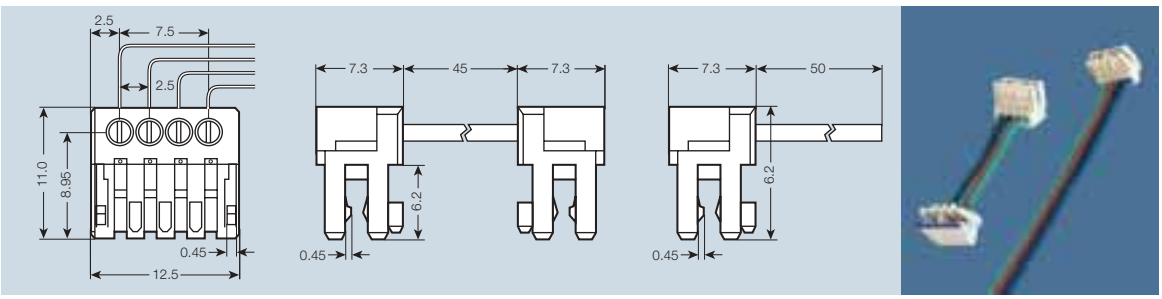
Other data (valid for all types):
Photometric data: current values as per data sheet
Operating temperature: –30 to +75 °C at the Tc point

The technical data in the table relates to the individual colour channels of the modules. The maximum wattages per colour channel are those shown in the table. However, the total wattage of the module is not greater than 8 W.

LINEARlight Colormix
LINEARlight Colormix LM01M-RGB is an LED module for dynamic colour applications (RGB). The range consists of the LM01M RGB-B7 and LM01M-RGB-B8 types. Each module consists of 30 LEDs each with three coloured chips (red, green, blue).

- The modules are perfectly matched to OSRAM OPTOTRONIC® electronic control gear
- Dimensions of overall module (L x W x H): 450 mm x 11.5 mm x 3.65 mm
- Dimensions of smallest unit with 10 LEDs: 150 mm x 11.5 mm
- Can be divided into units of 10 LEDs or multiples thereof with no loss of function for the parts
- Can be extended to a maximum of 10 modules with power feed
- LINEARlight Colormix is dimmed by OT control gear

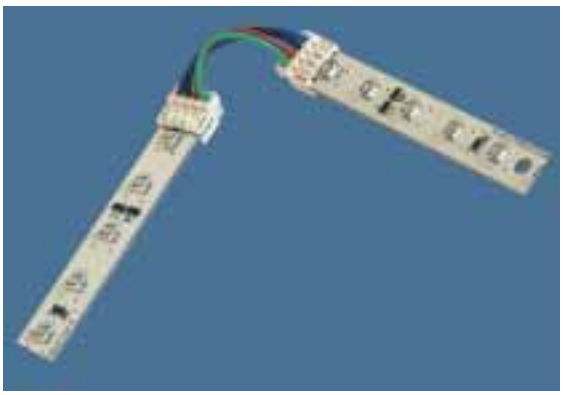
Current data sheets, product references and product numbers can be found on the internet at www.osram.com
1) All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.



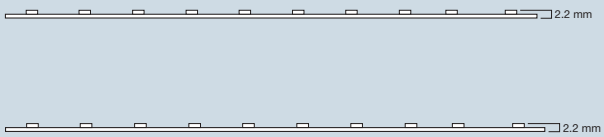
Product reference	Product number	V	A	Cable cross-section	Cable length	
CONNECTsystem for LINEARlight Colormix						
LM-4PIN	4008321**908681**	25	3	0.35	500	500
LM-4CONN-45	4008321**116277**	25	3	0.35	45	1000

CONNECTsystem for LINEARlight Colormix
Provides simple connection of LINEARlight Colormix LM01M-RGB modules.

