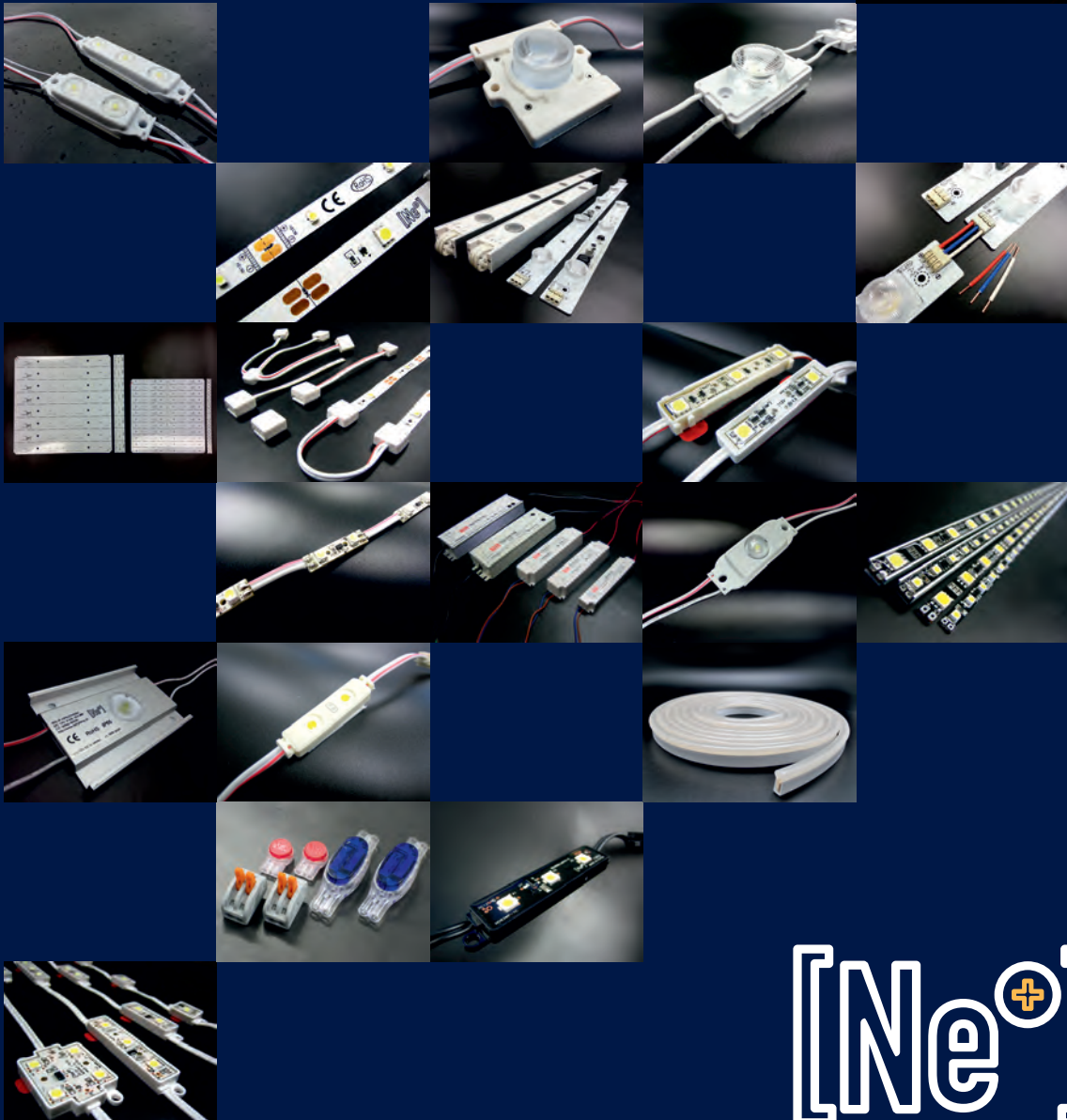


Eurocom-Inc.  
*Light years ahead!*

# LED

Systems for  
Signage, Architecture, and Design



[Ne<sup>+</sup>]

**NP Lighting Gruppe**

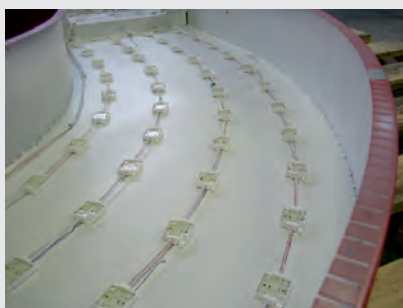
*Light years ahead!*

## LED Systems for Signage Applications

The most common LED lighting technology for use in signage are described below. LED lighting solutions are available for both interior (dry) locations as well as exterior (wet) locations. All products shown are available directly through Eurocom.

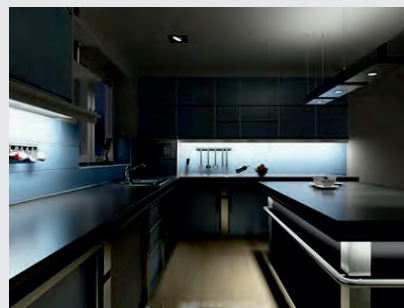
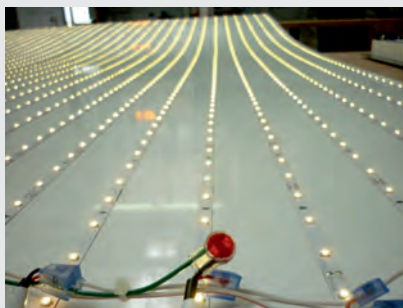
### LED Moduls for Channel Letters

LED modules in chain arrays are the most commonly used product for illuminating channel letters. Thanks to their high flexibility they are optimally suited for placement along the round and straight runs of channel letters.



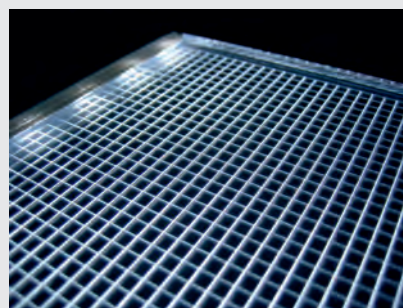
### LED Strip Lights or Tape Lights

LED strip lights are flexible tapes typically sold per roll. You can easily create very long straight runs of light. LED strip lights are not so well suited for rounds, this needs to be taken into account during the planning process of your lighting installation. You will commonly find these LED strips illuminating kitchen and bathroom counters, closets, trade show booths, long contours to name a few applications.



### LED Line Bars for Edge- and Cove Lighting

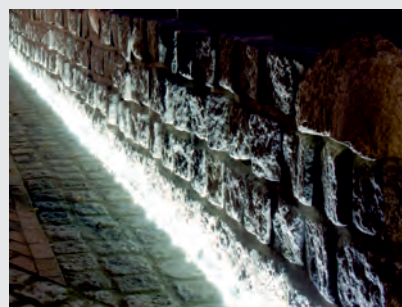
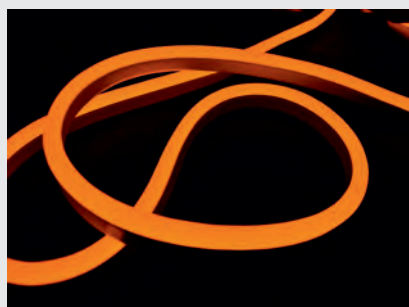
Their small profile and enormous light output make LED light bars optimally suited for edge lighting applications such as light guide panels. These create a very flat area lighting to illuminate posters, information panels, or fast food store menus. NP Lighting has further developed these light bars to come fitted with very tightly binned warm white LEDs for architectural lighting applications such as cove lighting. These light bars are also available with RGB LEDs.





## LED Flextube

The LED Flextube is probably the LED technology that comes closest to simulating the look (if not the feel) of neon tubing. Their flexibility, form, and available colors open a wide range of new lighting possibilities for lighting designers and architects. The mushroom shaped PVC dome on top creates a light viewing angle of 270° and a light output angle of 160° thus creating a three dimension lighting effect. Building contours, light sculptures, store- and bridge lighting etc. are only some of the possible applications.



## ED-LED Poster Box Lighting Solutions

The ED-LED system was designed for the indirect illumination of light-box systems. They are installed in line along the frame of the light box. Thanks to their special lens the light is distributed fan-like into the light box. Their main advantage is the simplicity and speed with which they can be installed in a box. However, they do not provide the brightness levels achieved by the MX-LED boards. Depending on the build of the light-box, box width of 2.4" are feasible. ED-LED systems are especially suited for double sided light boxes as they illuminate both front and back simultaneously. This saves both time and money.



## Online Tools

In order to help you calculate the correct amount of LED products required for your application as well as calculating the voltage drop across various types of wire gauge we have programmed an online tool to do the work for you. You can reach it here:

<http://www.eurocom-inc.com/nptoolbox/index.php>

[illegible]

## LED Toolbox

Rechner

LED-Produkte

LED-LEIST.

LED-LEB.

Spannungsverlust

Rechner

# Leitungswiderstand und Spannungsverlust Kalkulator

(für ein Kabel mit zwei Adern z.B. 2x1 und 2x2) sowie der Segmentanzahl  $x$  gemessen werden:

$R = R \cdot L$   
 Widerst.


$U = U \cdot L$   
 Spannungsverlust

(1 = Produktkoeffizient zwischen zwei Zahlen, der die Leitung  
 2 = Strom durch die Leitung  
 R = gemessener Widerstand zwischen den beiden Punkten des Produktkoeffizienten

(Die Spannungsverluste bei unterschiedlicher Querschnitts- und Länge der Leitung, die es um zu anderen umfassen, werden die Leitung, um zu können der Leistung.)

(Diese Tabelle dient auch der ersten bis 10000 Segmenten Wertes Querschnitts.)

Anschlossene Kabel Länge			Anschlossene Kabel Querschnitt		Spannungsverlust bei 10000 Segmenten	
Segment	Querschnitt	Spannungsverlust	Spannungsverlust	Spannungsverlust	Spannungsverlust	Spannungsverlust
10	0,14	1,45	0,14	0,14	1,45	1,45
20	0,14	1,45	0,14	0,14	1,45	1,45
30	0,14	1,45	0,14	0,14	1,45	1,45
40	0,14	1,45	0,14	0,14	1,45	1,45
50	0,14	1,45	0,14	0,14	1,45	1,45
60	0,14	1,45	0,14	0,14	1,45	1,45
70	0,14	1,45	0,14	0,14	1,45	1,45
80	0,14	1,45	0,14	0,14	1,45	1,45
90	0,14	1,45	0,14	0,14	1,45	1,45
100	0,14	1,45	0,14	0,14	1,45	1,45



**NEO**  
Light goes ahead!

**LED Modules:** Once you enter the dimensions of a light box such as length, height, and depth the software will generate a LED placement chart as well as all the relevant electrical data such as power consumption, Lumen per square foot, etc.

**Voltage Drop:** Here you can enter the desired cable length as well as the power level of your application. The software will then calculate the voltage drop across various wire gauges and so help you determine the type of wire that is best for your project.

Should you require further technical support please do not hesitate to contact us.

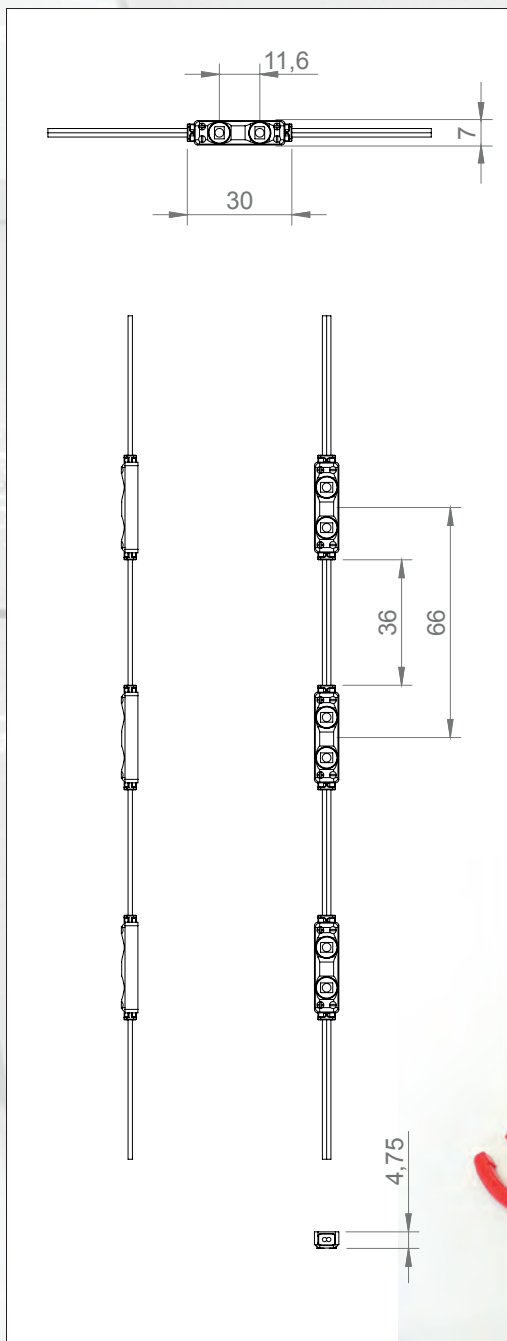
# LED Module MINI

## Technical Data

**Eurocom-Inc.**  
Light years ahead!



- Very Small Size
- High Light Output
- Constant Current Regulation
- Ingress Protection 66
- Professional Design
- For Flat Channel Letters
- For Small Width Letters
- Dry and Wet Locationi
- SMD Technology
- L70 Life of 30.000 hours
- CE and UL



### Technical Data

System Type	flexible LED-Chain
Colors	White 6500°K, other colors on request
LED Type	2x 1-Chip SMD 3528
Lumen per module	14 Lumen
Beam Angle	120°
Connection	12V DC, Parallel
Performance/module	0,3W
Current consumption	25mA
Life expectancy @ 25°C/45% rF	30.000h
Ingress Protection	IP65
Control Options	dimmm- and toggle
Fixing Options	Double sided tape
Operating Temperature Range	-25°C up to +60°C
Storage Temperature Range	-25°C up to +70°C
Dimensions (LxWxH)	30 x 7 x 4.8mm
Module Center Distances	variable, max. 66mm
LED minimum stretch	11,6mm
No. Modules/Chain	50
Cut Points	Every module
Max. no. Modules/branch	50
Wire Length (module2module)	36mm



We reserve the right to make technical changes without notice.