Benefits:
- Simple installation; no soldering required
- No tools required
- Reduced installation time
- Low profile
- Extremely vibration-proof
- LM-4PIN feeder for connecting to the control gear
- LM-4-CONN-45 cable connector for flexible connection of two LINEARlight Colormix units
- LM-4PIN feeder and LM-4CONN-45 connector with colour-coded cables
- Dynamic colour applications
- Can be connected to the front of the module or at the division points
- Tested to IEC 60512 (shock and vibration tests)
- For use only in indoor applications or appropriately protected luminaires



LINEARlight Colormix Flex



Product reference	Product number	COLOR		λ 1)		V	A 1)	W 1)	
LINEARlight Colormix Flex									
LM10L-RGB-B7	4008321**008824**	red	200	617	120	24	0.7	16.8	8
LM10L-RGB-B7	4008321**008824**	green	200	525	120	24	1.4	33.6	8
LM10L-RGB-B7	4008321**008824**	blue	200	467	120	24	1.12	26.9	8
LM10L-RGB-B8	4008321**008886**	red	200	617	120	24	0.7	16.8	8
LM10L-RGB-B8	4008321**008886**	green	200	525	120	24	1.4	33.6	8
LM10L-RGB-B8	4008321**008886**	blue	200	473	120	24	1.12	26.9	8

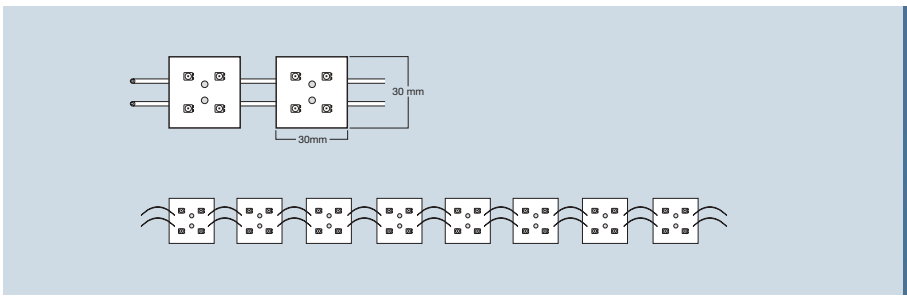
Other data (valid for all types):
Photometric data: current values as per data sheet
Operating temperature: –30 to +75 °C at the Tc point

The technical data in the table relates to the individual colour channels of the modules. The maximum wattages per colour channel are those shown in the table.

LINEARlight Colormix Flex
LINEARlight Colormix Flex LM10L-RGB is an LED module for dynamic colour applications (RGB) on a flexible pcb material. The range consists of the LM10L-RGB-B7 and LM10L-RGB-B8 types. Each module consists of 200 LEDs each with three coloured chips (red, green, blue).

- The modules are perfectly matched to OSRAM OPTOTRONIC® electronic control gear
- Dimensions of overall module (L x W x H): 4000 mm x 11.5 mm x 2.2 mm
- Dimensions of smallest unit with 10 LEDs: 200 mm x 11.5 mm
- Can be divided into units of 10 LEDs or multiples thereof with no loss of function for the parts
- LINEARlight Colormix Flex is dimmed by OT control gear

Current data sheets, product references and product numbers can be found on the internet at www.osram.com
1) All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.



Product reference	Product number	COLOR		K [1]	λ [1]		V	A [1]	W [1]	
BACKlight										
LM03A-W1-865	4050300**817231**	white	32	6500	–	120	10	0.32	3.2	20
LM03A-W2-865	4050300**886886**	white	32	6500	–	120	10	0.50	5.0	20
LM03A-W1-854	4050300**817255**	white	32	5400	–	120	10	0.32	3.2	20
LM03A-W2-854	4050300**886909**	white	32	5400	–	120	10	0.50	5.0	20
LM03A-S1	4050300**794990**	super red	32	–	633	120	10	0.4	4.0	20
LM03A-A	4050300**948638**	red	32	–	617	120	10	0.4	4.0	20
LM03A-O1	4050300**948645**	orange	32	–	606	120	10	0.4	4.0	20
LM03A-Y1	4050300**798868**	yellow	32	–	587	120	10	0.4	4.0	20
LM03A-T2	4008321**031174**	green	32	–	525	120	10	0.4	4.0	20
LM03A-B1	4050300**948669**	blue	32	–	470	120	10	0.4	4.0	20

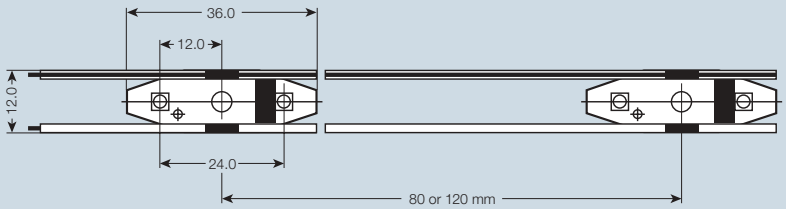
Other data (valid for all types):
Photometric data: current values as per data sheet
Operating temperature: –30 to +75 °C, +85 °C at the Tc point depending on colour

BACKlight
BACKlight consists of eight boards each holding four LEDs that can be interconnected in many different arrangements. BACKlight is therefore a customisable module with a wide variety of uses including backlighting of dispersing materials for illuminated signs.

- 1 chain consisting of 8 boards connected with flexible cable
- Dimensions of individual board (L x W x H): 30 mm x 30 mm x 4 mm
- Overall length of the chain depending on the spread of the cables 240 mm to approx. 550 mm
- Can be separated at any point between the individual boards
- Cable connection for flexible 3-dimensional installation
- Mounting holes (∅ 4 mm) in the boards enable them to be installed easily with screws or hardware for standard pc boards
- Up to three chains can be connected one after the other
- The modules can only be connected in parallel
- Coated to protect against condensate

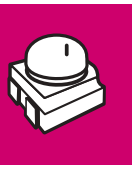
Current data sheets, product references and product numbers can be found on the internet at www.osram.com
1) All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

BACKlight BL02



Product reference	Product number	COLOR		V [1]	W [1]	A [1]	[1]	λ [1]	K [1]	
BACKlight BL02										
BL02S-W2-865	4008321**083937**	white	240	10	38.0	3.6	120	–	6500	5
BL02S-W2-854	4008321**084132**	white	240	10	38.0	3.6	120	–	5400	5
BL02S-S1	4008321**083951**	super red	240	10	38.0	3.6	120	633	–	5
BL02L-A1	4008321**084019**	red	240	10	38.0	3.6	120	617	–	5
BL02S-A1	4008321**083715**	red	240	10	38.0	3.6	120	617	–	5
BL02S-O1	4008321**083975**	orange	240	10	38.0	3.6	120	606	–	5
BL02S-Y2	4008321**084033**	yellow	240	10	38.0	3.6	120	587	–	5
BL02S-T2	4008321**084057**	green	240	10	32.0	3.0	120	525	–	5
BL02S-B1	4008321**084071**	blue	240	10	32.0	3.0	120	470	–	5

Other data (valid for all types):
Photometric data: current values as per data sheet
Operating temperature: –20 to +75 °C, +85 °C at the Tc point depending on colour

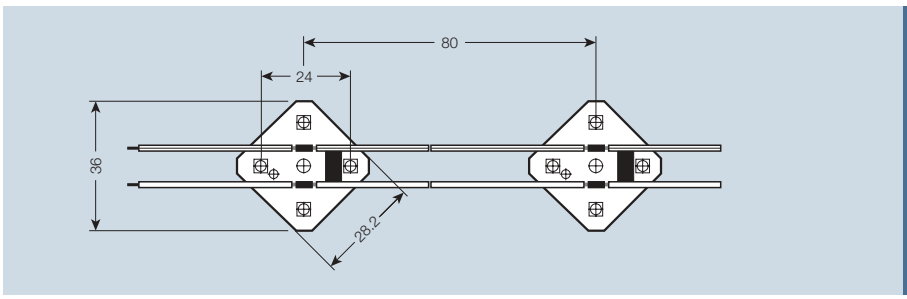


Highlights
BACKlight BL02 enables any shapes to be uniformly backlit. Because of its length, these slim LED chains can be installed quickly and easily.