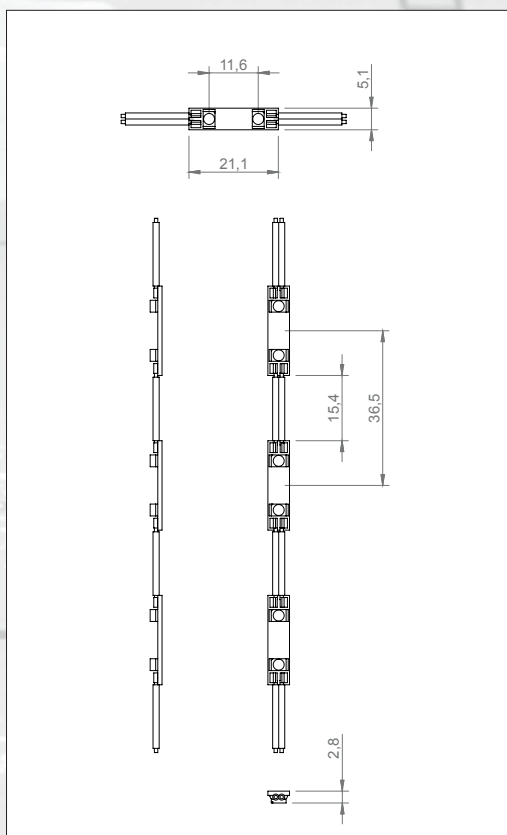
# LED Module MINI

## Technical Data

**Eurocom-Inc.**  
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- Very Small Size
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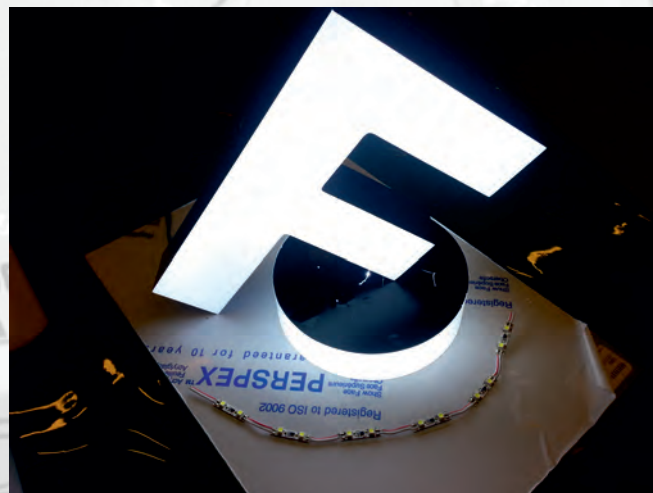


12V DC CE RoHS PWM CONSTANT CURRENT CONTROL IP00

### Technical Data

System Type	flexible LED-Chain
Colors	White 6500°K, other colors on request
LED Type	2x 1-Chip SMD 3528
Lumen per module	14 Lumen
Beam Angle	120°
Connection	12V DC, Parallel
Performance/module	0,3W
Current consumption	25mA
Life expectancy @ 25°C/45% rF	30.000h
Ingress Protection	IP00
Control Options	dimmm- and toggle
Fixing Options	designed for cast letters
Operating Temperature Range	-25°C up to +60°C
Storage Temperature Range	-25°C up to +70°C
Dimensions (LxWxH)	21.1 x 5.1 x 2.8mm
Module Center Distances	variable, max. 36.5mm
LED minimum stretch	11,6mm
No. Modules/Chain	50
Cut Points	Every module
Max. no. Modules/branch	50
Wire Length (module2module)	16mm

Due to the many possible processing errors we do not assume any warranty for the product once cast!



Data shown is approximate and subject to technical change without prior notice.

# LED Module COLOSSUS

## Technical Data

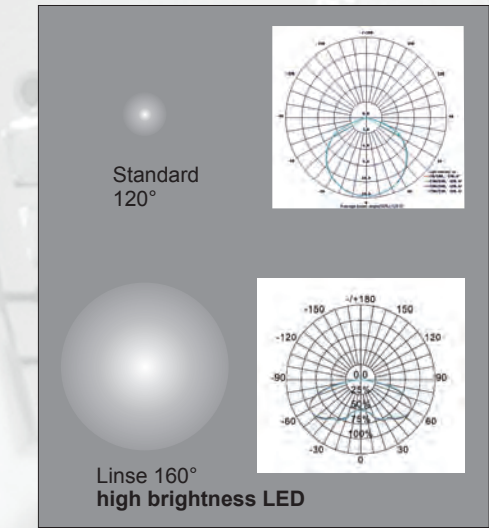


Module: WA-IP-HP9-01W65K

The perfect solution for retrofitting fluorescent based Light-boxes with energy efficient LED technology!

- Wide beam angle lens
- Simple and quick installation
- Colossal brightness
- Constant current controlled
- High quality Al housing and heatsink
- High ingress protection (IP65)
- Professional design
- Low installation depth
- For large applications
- Outdoor rated
- COB technology
- Licensed patent protected LED
- Colossal Life (L70 = 50.000h)
- CE, UL

Beam angle & light distribution characteristics compared using a backlit acrylic sheet (topview):



### Colossus LED Module

The COLOSSUS LED modules come equipped with an optical lens designed to increase the beam angle of the LED chip from 120° to 160°. Together with its enormous light-output of 550 Lumen/module it lets you achieve tremendous savings in both installation time and consequently cost.

Installation Comparison at 8" depth  
(Lightbox 39"x39"):

Using standard LED modules with 120° beam angle:

LED module (3 LED/module) @ 50lm/module  
and C2C spacing of 5.5"  
7 x 7 = 49 modules (2450lm)

Using Colossus LED modules with 160°

C2C spacing of 19.7"  
2 x 2 = 4 modules (2200 Lumen)



### Technical Data

System type	flexible LED-chain
Colors	White 6.500°K , White 3.000°K
LED Type	COB (Chip on board)
Light Output	550 Lumen
Beam Angle	160°
Circuit Type	12V DC, Parallel
Power Consumption/Module	9,5W
Current Rating	790mA
Rated Life @ 25°C / 45% rF	50.000h
Ingress Protection	IP65
Control Options	dim- and toggle
Connection Options	Double sided tape, pop rivet
Operating Temperature	-25°C upto +60°C
Storage Temperature	-25°C upto +70°C
Dimensions (LxWxH)	80 x 62 x 8mm
Module Distance (C2C)	variable, max. 600mm
Minimum Order Quantity	10 modules
Cut Positions	every module
Max. no. Modules/branch	10 modules
Cable Length (module2module)	520mm

The modules need to be attached to metallic substrates such as sheet metal in order to guarantee proper heat dissipation!

Layout example for homogenous illumination:  
(using a white banner)

C2C Spacing = Depth x 2...2.5

Installation depth - C2C spacing - luminance density using white banner:

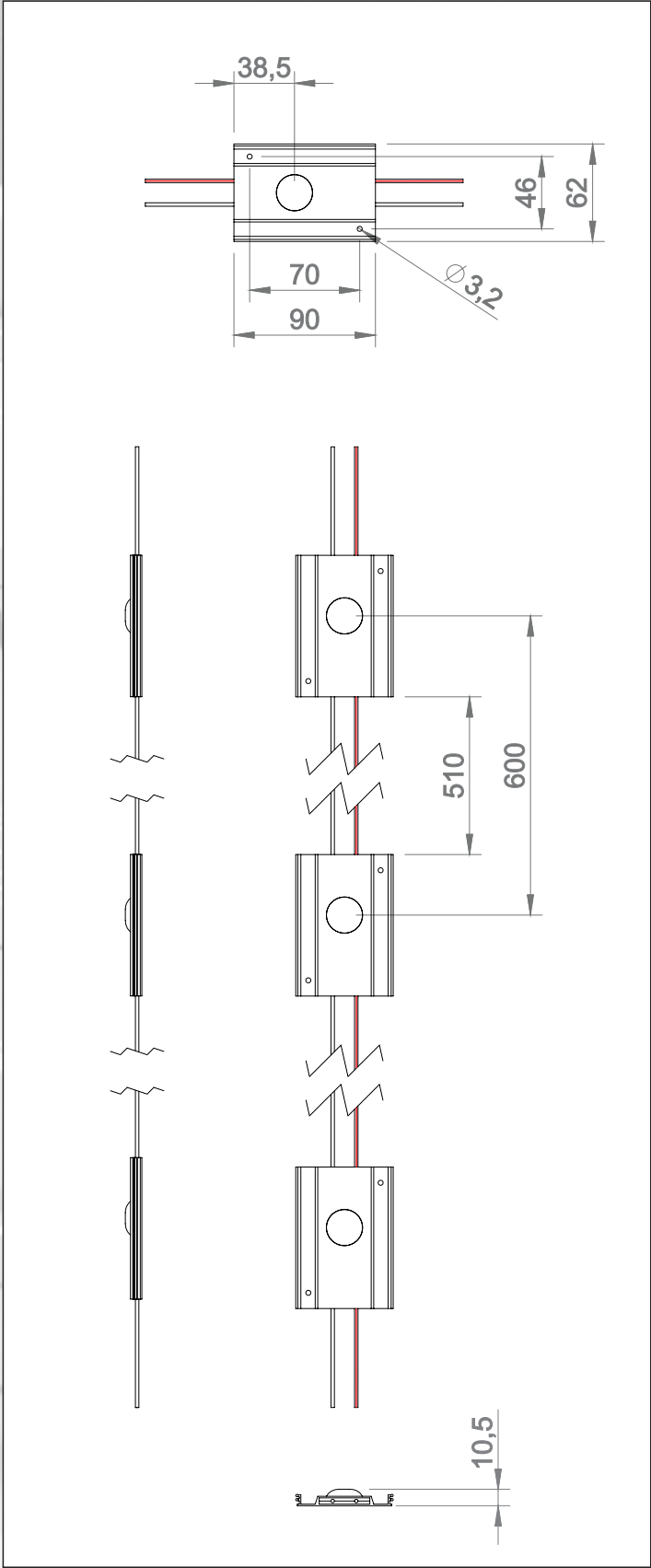
Depth	Layout	Candela	Layout (i.e. 6.6' x 6.6')
12"	1.65" x 1.95"	ca. 400cd/m²	4 Rows with 3 modules = 12 Pcs.
10"	1.65" x 1.65"	ca. 450cd/m²	4 Rows with 4 modules = 16 Pcs.
7.8"	1.65" x 1.65"	ca. 500cd/m²	4 Rows with 4 modules = 16 Pcs.
7"	1.30" x 1.30"	ca. 570cd/m²	5 Rows with 5 modules = 25 Pcs.
6.2"	0.95" x 0.95"	ca. 650cd/m²	6 Rows with 6 modules = 36 Pcs.

All technical data subject to change without notice.



# LED Module COLOSSUS

## Technical Drawing



All technical data subject to change without notice.

# LED Module EAGLE

## Technical Data



- Very Bright - 35 / 70 / 105 Lumen
- 160° Lens for Wide Beam Angle
- High Efficiency - 97 Lumen/W
- Professional Design
- Compact Form
- Simple to Install
- Indoor and Outdoor Rated (IP65)
- Constant Current Regulation
- SMD Technology
- Licensed Patent Protected LED
- L70 Lifetime of 50.000h
- CE and UL Certified/Recognized



### General Technical Information

System Type	flexible LED chain
Colors	White 7100°K
Cut Positions	every module
Ingress Protection	IP65
Circuit Type	12 V DC, Parallel
Beam Angle	160°
Input Voltage	11,4 - 15,0 V
Operating Temperature	-13°F to +140°F
Storage Temperature	-13°C to +158°F
Programmable Options	dim and toggle
Connections Options	Pop rivet or 3M Tape

### Technical Data

#### Application

No. LED/Module  
LED Distance  
Power Consumption  
Current  
Module Dimensions (LxWxH)  
Module Distance (C2C)  
No. Modules/Package  
No. Modules/Branch

#### WA-IP-01

Channel Letters < 16"  
Light Boxes  
Min. Depth > 2.5"

1x 3-Chip SMD 2835  
-  
0,36W  
30 mA  
1.7" x 0.6" x 0.39"  
variable, max. 4.7"  
50  
75

#### WA-IP-02

Channel Letters > 16"  
Light Boxes  
Min. Depth > 3.3"

2x 3-Chip SMD 2835  
1"  
0,72W  
60 mA  
2" x 0.6" x 0.39"  
variable, max. 5.9"  
50  
50

#### WA-IP-03

Channel Letters > 32"  
Light Boxes  
Min. Depth > 5"

3x 1-Chip SMD 2835  
0.8"  
1,2 W  
100 mA  
2.8" x 0.6" x 0.39"  
variable, max. 7.63"  
50  
25

Lightoutput/Module  
Order Number  
Color Rendering Index

35 lm  
WA-IP-01W71K120  
Ra>75

70 lm  
WA-IP-02W71K150  
Ra>75

105 lm  
WA-IP-03W71K194  
Ra>75

Lightoutput/Module  
Order Number

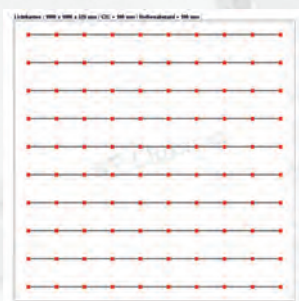
14 lm  
WA-IP-01R120

28 lm  
WA-IP-02R150



White  
7100K

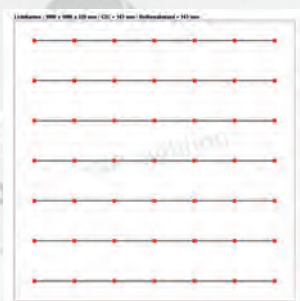
Red



Module with 120° Beam Angle:  
Depth: 5"  
10 x 10 = 100 Modules

Easier  
Installation

WA-IP-02



with 160° Lens:  
Depth: 5"  
7 x 7 = 49 Modules

Easier  
Installation

WA-IP-03

+ depth



with 160° Lens:  
Depth: 6.3"  
5 x 5 = 25 Modules

All technical data subject to change without notice.