Applications
- Illuminated signs
- Backlighting of complex contours

Technical characteristics
- 1 roll contains 2 LED chains
- Up to two LED chains can be connected one after the other with mid-feed on an OT 50W
- 2 LEDs per board
- The maximum overall length for version BL02S is 2 x 4.8 m = 9.60 m; board spacing: 80 mm
- The maximum overall length for version BL02L is 2 x 7.2 m = 14.40 m; board spacing: 120 mm
- Can be separated at any point between the individual boards for white, blue and green
- Can be separated after two boards for super red, red, orange and yellow
- 1 chain consisting of 60 boards connected with flexible cable
- Mounting holes (∅ 4 mm) in the boards enable them to be installed easily with screws for standard pc boards
- The modules can only be connected in parallel
- The boards are coated to protect against condensate

Current data sheets, product references and product numbers can be found on the internet at www.osram.com
1) All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.



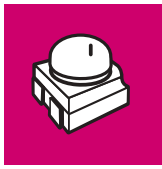
Product reference	Product number	COLOR		V [1]	W [1]	A [1]	[1]	λ [1]	K [1]	
BACKlight BL04										
BL04S-W2-865	4008321**907370**	white	240	10	38.0	3.6	120	–	6500	5
BL04S-W2-854	4008321**907356**	white	240	10	38.0	3.6	120	–	5400	5
BL04S-T2	4008321**907318**	green	240	10	32.0	3.0	120	525	–	5
BL04S-B1	4008321**907332**	blue	240	10	32.0	3.0	120	470	–	5

Other data (valid for all types):
Photometric data: current values as per data sheet
Operating temperature: –20 to +75 °C, +85 °C at the Tc point

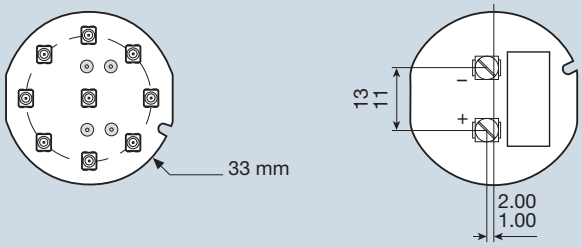
Highlights
BACKlight BL04 enables any shapes to be uniformly backlit with high-intensity light. The LED chains can be installed quickly and easily.

Applications
- Illuminated signs
- Backlighting of complex contours

Technical characteristics
- 1 roll contains 2 LED chains
- Up to two LED chains can be connected one after the other with mid-feed on an OT 50W
- 4 LEDs per board
- The maximum overall length for version BL04S is 2 x 2.4 m = 4.8 m
- Board spacing: 80 mm
- Can be separated at any point between the individual boards for white, blue and green
- 1 chain consisting of 30 boards connected with flexible cable
- Mounting holes (∅ 4 mm) in the boards enable them to be installed easily with screws for standard pc boards
- The modules can only be connected in parallel
- The boards are coated to protect against condensate



Current data sheets, product references and product numbers can be found on the internet at www.osram.com
1) All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.



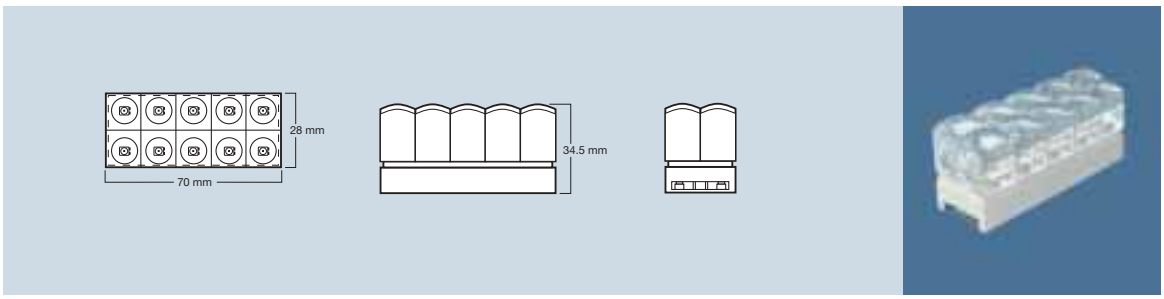
Product reference	Product number	COLOR		λ 1)	K 1)		V	A 1)	W 1)	
COINlight®										
CM01E-W2-854	4008321**040107**	white	9	–	5400	120	24	0.05	1.2	25
CM01E-A1	4050300**857534**	red	9	617	–	120	24	0.05	1.2	25
CM01E-Y1	4050300**947938**	yellow	9	587	–	120	24	0.05	1.2	25
CM01E-T2	4008321**132642**	green	9	525	–	120	24	0.05	1.2	25
CM01E-B1	4050300**947891**	blue	9	470	–	120	24	0.05	1.2	25

Other data (valid for all types):
Photometric data: current values as per data sheet
Operating temperature: –30 to +75 °C, +85 °C at the T_C point
Outer diameter of module: d_1 = 33.5 mm, d_2 = 25.0 mm

COINlight®
COINlight® units are compact round LED modules. The LEDs are arranged in a circle formation on a fixed board. Light is emitted at the top. COINlight® is the preferred light source in marker lights for installation in walls and floors.

- COINlight® is perfectly matched to OSRAM OPTOTRONIC® electronic control gear
- Dimmable by pulse width modulation (PWM) with the aid of OT DIM electronic control gear
- The modules can only be connected in parallel
- Available in LED colours white, blue, green, red and yellow
- Wide beam angle of 120°
- Connected with screw terminals

Current data sheets, product references and product numbers can be found on the internet at www.osram.com
1) All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.



Product reference	Product number	COLOR		λ [1]		V	A [1]	W [1]	
EFFECTlight									
WL01B-A1	4008321**909855**	red	10	617	4	24	0.055	1.44	10
WL01B-Y1	4008321**909862**	yellow	10	587	4	24	0.055	1.32	10
WL01B-V1	4008321**909879**	verde	10	505	4	24	0.058	1.4	10
WL01B-B2	4008321**909886**	blue	10	469	4	24	0.058	1.4	10

Other data (valid for all types):
Photometric data: current values as per data sheet
LED arrangement per module: 5 x 2 LEDs with attached optics
Dimensions of LED module: (L x W x H) 70 x 28 x 34.5 mm
Operating temperature: –30 to +65 °C at the Tc point

EFFECTlight
EFFECTlight is used as an extremely narrow-beam LED module for lighting effects on facades, walls, columns and arches.

- Very high luminous intensity
- The modules are perfectly matched to OSRAM OPTOTRONIC® electronic control gear
- Dimmable by pulse width modulation (PWM) with OT DIM electronic control gear
- Up to 14 modules can be connected one after the other
- Simple connection possible with the OSRAM CONNECTsystem (see page 8.11)
- Combines very well with optical elements

Current data sheets, product references and product numbers can be found on the internet at www.osram.com
1) All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

LINEARlight LED kit

Product reference	Product number	COLOR	K	λ	∠°	V	A	W	
LINEARlight LED kit									
LEDKIT-LM3-W	4008321**051790**	white	5400	–	120	10	0.4	4.0	10
LEDKIT-LM3-A	4008321**051813**	red	–	617	120	10	0.4	4.0	10
LEDKIT-LM3-B	4008321**051776**	blue	–	470	120	10	0.4	4.0	10

LINEARlight LED kit contents:
3 x OS-LM01A, 1 x OS-LM2PIN, 2 x OS-LM-CONN, 1 x OS-OP4 x 1-20, 1 x OT 12/230-240/10

The LINEARlight LED kit from OSRAM is a complete LED system for the flexible design of innovative lighting solutions.

- Three LINEARlight modules in one colour, each divisible into as many as eight subunits
- Up to 1.35 m of high-intensity LED light
- Simple connection with the OSRAM LED CONNECTsystem
- Electronic transformer
- Power input: 4 W per LINEARlight module

Step 1

Step 2

Flexible connector

Rigid connector

Step 3

Step 4

Please read the operating instruction and safety information carefully before installing.

- LINEARlight Optics for a beam angle of 20° (white 26°) and mechanical contact protection (samples enclosed)
- Other accessories: Flexible connector for angled arrangement of the modules; see CONNECTsystem

Applications:
Marker lights, effects, decoration, illuminated signs and much more.