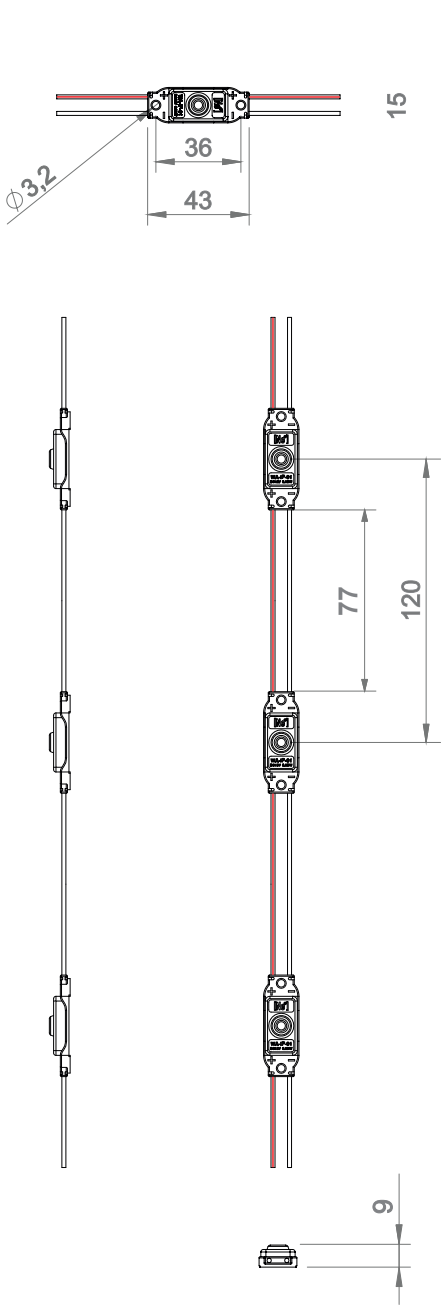


# LED Module EAGLE

Technical Drawing

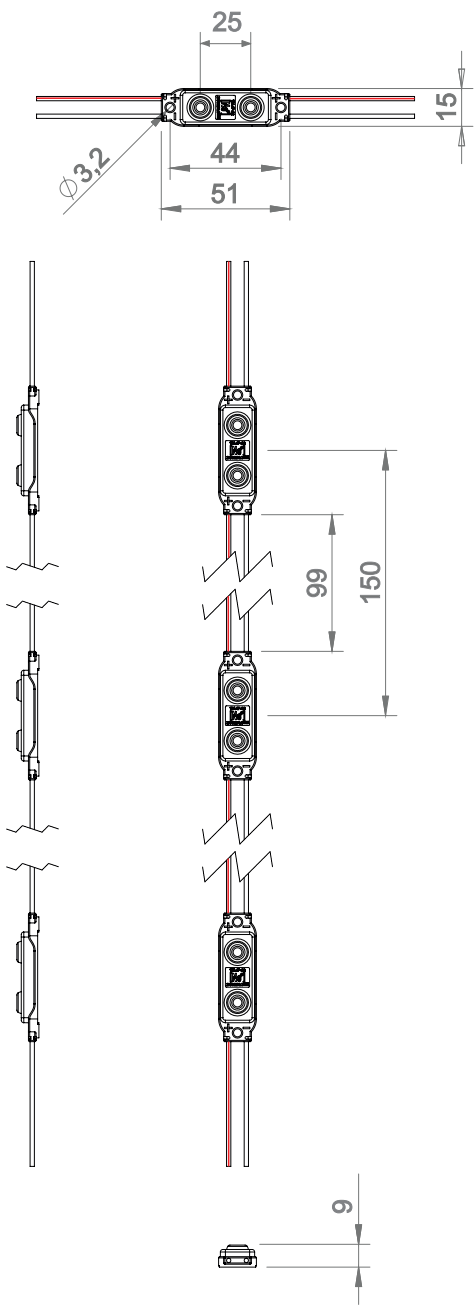
1 LED

WA-IP-01...



2 LED

WA-IP-02...

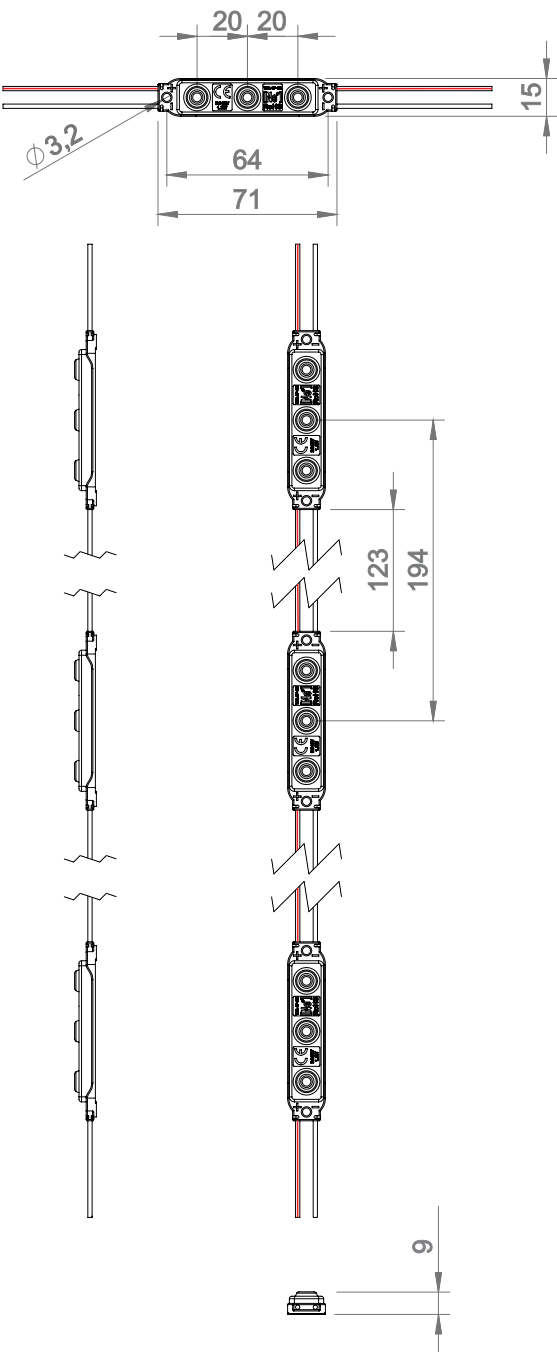


# LED Module EAGLE

Technical Drawing

3 LED

WA-IP-03...





# LED FLEXSTRIP

**Eurocom-Inc.**  
*Light years ahead!*

## Description



## Short Description

LED FLEXSTRIP are flexible LED tape lights fitted with a choice of TOP-LED SMD 3528, TOP LED SMD 5050, or SIDE-LED SMD 3806. They come with a choice of 30, 60, or 120 LEDs/meter (60LED/meter max for SMD5050).

The LED light strips are available in IP00 (dry location), IP64 (touch protection/dry location), and IP67 (wet location) for exterior applications.

The LED strips are delivered in rolls of 5m (16'5") and are fitted with a lead cable on one side.

## Application

The short distances between each LED make LED strip lights optimally suited for shallow light-boxes. Another application is the installation in u-shaped profiles in contour lighting applications. Due to their great flexibility one can also use the LED tape lights in rounds and frames of channel letters.

## Technology

The LED strip lights are operated using 12VDC constant current circuits. This allows you to cut them after each 3rd LED. 24VDC type LED strips are available on demand. These however can only be cut after each 6th LED.

The LED strips with SMD LED 5050 (except RGB) come with constant current controls. The guarantee a constant current and thus maximize the life expectancy of the LED strips.

The amperage limit of the circuitry as well as the voltage drop across the length of the strip limits the maximum length of each strip to 16'5" (5M).

## Installation

The IP00 version of the LED strips have been fitted with double sided 3M tape and can easily be attached to fat-free appropriate surfaces such as metal and plastic. The LED strips with IP66 rating can additionally be secured mechanically using the LED tape light mounts included in the packaging.

Please note that the IP67 version of the tape lights need to be resealed around the solder pads with silicone glue in order to maintain the IP67 rating once they have been cut.

## Colors

All LED strip lights are available in warm white (3000K), cold white (6500K), red, green, and blue as standard. The SMD5050 type is also available in RGB. Other temperatures and colors are available as special request.

## Dimming and Color Controls

All LED strips are both dimmable and controllable. We have a wide range of dimmers and controller on offer for this purpose ranging from remote controllable, KNX/EIB bus, to even DMX controls.

All technical data subject to change without notice.

# LED FLEXSTRIP

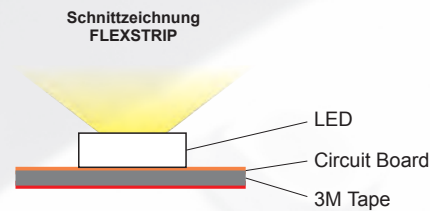
**Eurocom-Inc.**  
Light years ahead!

Ingress Protection / Beam Angle / LED Type

## IP Rating

### IP00

open  
dry location

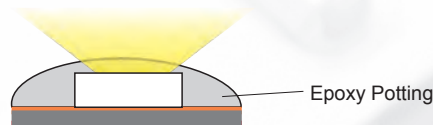


## Description

TOP-LED strips with an Ingress Protection of 00 are designed for **interior (dry location) applications**. They come with double sided 3M tape to make attaching them as simple as possible.

### IP60/64

touch protection  
dry/humid location

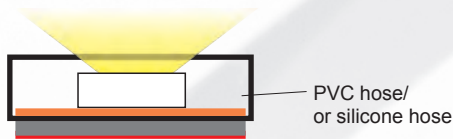


TOP-LED strips with an Ingress Protection of 60 are designed for interior applications. An epoxy resin provides protection from simple touch. They come with double sided 3M tape to make attaching them as simple as possible.

Special Form IP64: The encapsulation of the electronic components from the top with silicone provide limited suitability for exterior applications.

### IP65

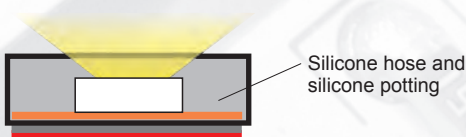
touch protection  
dry location  
limited wet location



TOP-LED with an Ingress Protection rating of 65 are for indoor and, to a limited extent, exterior use. A PVC hose is used for moisture protection or against accidental contact. These tape lights are available with or without 3M tape. Easy to use mounting brackets are available.

### IP67

wet location



TOP-LED strips with an Ingress Protection rating of 67 are designed for outdoor use (wet location). The LED strips are tightly sealed from all sides by a silicone hose and are thus permanently and reliably protected from environmental influences such as humidity and touch. The strips come with double sided 3M tape and mounting clips are available.

## LED Shape and Beam Angle

### LED SMD Size

#### SMD 0335

0.1W  
1-Chip  
120°



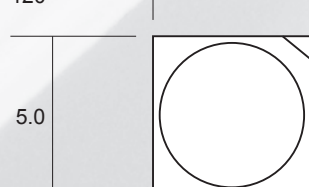
#### SMD 3528

0.08W  
1-Chip  
120°



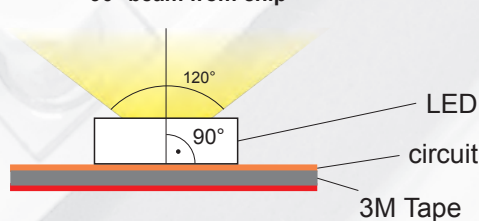
#### SMD 5050

0.24W  
3-Chip  
120°



### TOP LED

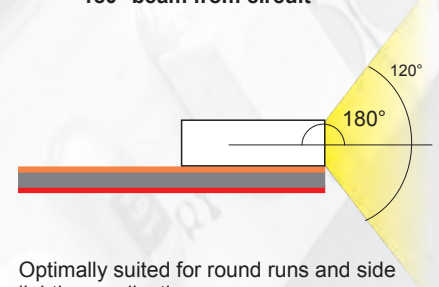
90° beam from chip



The optimal solution for back lighting and streight runs. For example in aluminum profiles or light boxes.

### Side LED

180° beam from circuit



Optimally suited for round runs and side lighting application.



All techical data subject to change without notice.





## Connectors for LED Strips

### Short Description

For interior applications we offer a simpel two-prong connector system that works with both the 8 and 10mm TOP LED strips. The connectors are specifically designed for the new LED tape lights with larger weld pad (all strips including the 60LED/M)

### Connector Options

The connectors are available in four variants:

**Single Connector**, for the connection of two pieces of tape

**Driver Connector**, designed to attach previously cut strips back to the LED power supply.

**Double Connector**, designed to easily connect two strips with one another. The distance between the strips can be up to 3"

**Triple Connector**, designed to easily connet three strips with one another. The distance betwenn each strip can be up to 3"

### Technical Data and Dimensions

The 2-pinn connectors are suitable for 12VDC up to 5A. The square connector measures 16mm edge to edge. The hight of the connector is 7,5mm ins compressed state. The cross-section of the the ribbon cable is 0,82 mm<sup>2</sup>.

The white plastic casing has been marked with a +/- to show the direction of the polarity. The insulation of the ribbon cable has been marked with a red stripe on one of the cables to show the + connection point.

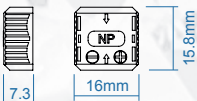
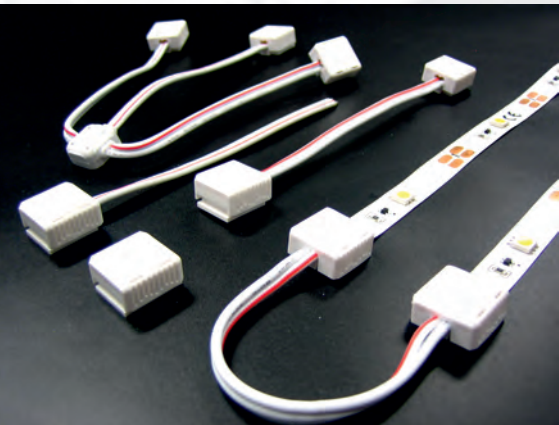
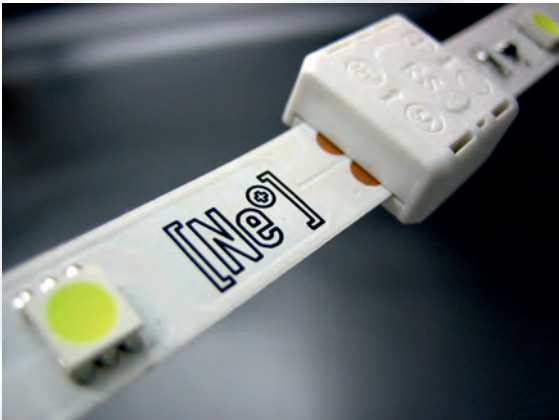


### Handeling

In order to attache the LED tape please remove approx. 1/2" of the 3M tape on the back. Then push the LED tape end into the terminal slot of the connector until it stops. Using parallel pliers press down hard on the connectors until the top is flush with the casing of the connector.

The soldering of the connections using the soldering pads should only be done by trained professionals in order to assure a fast and safe connection.

Product No.	Description	Width	U DC	Max. Current
SC-12S08	Single Connector for LED Strips	8mm	12 V	5A
SC-12A08	Driver Connector for LED Strips			
SC-12D08-2	Double Connector for LED Strips			
SC-12D08-3	Triple Connector for LED Strips			
SC-12S10	Single Connector for LED Strips	10mm	12 V	5A
SC-12A10	Driver Connector for LED Strips			
SC-12D10-2	Double Connector for LED Strips			
SC-12D10-3	Triple Connector for LED Strips			



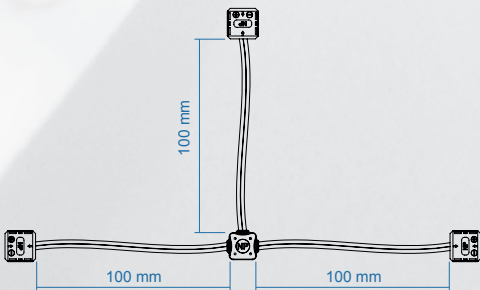
Single Connector



Driver Connector



Double Connector



Triple Connector

All techical data subject to change without notice.

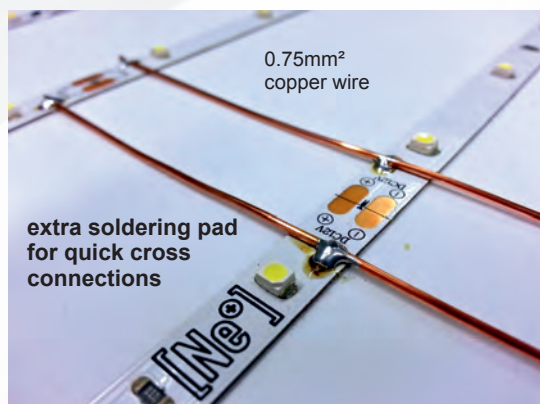
### Flexible LED Strip 12 V DC

(24V DC as special order)

The LED strips with IP00 are for interior applicationis (dry location) and can be attached using 3M tape.

The LED strips with IP67 are for interior (dry location) as well as exterior (wet location) applications and can be attached using mounting brackets.

The LED strips with IP64 with touch and limited humidity protection are also available and within limits suited for both interior as well as exterior locations (humid location).



#### Large Solderpads

Using LED strips to illuminate lightboxes is a very cost effective solution. However, compared to other lighting solutions it is also very time consuming.

It is especially difficult to solder the connections to the traditionally very small soldering pads of the LED tape lights. Only trained professionals achieve reliable connections at acceptable speeds.

We therefore increased the size of the solder-pads on all SMD3528 LED strips and SMD5050 strips with up to 60 LED/m 6 fold. This lets even inexperienced personnel create fast and reliable connections.

LED Beam Angle = 120° / white PCB / Strip Length 5 m = 1 roll

Product No.	Ingress Protection	Qty LED	LED Distance	Cut Position	Dim. (WxH)	Power	Luminous Flux	Color		Sales Unit	Connector Pad	Extra Pad
FS-CL-12T60W65KS	IP00	60/m	16,5mm	50mm	6x2,5mm	6,0 W/m	390 lm/m	White 6500K	W65	5m Roll	-	-
FS-CL-12T120W65KS	IP00	120/m	8,3mm	25mm	6x2,5mm	8,0 W/m	650 lm/m	White 6500K	W65	5m Roll	-	-
FS-CL-12T30W30K FS-CL-12T30W65K	IP00	30/m	33,3mm	100mm	8x2,5mm	3,0 W/m	180 lm/m 195 lm/m	White 3000K White 6500K	W30 W65	5m Roll	X	X
FS-CL-12T60W30K FS-CL-12T60W65K FS-CL-12T60R FS-CL-12T60G FS-CL-12T60B	IP00	60/m	16,6mm	50mm	8x2,5mm	6,0 W/m	360 lm/m 390 lm/m n.a. n.a. n.a.	White 3000K White 6500K Red Green Blue	W30 W65 R G B	5m Roll	X	-
FS-CL-12T120W30K FS-CL-12T120W65K	IP00	120/m	8,3mm	25mm	8x2,5mm	9,6 W/m	720 lm/m 780 lm/m	White 3000K White 6500K	W30 W65	5m Roll	-	-
FS-IPS-CL-12T30W30K FS-IPS-CL-12T30W65K	IP67	30/m	33,3mm	100mm	10x4,5mm	3,0 W/m	180 lm/m 195 lm/m	White 3000K White 6500K	W30 W65	5m Roll	X	X
FS-IPS-CL-12T60W30K FS-IPS-CL-12T60W65K FS-IPS-CL-12T60R FS-IPS-CL-12T60G FS-IPS-CL-12T60B	IP67	60/m	16,6mm	50mm	10x4,5mm	6,0 W/m	360 lm/m 390 lm/m n.a. n.a. n.a.	White 3000K White 6500K Red Green Blue	W30 W65 R G B	5m Roll	X	-
FS-IPS-CL-12T120W30K FS-IPS-CL-12T120W65K FS-IPS-CL-12T120R FS-IPS-CL-12T120G FS-IPS-CL-12T120B	IP67	120/m	8,3mm	25mm	10x4,5mm	9,6 W/m	720 lm/m 780 lm/m n.a. n.a. n.a.	White 3000K White 6500K Red Green Blue	W30 W65 R G B	5m Roll	-	-

All techical data subject to change without notice.



## Flexible LED Strips 12 V DC

(24V DC available on demand)

The LED strips with IP00 are for interior applicationis (dry location) and can be attached using 3M tape.

The LED strips with IP67 are for interior (dry location) as well as exterior (wet location) applications and can be attached using mounting brackets.

The LED strips with IP64 with touch and limited humidity protection are also available and within limits suited for both interior as well as exterior locations (humid location).

LED Beam Angle= 120° / white PCB

FS-HI-12T30W30KC FS-HI-12T30W65KC FS-HI-12T30RGB	IP00	30/m	33,3mm	100mm	10x2,5mm	7,2 W/m	360 lm/m 390 lm/m n.a.	White 3000K White 6500K RGB	W30 W65 RGB	5m Roll	X - -	- - -
FS-HI-12T60W30KC FS-HI-12T60W65KC FS-HI-12T60RGB	IP00	60/m	16,6mm	50mm	10x2,5mm	12,0 W/m 14,4 W/m	720 lm/m 780 lm/m n.a.	White 3000K White 6500K RGB	W30 W65 RGB	5m Roll	X - -	- - -
FS-IPS-HI-12T30W30KC FS-IPS-HI-12T30W65KC FS-IPS-HI-12T30RGB	IP67	30/m	33,3mm	100mm	12,5x5mm	7,2 W/m	360 lm/m 390 lm/m n.a.	White 3000K White 6500K RGB	W30 W65 RGB	5m Roll	X - -	- - -
FS-IPS-HI-12T60W30KC FS-IPS-HI-12T60W65KC FS-IPS-HI-12T60RGB	IP67	60/m	16,6mm	50mm	12,5x5mm	12,0 W/m 14,4 W/m	720 lm/m 780 lm/m n.a.	White 3000K White 6500K RGB	W30 W65 RGB	5m Roll	X - -	- - -

## Flexible LED Strip 12 V DC

(24V DC availbale on demand)

The LED strips with IP00 are for interior applicationis (dry location) and can be attached using 3M tape.

The LED strips with IP65 are suitable for both interior and exterior applications and are protected by a rectangular silicone hose, without tape.

Mounting clips and end caps are included in the package

LED Beam Angle= 120° / whitePCB / Strip Length5 m = 1 Roll

Product No.	Ingress Protection	Qty LED	LED Distance	Cut Position	Dim. (WxH)	Power	Luminous Flux	Color		Sales Unit	Connector Pad	Extra Pad
FS-CL-12S60W65K	IP00	60/m	16,6mm	50mm	6x1,5mm	4,8 W/m	200 lm/m	White 6500K	W65	5m Roll	-	-
FS-IPT-CL-12S60W65K	IP65	60/m	16,6mm	50mm	9x3,5mm	4,8 W/m	200 lm/m	White 6500K	W65	5m Roll	-	-

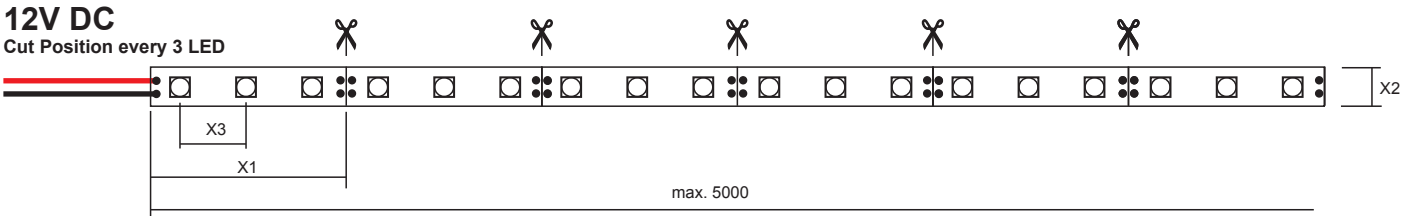
# TOP LED SMD 5050

# SideLED SMD 0335



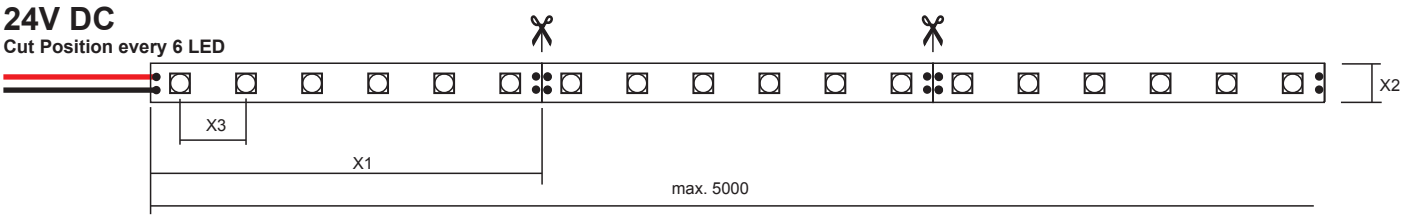
### 12V DC

Cut Position every 3 LED



### 24V DC

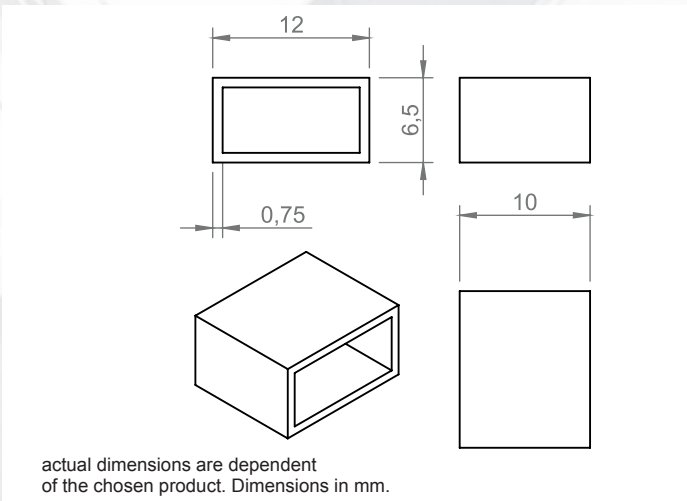
Cut Position every 6 LED



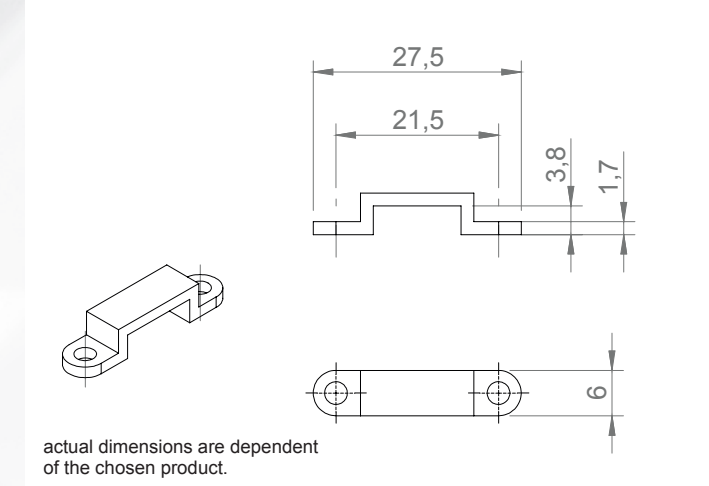
Exact dimensions are listed in table



Endcaps  
(included)



Mounting Brackets  
(included)

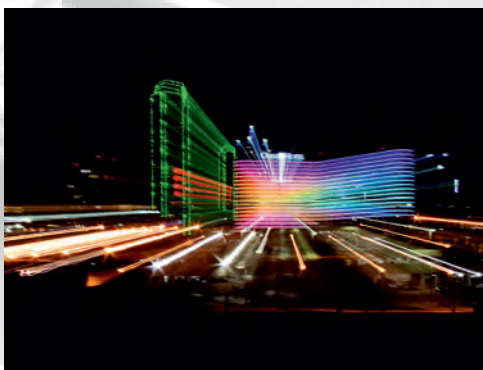
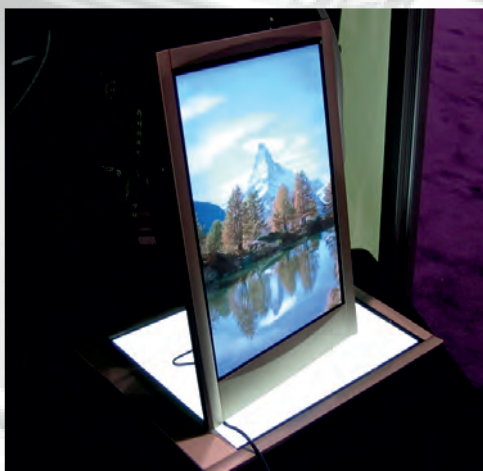


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# LED SLIM Light Bars

## Description



## Description

LETRO-LED Slimline Bars are line shaped electronic circuit boards available in two protection levels (IP00 and IP66) and two brightness levels to meet the individual needs of any application. The slim line bars are cuttable every 3 LEDs and can be daisy chained up to 5 times.

## Application

The slim line bars were developed with the light advertising industry in mind. They are optimally suited for the illumination of contours or installation in extremely flat surface lighting applications via edge-lighting (transparents, light boxes, illuminated frames, and ceiling floodlights). Due to its high protection class (IP66), the system is ideal for outdoor use and does not require additional boxing. A typical outdoor application would be wall flooders, where the bars are installed parallel to the facade.

## Technology

The LETRO SLIM LED strips are designed to work with power supplies that provide a constant voltage of 12VDC. The strips consist of several segments of 3 LEDs each, which are serially connected. The strips are divisible between each of these sections. Each segment has its own dedicated current controller providing the LEDs with a constant power supply and thus guaranteeing a long life.

## Mounting

With the help of a fine hacksaw, it is possible to separate the LEDs at every section point (every 3 LEDs) and to cut them to the desired length. Connecting the LED bar wires is simple and is done with the help of special gel filled crimp connectors (IP66). Stripping the cable ends is not necessary. When connecting several bars in series, we recommend doing a Y-circuit connection (see installation details). All light bars are fitted with 3M double sided tape for easy attachment to almost any surface.