Want to make your own attractive LED strips? No problem with the LED kit!

Step 1
Insert the feeder into the LED module. The black cable is connected to the negative terminal, and the red cable to the positive terminal.

Step 2
Connect the modules to one another with the connectors supplied (proper connections are assured). Flexible connectors – available as accessories – enable different shapes and angles to be made.

Step 3
With the "Optics" element (also available as an accessory) the beam angle can be reduced from 120° to 20-26° so that the direction of the light is ideal for particular applications (wallwasher effects for example). The optics also provide physical protection against dust and contact.

Step 4
Connect the feed cable and mains cable to the OPTOTRONIC® control gear, as specified, and your LED light is ready. LINEARlight LED kit systems can be used in any combination.

Current data sheets, product references and product numbers can be found on the internet at www.osram.com

1) All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values.

DRAGONeye®

IP65 protected compact mini light with a high-flux LED
Integrated M10 thread for simple installation
Basic dimensions of DRAGONeye® H: 25 mm, ∅: 22 mm
Supply current 350 mA
Two-core connecting cable 200 mm with open cable ends

DRAGONpuck®

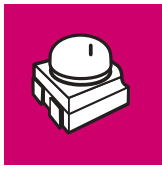
Compact high-intensity LED light source with 3 high-flux Golden DRAGON® LEDs and effective optical system
Very low profile, same diameter as QR CB lamps
Basic dimensions H: 12 mm ∅ 35 mm
M3 screw fixing
Supply current 350 mA
Two-core connecting cable 200 mm with open cable ends

DRAGONtape®

6 high-flux series-connected Golden DRAGON® LEDs on a flexible dividable pcb substrate
Self-adhesive backing for simple installation
Dimensions of DRAGONtape® (L x W x H): 150 mm x 25 mm x 2 mm
Basic dimensions of smallest unit (L x W): 25 mm x 25 mm
Can be split into units of 1 to 6 LEDs
Supply current 350 mA
Contact is made by soldering two wires on the selected unit

LINEARlight POWER Flex

Compact and powerful light source
Dimensions of overall module (L x W x H): 2,800 mm x 10 mm x 3 mm
Basic dimensions of smallest unit with 6 LEDs (L x W): 140 mm x 10 mm
Can be divided into units of 6 LEDs or multiples thereof with no loss of function for the parts
Supply voltage 24 V DC
Can be connected to the front of the module or at the division points
Flexible board with self-adhesive backing



LINEARlight Flex® LM10A

Linear LED structure on flexible circuit board, ready for connection
Self-adhesive back
LED raster 14 mm
Can be separated at intervals of 140 mm with no loss of function for the parts
Overall length 8400 mm
Equipped with 600 OSRAM Power TOPLED®
Colours blue, yellow, green, red and white
Supply voltage 24 V DC
Connected by soldering cables

LINEARlight Flex® LM11A

Linear LED structure on flexible circuit board, ready for connection
Self-adhesive back
LED raster 14 mm
Can be separated at intervals of 56 mm with no loss of function for the parts
Overall length 4,200 mm
Equipped with 300 OSRAM SIDELED®
Colours blue, yellow, green, red and white
Supply voltage 24 V DC
Connected by soldering cables

LINEARlight LM01A

Linear LED structure on rigid circuit board, ready for connection
LED raster 14 mm
Can be separated at intervals of 56 mm with no loss of function for the parts
Overall length 448 mm, width 10 mm
Equipped with 32 OSRAM Power TOPLED®
Colours blue, yellow, green, red and white
Supply voltage 10 V DC
Connected by solder or OSRAM CONNECTsystem
Complete modules or parts can be interconnected

CONNECTsystem for LINEARlight and EFFECTlight

Simple connection of LINEARlight LM01A and EFFECTlight WL01B modules with feeders and connectors
Coded to prevent polarity reversal
Tested to IEC 60512 (shock and vibration tests)