## Colors and Multicolor LEDs (RGB)

The standard program consists of cool white (6500K), warm white (3500K), red, green, blue, and amber. Special colors and temperatures are available upon request. The LED strips are also available in a RGB version, though they differ slightly in dimension.

## DMX, PWM, and Lighting Control Systems

All light-bars are dimmable and switchable via PWM. For this we offer a comprehensive program of controllers that have been specially designed to provide flicker-free dimming when used in combination with control systems from Lutron and Levitron. Our RGB systems are compatible with DMX systems by Traxon/ECUE.

# LED SLIM Light Bars

HI SMD5050 / SMD5630



## Technical Data



### IP 00

Application:  
dry location  
Contour Lighting  
Edge Lighting  
Cove Lighting

### IP 66

Application  
wet location  
Contour Lighting  
Edge Lighting  
Cove Lighting

Length 48 inches

**2016 Lumen**  
(White 6500K)

System Type  
Ingress Protection  
Circuit Type  
Input Voltage max.  
current Consumption  
Power Consumption  
Rated Life @ 80°F 45% rF  
Dimensions (LxBxH)  
No. LED/Bar  
Beam Angle  
LED Grid  
Cut Positions  
Max. Length of Serial Setup  
Wire Cross Section  
Length Connector Cable  
Wire Ends  
Control Options  
Connection Options  
  
Insulation  
Operating Temperature  
storage Temperature  
Weight

#### LED Type Used

#### Recommended Power Supplies

rigid line bar  
IP00  
12 V DC, Parallel  
15 V DC  
1440 mA  
17,3 W  
30.000 h  
1200 x 6 x 3,5 mm  
72 LED  
120°  
16,7 mm  
every 3 LED (50mm)  
48"  
2-core AWG 20 (0,519 mm²)  
500 mm  
5 mm insulated  
dimm and toggle  
3M VHB tape  
(preinstalled)  
n.a.  
-4 up to +104 °F  
-4 bis +131 °F  
18 g

White  
1 Chip, SMD5630  
SAMSUNG LM561B

Colors / RGB  
3 Chip, SMD5050

12 V – LED PS  
Constant Voltage (CV)

rigid line bar  
IP66  
12 V DC, Parallel  
15 V DC  
1440 mA  
17,3 W  
30.000 h  
1203 x 8,2 x 4,8 mm  
72 LED  
120°  
16,7 mm  
every 3 LED (50mm)  
48"  
2-core AWG 20 (0,519 mm²)  
500 mm  
5 mm insulated  
dimm and toggle  
3M VHB tape  
(preinstalled)  
silicone  
-4 bis +104 °F  
-4 bis +131 °F  
42 g

White  
1 Chip, SMD5050  
SAMSUNG LM561B

Colors / RGB  
3 Chip, SMD5050

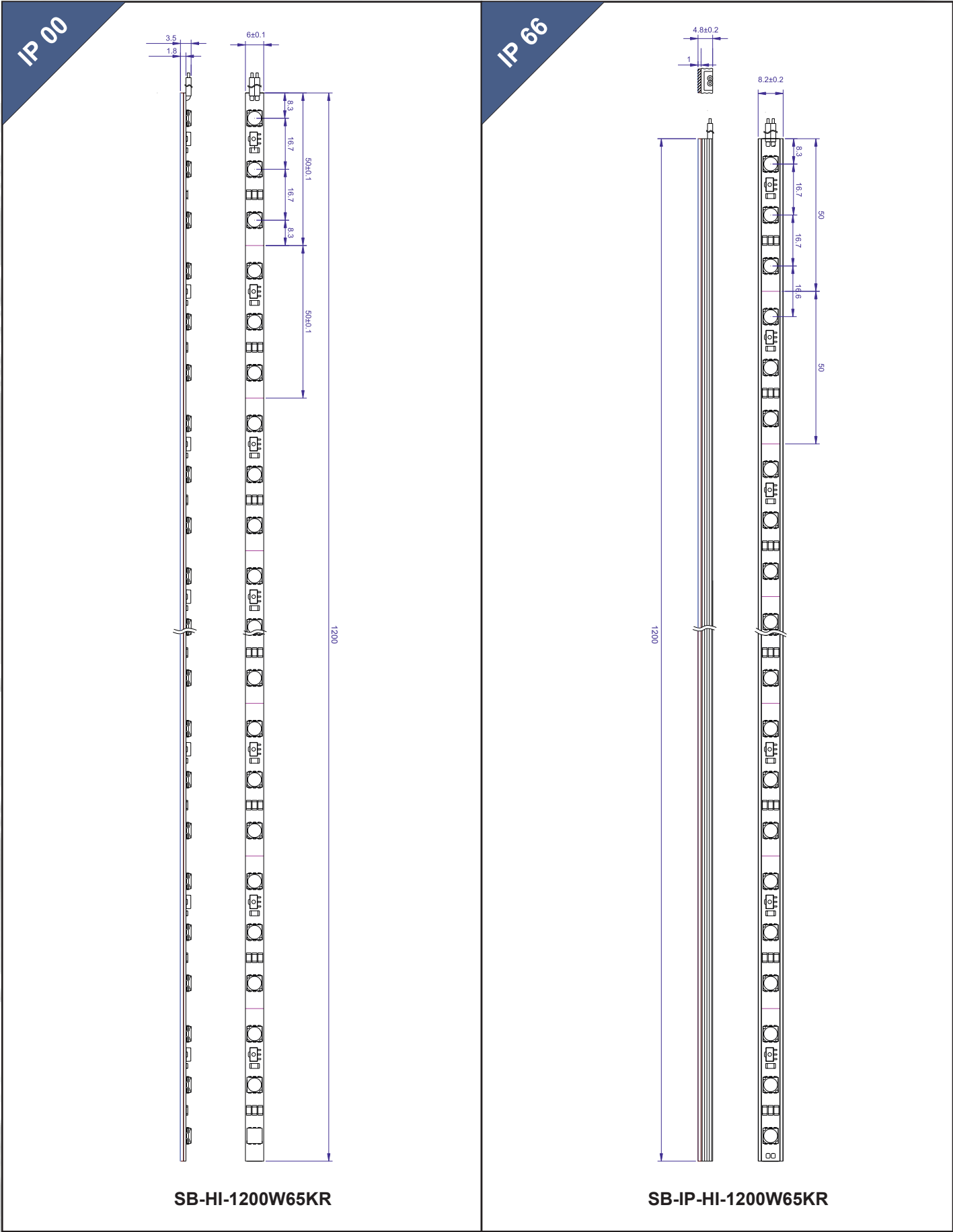
12 V – LED PS  
Constant Voltage (CV)

Color	Color Temp. Wavelength	Light Output	Color Rendering Index	Product No. IP00	Product No. IP66
White	6500 Kelvin	2160 lm	>80 : CRI	SB-HI-1200W65K	SB-IP-HI-1200W65K
Warm White	2700 Kelvin	2000 lm	>80 : CRI	SB-HI-1200W27K	SB-IP-HI-1200W27K
Colors/RGB available in 1000mm length					
Amber	595nm.	n.a.	n.a.	SL-HI-1200A	SL-IP-HI-1200A
Red	625nm.	n.a.	n.a.	SL-HI-1200R	SL-IP-HI-1200R
Green	525nm.	n.a.	n.a.	SL-HI-1200G	SL-IP-HI-1200G
Blue	465nm	n.a.	n.a.	SL-HI-1200B	SL-IP-HI-1200B
RGB	625/525/465nm	n.a.	n.a.	SL-HI-1200RGB	SL-IP-HI-1200RGB

All technical information is subject to change without notice.

# LED SLIM Light Bars

HI SMD5050 / SMD5630





# LED Flextube

## Description / Technical Data



### LED - Flextube FT

The LED Flextube is probably the LED technology that comes closest to simulating the look (if not the feel) of neon tubing. Their flexibility, form, and available colors open a wide range of new lighting possibilities for lighting designers and architects.

The mushroom shaped PVC dome on top creates a light viewing angle of 270° and a light output angle of 160° thus creating a three dimension lighting effect. Building contours, light sculptures, store- and bridge lighting etc. are only some of the possible applications.

With a center placement of the power supply you can achieve runs of up to 65 feet. The connector technology we developed for this product provide an ingress protection rating of IP68 making their application in outside and wet locations possible.

24V  
DC

CE

RoHS  
2002/95/EC

PWM

IP68

UL

#### Technical Data

System Type	LED - Neon Flextube
Colors	W, WW, R, G, B, RGB
Material	PVC UV-stabilized, Ivory - White or Colored
LED Type	3-Chip SMD 5050
LED Count	60 LED per Meter
Maximal Length - Operation	65" double electricity feed 33" single electricity feed
Beam Angle	270°
Circuit Type	24V DC, Parallel
Life Expectancy @ 25° 45% r.F.	50.000h
Ingress Protection Rating	IP68
Control Options	dim- und toggle
Attachment Options	Aluminum Fixture
Operating Temperature	-4°F bis +113°F
Dimensions	0.45" x 1.14"
Flexibility	Radius > 23"
Unit of Sale	1 Roll = 65'



Swimming Pool  
Installation at 3' depth



All data subject to change without notice.

# LED Flextube

## What's in the Box:

### Flextube - What's in the Box

Due to the scope of different sku's we only manufacture this product on demand and do not carry local stock. Please take this into account when planning your projects.

Also, the tube dose not come with connectors as standard. Please choose the appropriate accessories when ordering. We will be glad to help you put together all the items necessary for your project.



Artikel-Nr.	Lichtfarbe	Jacket Color	Cut Positions	Power	Brightness
FT-R-IP-24W57KT	White 5700K	Ivory- White	All 6 LED or 3.93"	12 W/m	app. 400 lm/m
FT-R-IP-24W27KT	Warm White2700K	Ivory- White	All 6 LED or 3.93"	12 W/m	app. 380 lm/m
FT-R-IP-24R	Red	Ivory- White	All 10 LED or 6.6"	7,2 W/m	n.a.
FT-R-IP-24O	Orange	Ivory- White	All 10 LED or 6.6"	7,2 W/m	n.a.
FT-R-IP-24A	Yellow	Ivory- White	All 10 LED or 6.6"	7,2 w/m	n.a.
FT-R-IP-24G	Green	Ivory- White	All 6 LED or 3.93"	12 W/m	n.a.
FT-R-IP-24B	Blue	Ivory- White	All 6 LED or 3.93"	12 W/m	n.a.
FT-R-IP-24RGB	RGB	Ivory- White	All 6 LED or 3.93"	12 W/m	n.a.
FT-R-IP-24RE	Red	Red	All 10 LED or 6.6"	7,2 W/m	app. 60 lm/m
FT-R-IP-24GE	Green	Green	All 6 LED or 3.93"	12 W/m	app. 180 lm/m
FT-R-IP-24BE	Blue	Blue	All 6 LED or 3.93"	12 W/m	app. 12 lm/m
FT-R-IP-24A	Yellow	Yellow	All 6 LED or 3.93"	12 W/m	app. 200 lm/m

**Shape R = Mushroom**  
Viewing Angle 270°  
Beam Angle 160°

R

**Shape F = Flat Head**  
for installation in floor and/or stair joints. This product is not specifically listed here but available as an option.

F



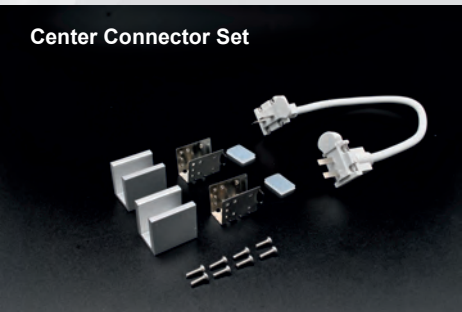
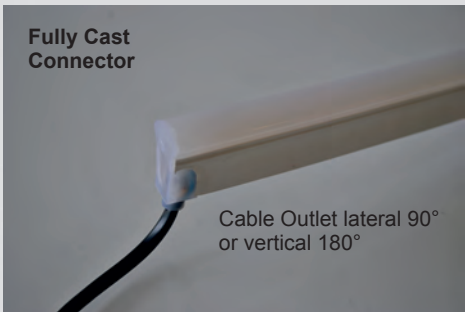
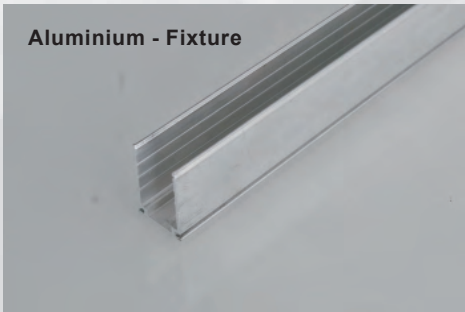
# LED Flextube

## Accessories

### LED - Flextube - Zubehör

The aluminum U-fixtures can be pre-installed on site. The tubes are then pressed directly into the fixture. In order to achieve curvature one needs to work with short segments. In order to guarantee an ingress protection rating of 68 please read the installation instructions included in the packaging carefully and make sure your installation follows the instructions. Optional accessories are available on demand and and/or are compiled for your specific project.

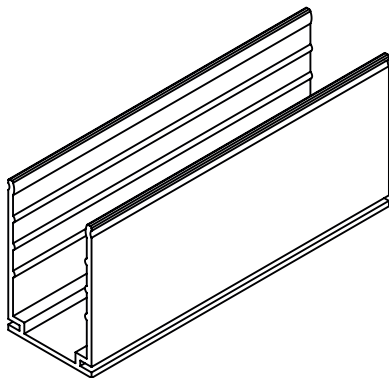
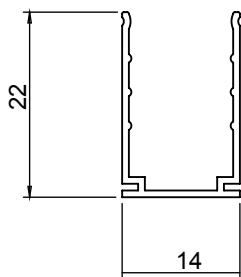
Artikel-Nr.	Bezeichnung
FTZ-IP68-CONNECTOR-1000-RA	IP68 Connector Set (3' length), for tube beginning
FTZ-IP68-CONNECTOR-1000-RE	IP68 Connector Set (3' length), for tube ending
FTZ-IP68-CONNECTOR-1000-RARGB	IP68 Connector Set RGB (3' length), for tube beginning
FTZ-IP68-CONNECTOR-1000-RERGB	IP68 Connector Set (3' length), for tube ending
FTZ-IP68-CONNECTOR-303050-RT	IP68 T Connector Set, 2 x 12" to 20", for tube beginning
FTZ-IP68-CONNECTOR-M	IP68 Center Connector Set, tube on tube
FTZ-IP68-CONNECTOR-300-RK	IP68 Cable Connector Set, tube on tube, length 12"
FTZ-IP68-ENDCAP	IP68 Endcap Set
FTZ-PROFILE50	AL U-Profil 2", 1 hole for pop-rivet
FTZ-PROFILE500	AL U-Profil 20", 3 holes for pop-rivet
FTZ-PROFILE1000	AL U-Profil 40", 5 holes for pop-rivet
FTZ-PROFILE2000	AL U-Profil 80", 10 holes for pop-rivet



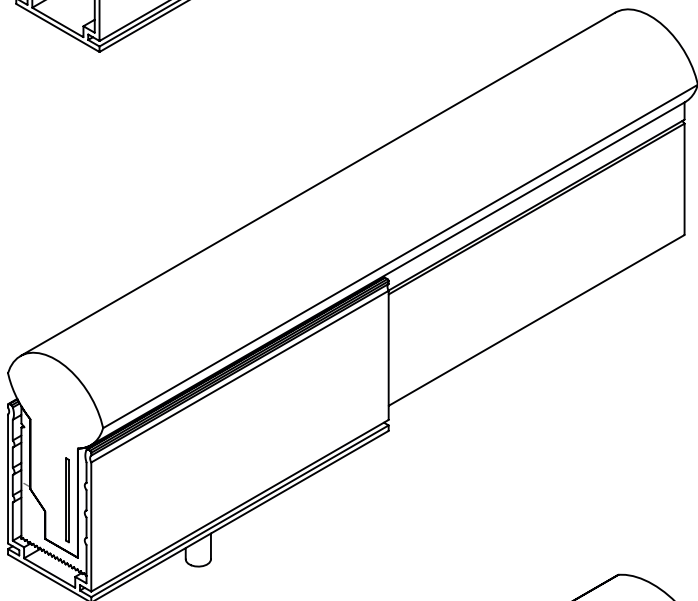
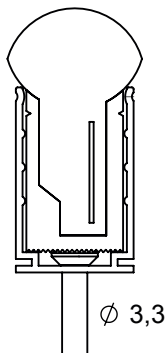
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# LED Flextube

## Technical Drawings

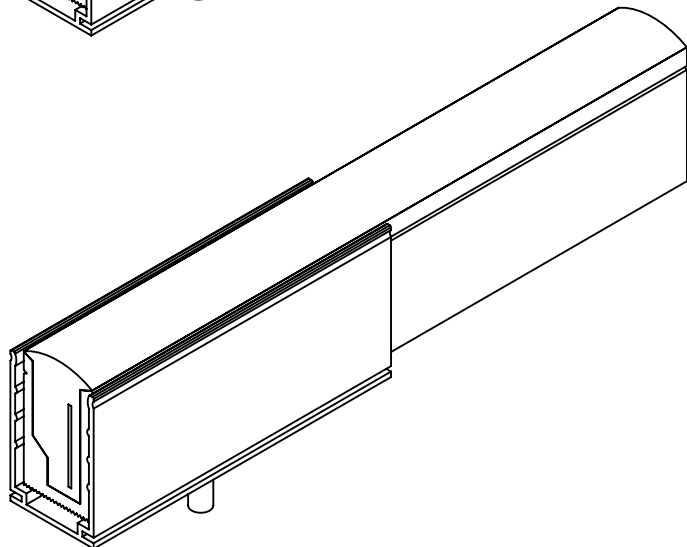
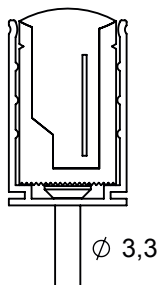


**R**



**LED FLEXTUBE FT-F:**

**F**



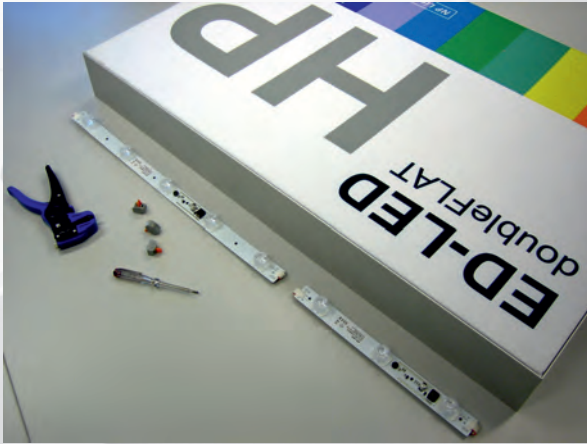
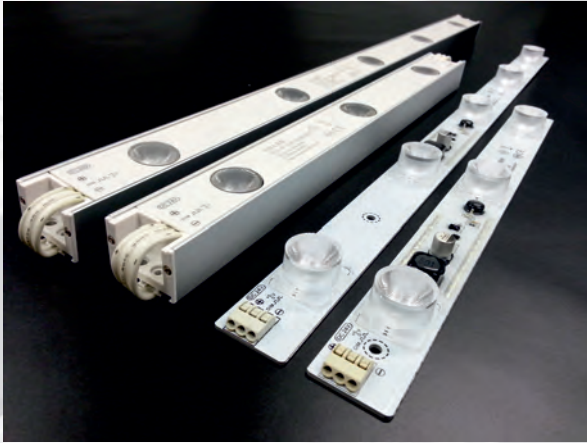
Dimensions in mm



# ED LED Linebar

**Eurocom-Inc.**  
*Light years ahead!*

## Description



## Description

The ED-LED linear light source is a rigid strip light fitted with 3W high power EDISON LEDs. The high power LED is fitted with a 10 x 40 degree angle lense which focuses the light to a line. The linear light is a board with either 3 (12.7") or 5 (21.4") high power LEDs with optional ingress protection levels of Ip00 or Ip65. The average center to center (C2C) distance between each LED is 4.3".

## Application

The LED linear light source range can be used in architectural applications as wall washers whereby the unit is mounted horizontally to a wall to illuminate the vertical area above or below. The wall reflects the light giving the impression of a luminous surface.

ED-LEDs are also optimally suited to illuminate both single and double sided light boxes. For this purpose the ED-LED are mounted along the longest edges of the light boxes facing each other to give the shortest distance between the light sources. Compared to methods of direct illumination this is both a cost effective as well as a simple solution for lighting up areas of up to 78" diameter.

## Technology

The ED-LED range operate at a constant voltage 24v DC. Eurocom provides a wide range of LED power supplies designed to help you create long lasting and highly efficient lighting solutions. The long life expectancy is achieved by fitting the circuit boards with constant current controllers to prevent overheating and protecting the LEDs from voltage fluctuations. Up to 80W of ED-LED units can be connected in parallel fashion.

## Mounting

The ED-LED feature 3.5mm holes designed to let you mount the bars either by pop-riveting them or using screws. Please note that the IP00 version needs to be mounted on a thermally conductive surface in order to aid the cooling of the LEDs. The IP66 version, due to its aluminum extrusion, has adequate cooling built in. The use of double sided tape is not recommended to attach the IP00 version as it prevents heat transfer to the mounting substrate. If a heat transfer compound is available it should be used.

## Available Colors

The ED-LED come in 6000K standard, but warmer whites are available upon request.

## Dimming Controls

The built in dimming control allows for simple dimming operation using 5V PWM control voltage.

All technical data subject to change without notice.

# ED LED Linebar

## Technical Data

Eurocom-Inc.  
Light years ahead!

### The Perfect Choice for:

#### Light Boxes

#### Large Area Backlighting

- our specially developed lenses ensure an even illumination of light-boxes
- EDISON High Power LED are suitable for installation at a depth of 3.15" for single sided and 4" for double sided light-boxes.
- Available for both wet and dry location
- Easy to install and easy to wire
- Integrated 5V PWM dimming circuit
- Available in 3000K and 6000K
- Long Life L70 of 22000 hours
- Built in Constant Current Control
- High efficiency
- Fulfill CE and Rohs environmental requirements.
- Self extinguishing according to UL94V2 flame test.

12V  
DC

CE

UL

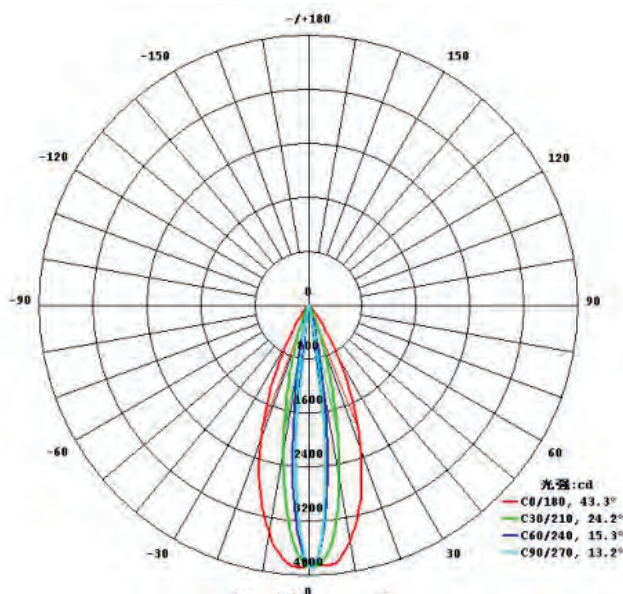
RoHS

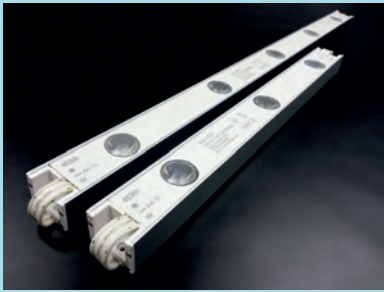
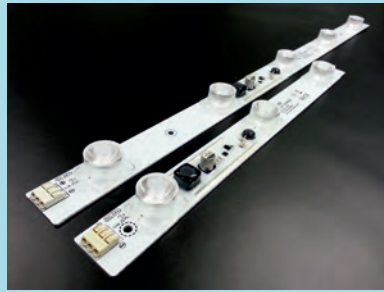
PWM

CONSTANT CURRENT  
CONTROL

IP65

Lichtverteilungskurve / Linsentechnik



Technical Data	IP65		IP00	
				
Product	ED-IP-HP-03W60K	ED-IP-HP-05W60K	ED-HP-03W60K	ED-HP-05W60K
LED Quantity (pieces)	3	5	3	5
LED Spacing (inches)	4.3"			
Dimensions (L x W x H in inches)	12.7" x 1.18" x 0.9"	543 x 30 x 23	298 x 27,5 x 15,5	517,5 x 27,5 x 15,5
Weight (g)	280	460	57	92
Current (A)	0,28	0,46	0,28	0,46
Input Voltage (V)	DC 24			
Power Consumption(W)	6,8	11	6,8	11
Light Output (lm)	660	1100	660	1100
Efficiency Rating (lm/W)	97	100	97	100
LED Beam Angle (°)	10 x 40			
Dimming	5V PWM Signal			
Operating Temperature	-25 ... +60°C			
Storage Temperature	-25 ... +70°C			

All technical data subject to change without notice.