LINEARlight Optics OP4x1-20

Additional optics for OSRAM LINEARlight LM01A
Reduction in LED beam angle from 120° to 25° for white LEDs and 20° for coloured LEDs
Creates an illuminated surface
Lens adapted to LED spacing of 14 mm
Can be mounted on LINEARlight, no tools required
Length 56 mm, width 12 mm, height incl. LINEARlight 11 mm

LINEARlight Colormix LM01M-RGB

Linear RGB LED structure on rigid circuit board, ready for connection
Each LED contains one blue, one green and one red chip (RGB)
LED raster 15 mm
Can be separated at intervals of 150 mm with no loss of function for the parts
Overall length 450 mm, width 11.5 mm
Equipped with 30 OSRAM MULTILED®
Supply voltage 24 V DC
Connected by solder or OSRAM CONNECTsystem

CONNECTsystem for LINEARlight Colormix

LM-4PIN feeder for connecting to the control gear
LM-4-CONN-45 cable connector for flexible connection of two LINEARlight Colormix units
LM-4PIN feeder and LM-4CONN-45 connector with colour-coded cables
Dynamic colour applications
Can be connected to the front of the module or at the division points
Tested to IEC 60512 (shock and vibration tests)

LINEARlight Colormix Flex LM10L-RGB

Linear RGB LED structure on flexible circuit board, ready for connection
Self-adhesive back
Each LED contains one blue, one green and one red chip (RGB)
LED raster 15 mm
Can be separated at intervals of 150 mm with no loss of function for the parts
Overall length 4,200 mm, width 11.5 mm
Equipped with 280 OSRAM MULTILED®
Supply voltage 24 V DC
Connected by solder

BACKlight LM03A

1 chain consisting of 8 boards connected with flexible cable
Dimensions of single board (L x W x H) 30 mm x 30 mm x 4 mm
Overall length of the chain depending on the spread of the cables 240 mm to approx. 550 mm
Can be separated at any point between the individual boards
Colours: super red, red, orange, yellow, green, blue and white 5400 and 6500 K
Up to three chains can be connected one after the other
Coated to protect against condensate
The modules are perfectly matched to OSRAM OPTOTRONIC® electronic control gear

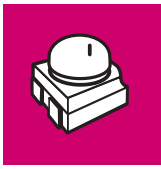
BACKlight BL02

1 roll contains 2 LED chains
Up to two LED chains can be connected one after the other with mid-feed on an OT 50
The maximum overall length for version BL02S is 2 x 4.8 m = 9.60 m
The maximum overall length for version BL02L is 2 x 7.2 m = 14.40 m
Supply voltage 10 V DC
1 chain consisting of 60 boards connected with flexible cable
Mounting holes (∅ 4 mm) in the boards enable them to be installed easily with screws for standard pc boards

BACKlight BL04

Uniform high-intensity backlighting of any shapes
1 roll contains 2 LED chains
Up to two LED chains can be connected one after the other with mid-feed on an OT 50
The maximum overall length for version BL04S is 2 x 2.4 m = 4.8 m
The maximum overall length for version BL04L is 2 x 3.6 m = 7.2 m
Supply voltage 10 V DC
1 chain consisting of 30 boards connected with flexible cable
Mounting holes (∅ 4 mm) in the boards enable them to be installed easily with screws for standard pc boards

COINlight® CM01E



Compact round LED modules
Available in LED colours white, blue, green, red and yellow
Connected with screw terminals
Supply voltage 24 V DC
33 mm diameter
9 OSRAM Power TOPLED® LEDs

EFFECTlight WL01B

Narrow-beam LED module with 4° beam angle
LED in 5*2 raster with add-on optics
Height 34.5 mm, length 70 mm, width 28 mm
Connected by solder or OSRAM CONNECTsystem

LINEARlight LED kit

Complete LED system for the flexible design of innovative lighting solutions
Three LINEARlight modules in one colour, each divisible into as many as eight subunits
Up to 1.35 m of high-intensity LED light
Electronic transformer
Power input: 4 W per LINEARlight module
LINEARlight Optics for a beam angle of 20° (white 26°) and mechanical contact protection (samples enclosed)
Supply voltage 10 V DC
Simple connection with the OSRAM LED CONNECTsystem