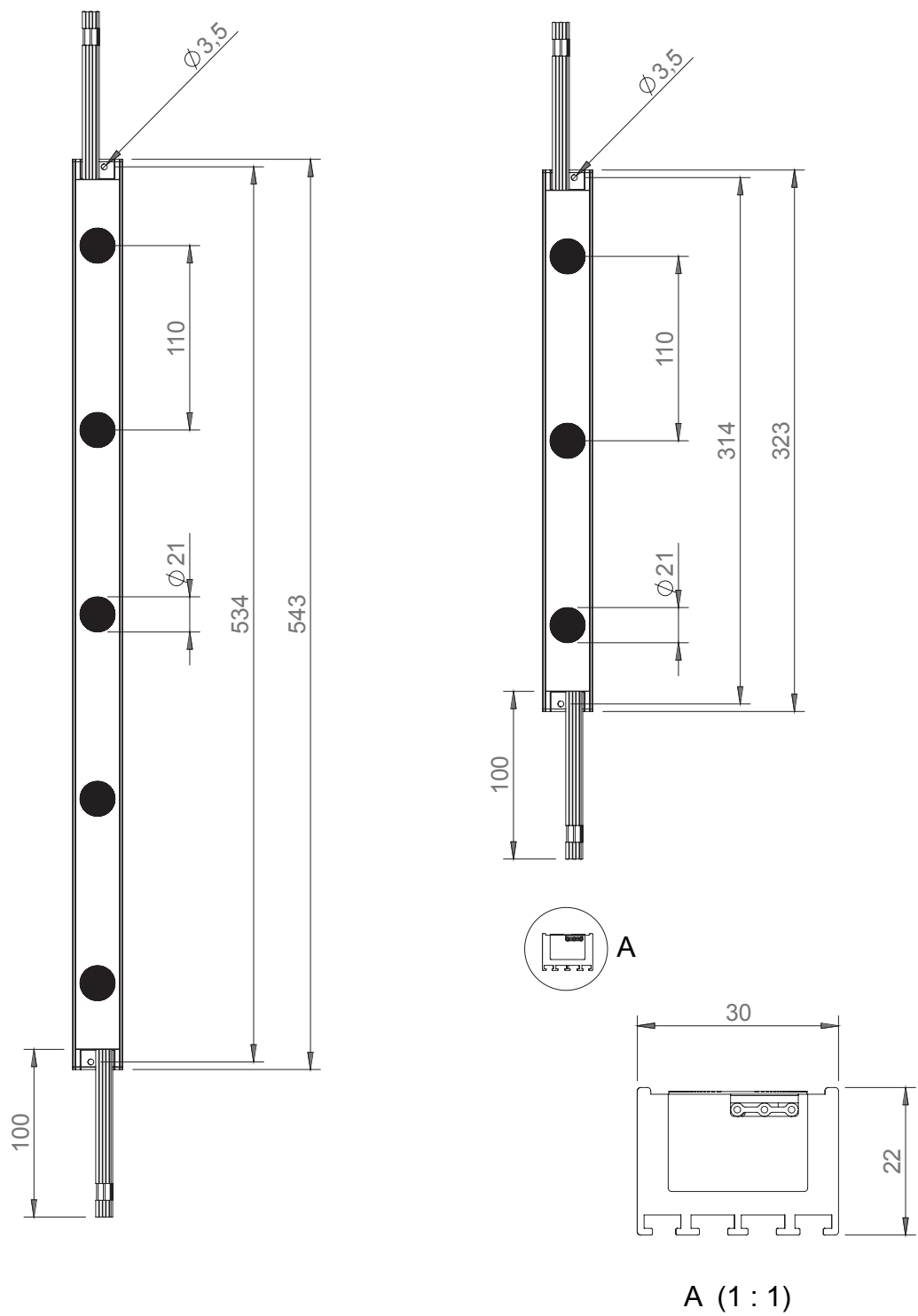


# ED LED Linebar

Technical Drawing IP65 Series



Ip65  
Series



Dimensions in mm

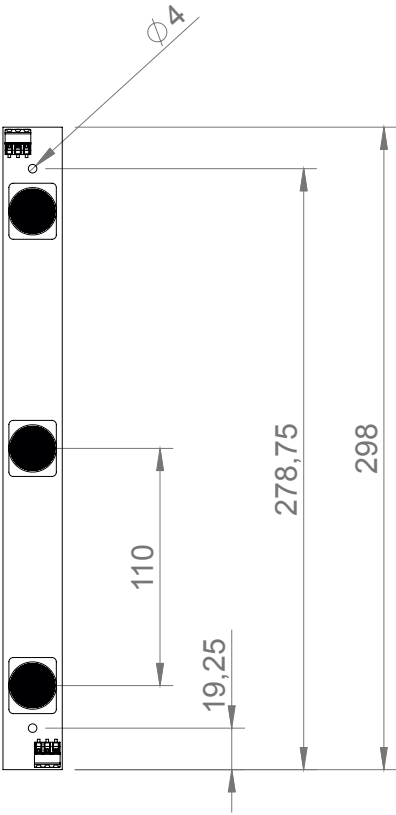
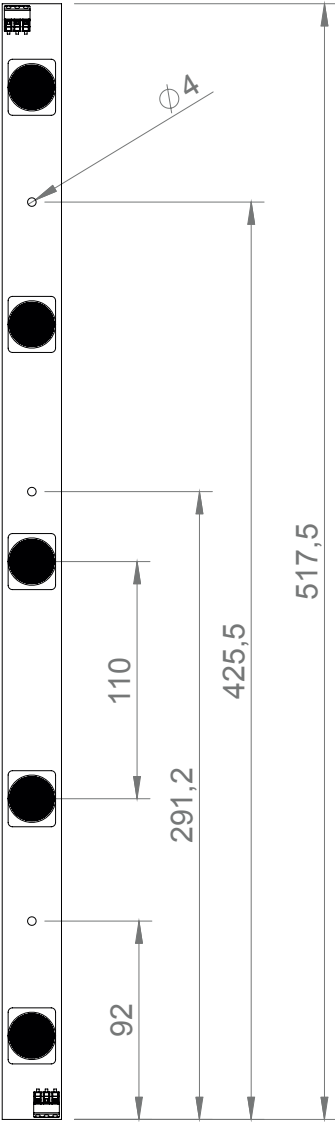
All technical data subject to change without notice.

# ED LED Linebar

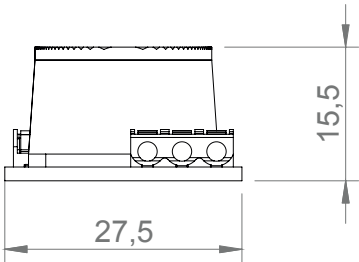
Technical Drawing IP00 Series



Ip00  
Series



A



A (1 : 1)

Dimensions in mm

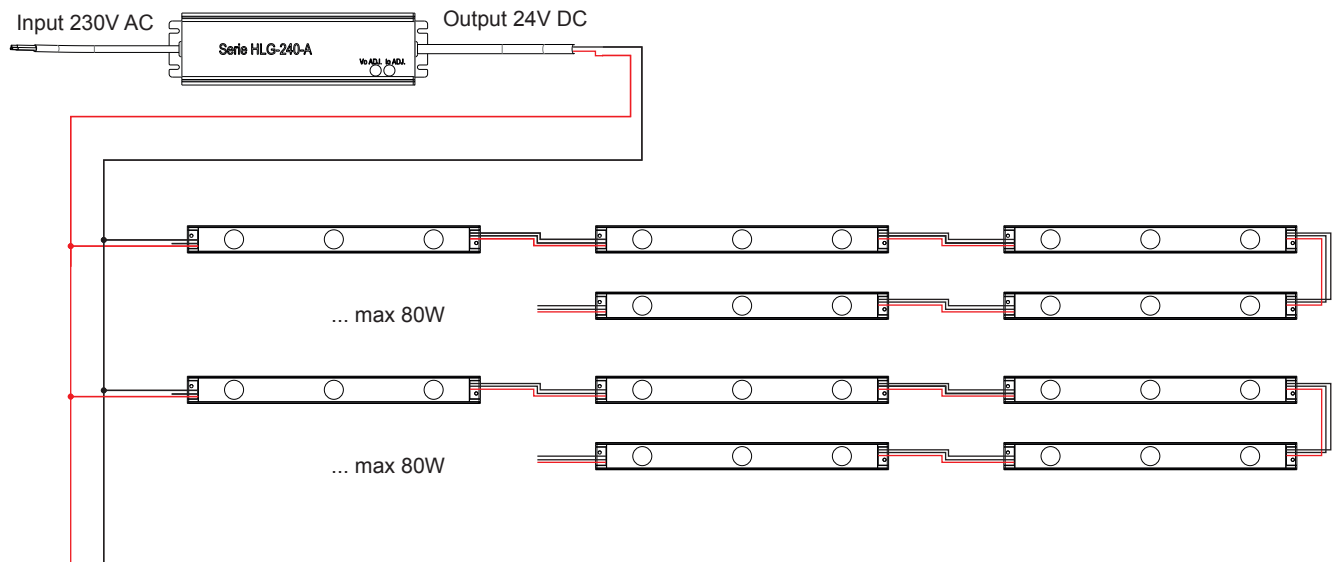
All technical data subject to change without notice.

# ED LED Linebar

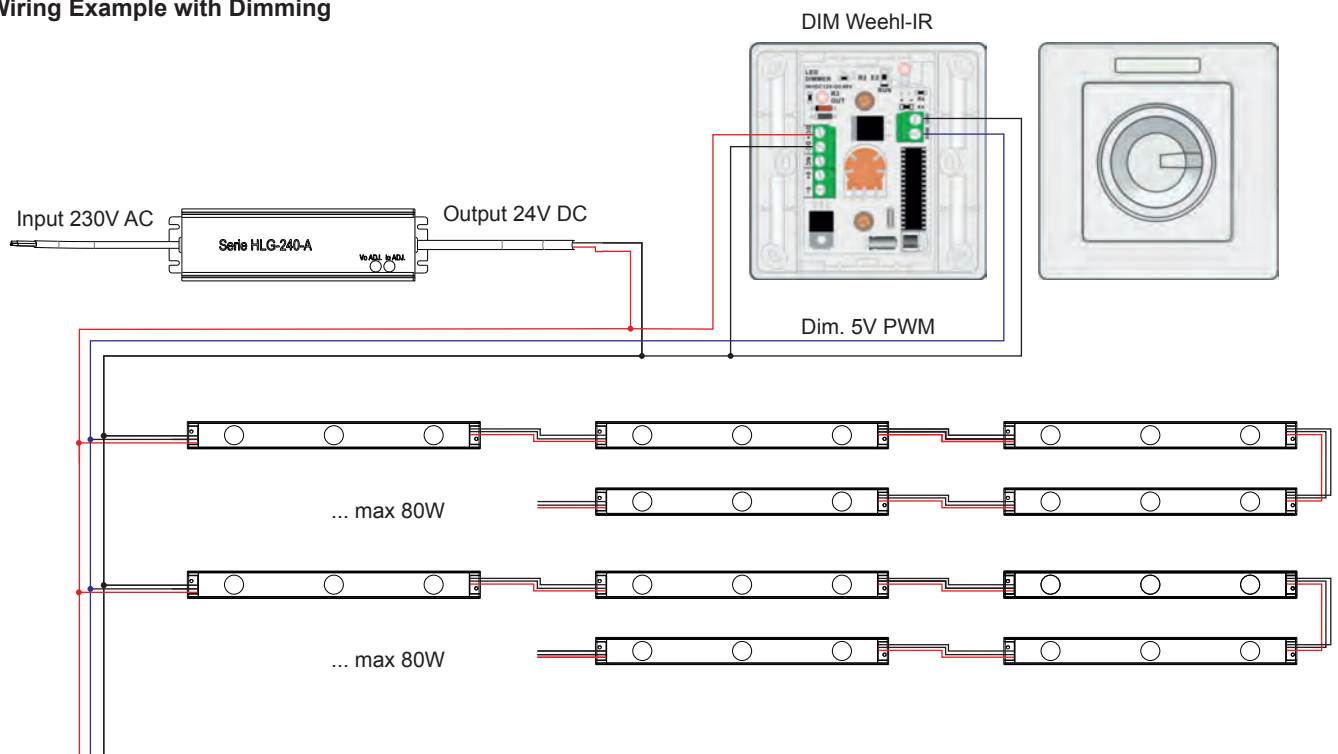
## Connection Instructions

Eurocom-Inc.  
*Light years ahead!*

### Wiring Example Without Dimming



### Wiring Example with Dimming



#### Notice:

- 24V Parallel Circuit
- max. 80W per branch
- **Dimmable with 5V PWM signal**
- Power supplies should never be run beyond their rated specifications.



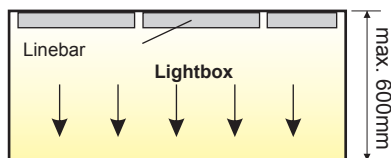
# ED LED Linebar

## Installation Instructions

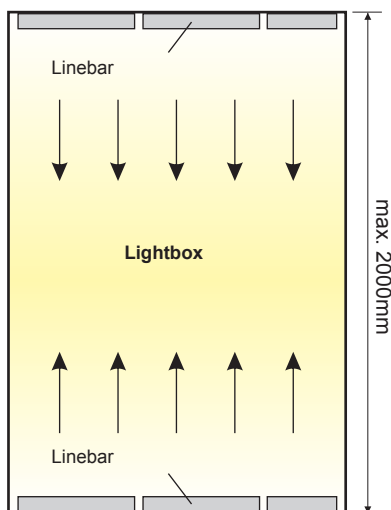
**Eurocom-Inc.**  
Light years ahead!

### Positioning the ED LED Linebar within the Lightbox

#### one-sided illumination

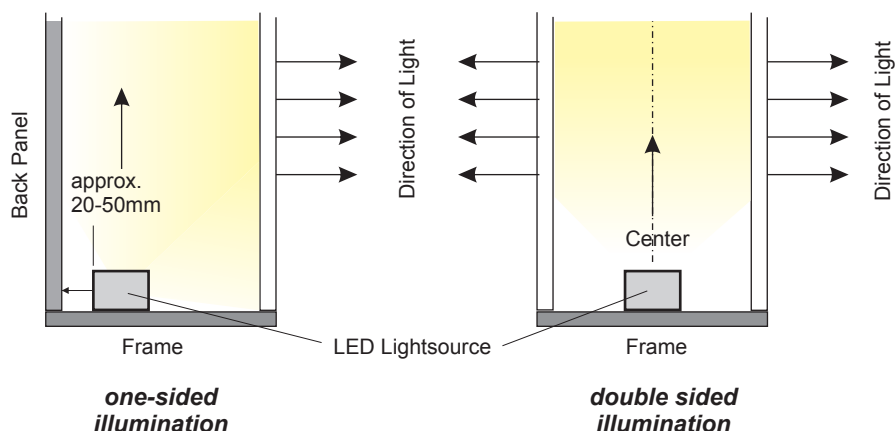


#### double-sided illumination



#### How to Attache the ED-LED to the Frame

The optimal position of the spotlights depends on both the dimensions as well as the material of the lightbox. The optimal position (distance from the backpanel) for the spotlights should always be determined prior to final assembly. The best results (in terms of light-output and uniformity) are achieved when using surfaces coated in matt alpine white.



### Connection Technology

for wet location

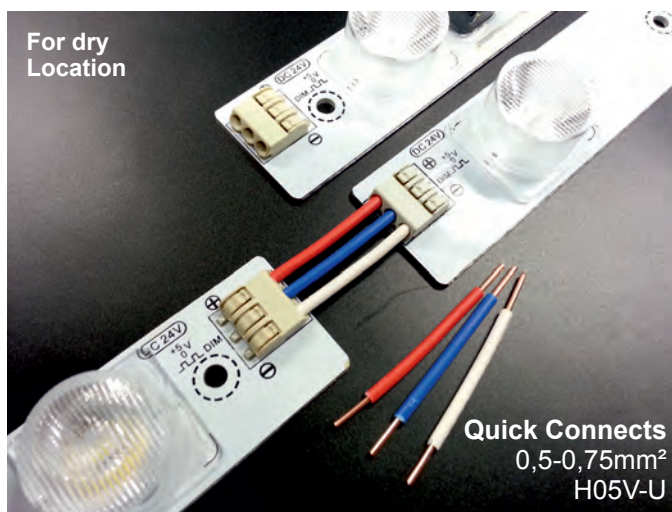
#### 3M Scotchluk U1R with gel filling

2-Wire Connection Extender  
Ext. diameter max. 3,18 mm  
Wire Gauge: 0,9 bis 1,3 mm  
Current max. 100V



Parallel Pliers required

For dry Location



**Quick Connects**  
0,5-0,75mm<sup>2</sup>  
H05V-U

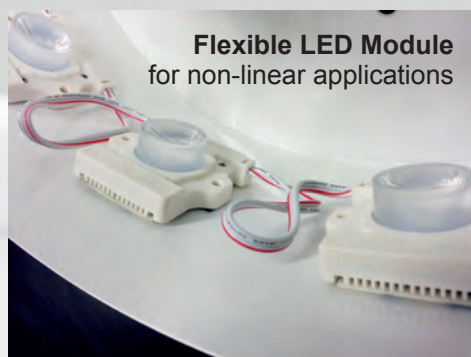
All technical data subject to change without notice.

# ED LED Posterbox Modules

## Description and Technical Data

### ED LED Posterbox Modules

ED-LED have been fitted with an optical lens that bundles the light and reduces the beam angle from the standard 120° to either 12° x 40° or 15° x 30°. This makes the ED-LED system optimally suited for both single sided and double sided poster boxes. Also, due to the flexibility of the string system you are not bound to linear surface applications but are free to use them in round and non-linear installations. You are also able to adjust the brightness of your sign by varying the distance between each module.



#### Module: ED-IP-HP1-01W63K125

The 1.32W/100lm ED-IP-HP1-01W63K module is optimally suited for light boxes with a one sided depth of 2" to 5" and for double sided applications with a depth of 4" to 8". The drop in light output towards the center is minimal in light boxes of sizes up to 4' by 4' assuming a chain is installed on at least two sides of the frame.



#### Module: ED-IP-HP3-01W69K230

The 1.32W/100lm ED-IP-HP1-01W63K module is optimally suited for light boxes with a one sided depth of 3" to 8" and for double sided applications with a depth of 5.5" to 16". The drop in light output towards the center is minimal in light boxes of sizes up to 78" by 78" assuming a chain is installed on at least two sides of the frame.



### Technical Data

Systemtype  
Colors  
LED type  
Light Output  
Beam Angle  
Circuit Type

PCB  
Power Consumption  
Current  
L70 @25°C/45%rF  
Ingress Protection  
Control Options  
Connection Options

Operating Temperature  
Storage Temperature  
Dimensions (LxWxH)  
Module Distance (c2c)  
Minimum Order Quantity  
Cut Position  
Max. no. Modules/Branch  
Cable Length(module to module)

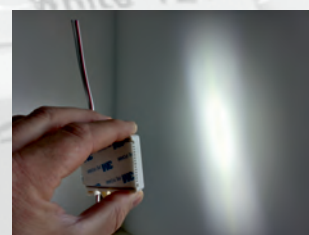
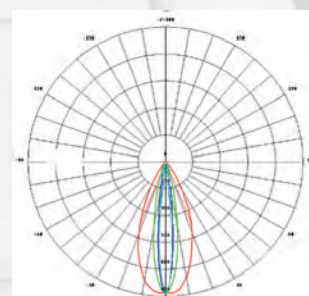
#### ED-IP-HP1-01W63K125

flexible LED-chain  
White 6.000°K  
SMD5050  
100 Lumen  
15 x 30°  
12V DC, Parallel  
Constant Current Regulation  
Aluminium  
1,32W  
110mA  
35.000h  
IP65  
dim- and toggle  
Double Sided Tape,  
pop rivet or screws  
-13°F until +131°F  
-13°F until +131°F  
38 x 22 x 14mm  
variable, 45 upto max.125mm  
20 Modules  
every module  
20 modules  
3.4"

#### ED-IP-HP3-01W69K230

flexible LED-chain  
White 6.900°K  
SMD3535  
277 Lumen  
12 x 40°  
12V DC, Parallel  
Constant Current Regulation  
Aluminium  
2,7W  
225mA  
35.000h  
IP65  
dim- and toggle  
Double Sided Tape,  
pop rivet or screws  
-13°F until +131°F  
-13°F until +131°F  
60 x 58 x 22mm  
variable, 70 upto max. 230mm  
15 Modules  
every module  
15 modules  
7"

### Beam Characteristics

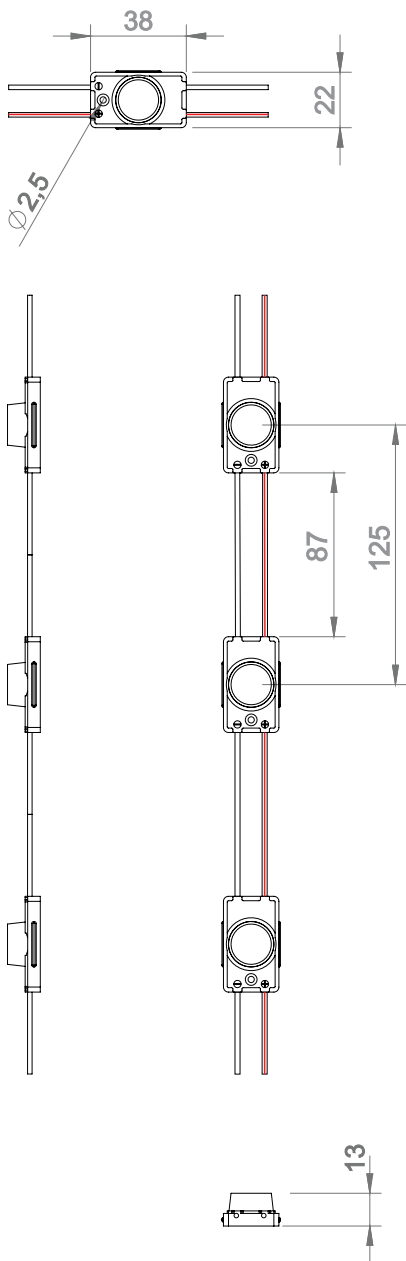


All technical data subject to change without notice.

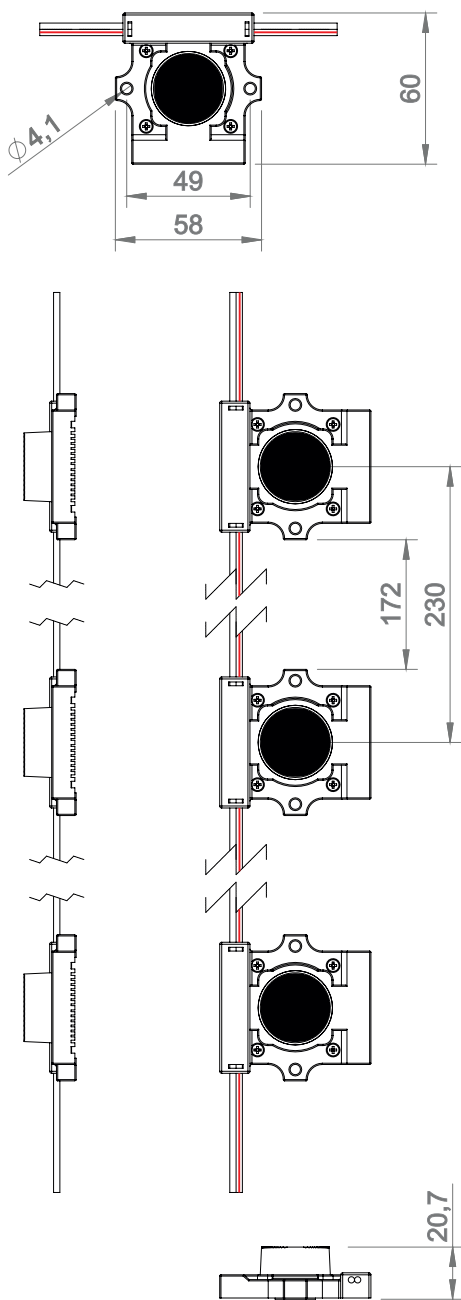
# ED LED Posterbox Modules

Technical Drawing

ED-IP-HP1-01W63K125



ED-IP-HP3-01W69K230



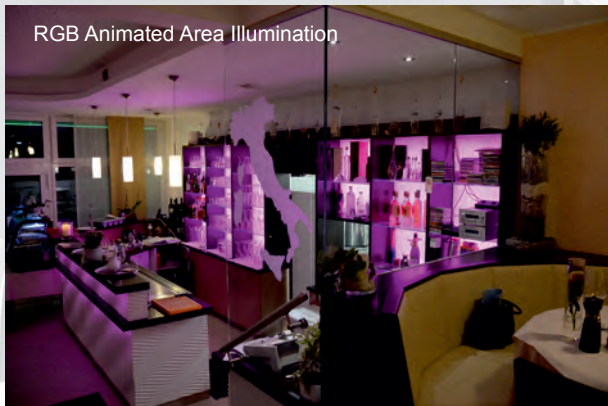
All technical data subject to change without notice.



# LED Controllers

## How LED Controllers Work

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When it comes to light animation a lighting solution fitted to the clients individual demands needs to be conceived. This can generally only be done in the form of a meticulously planned project.

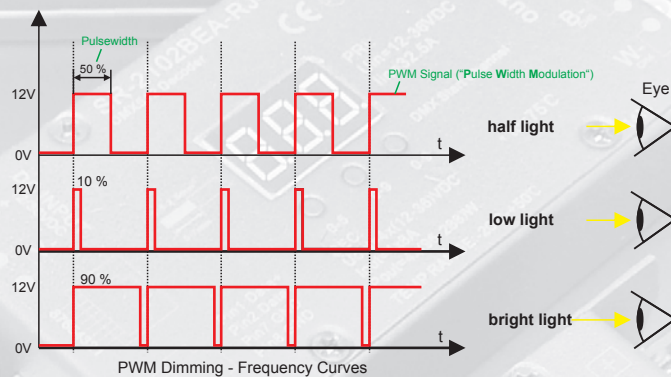
All technical data subject to change without notice.

## LED Lighting Controls

LED lighting controls and switches offer the following possibilities:

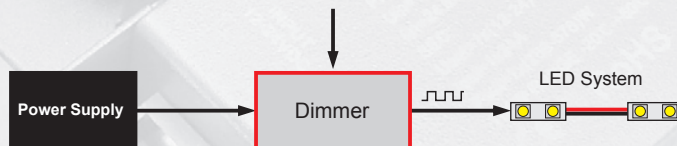
- Dimming
- Color Changing and Animations (RGB/RGBW)
- Flash, fade, and pulse
- Control of light pixels for video and animation

The typical approach to dimming a constant current controlled LED is through Pulse Width Modulation (PWM). When dimming an LED system using PWM one places a dimmer between the secondary outlet of the power supply and the LED array. The dimmer then modulates the on and off phases of the LED at a very high frequency. The relation between the on and off cycles then determines the brightness of the LED. Light emitting diodes are especially well suited for this type of control thanks to their very fast switching time.



LED dimmers receive either an analog signal such as provided by a 0-10V dimmer or a digital signal as provided by a DMX controller. In essence the dimmer is a decoder that translates analog or digital signals into a PWM signal.

**Possible Control Options:** 0-10V  
DMX, DALI, KNX, EIB,...  
Potentiometer  
Remote Control  
WLAN



Finally, there are also dimmers that either already have a pre-set (scenes) program installed or can have one added (typically via SD card). The individual programs can then be activated via a wall switch or remote control.

## Our Service

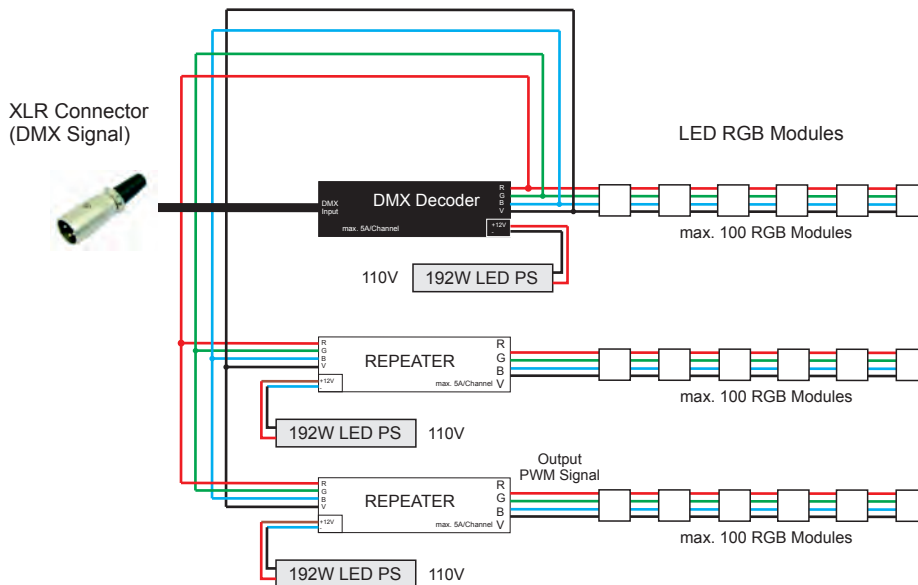
- Creation of a component list for the LED technology (lighting solution)
- Creation of a component list for the required controller technology
- 3D animation for special installations
- Wiring diagram (upon receipt of the order)
- DMX programming
- Phone and even on-sight support when requested

# LED Controllers

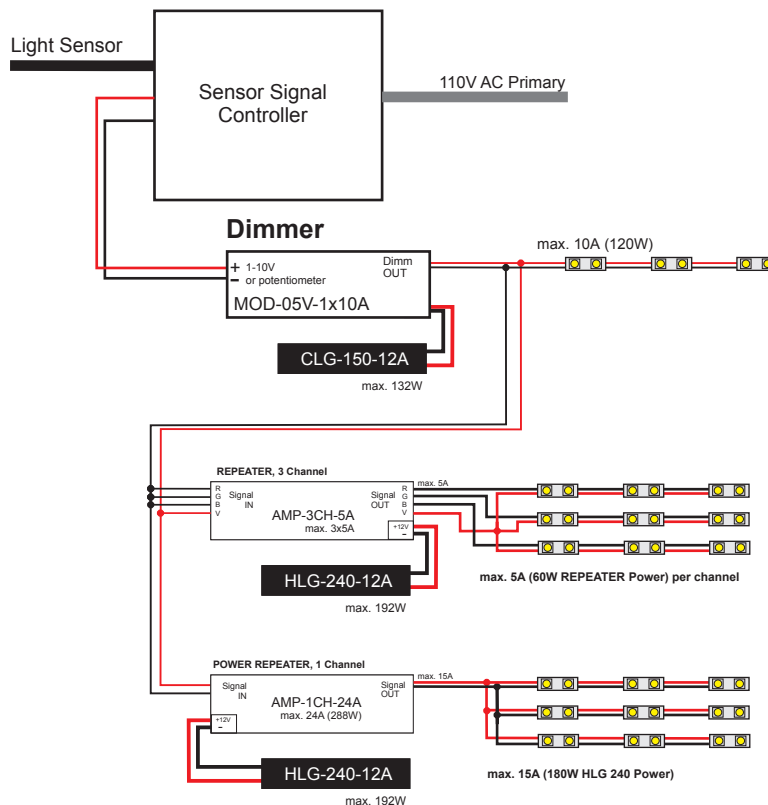
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## Wiring Examples

Controlling RGB Modules via a provided DMX signal. The DMX decoder translates the DMX signal to PWM. As the decoder can only light a limited number of modules we need to extend the DMX signal using signal repeaters. Each repeater requires its LED power supply.



Analogue 1-10V control with daylight sensor. The dimmer translates the 1-10V signal into a PWM signal. In order to extend the signal one can use single or multi-channel repeaters.



The above described setup serves an example. The actual setup will depend on the actual application.





FK-Endcaps



WA-Endcaps



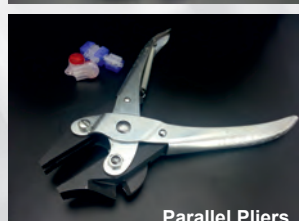
IDC Connector-2P2



IDC Connector-3P



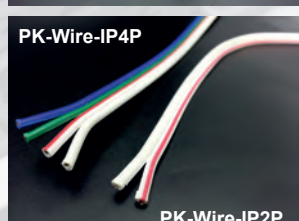
Splicer-IP



Parallel Pliers



WAGO Connector



PK-Wire-IP4P

PK-Wire-IP2P

### Endcaps

The endcap serves as protective insulation for the LED lead wire. Each wire has to be fitted with such a protective cap. The protective cap prevents possible short circuits due to accidental contact with a metal conductive surface.

#### FK-Endcap:

Material, dimensions:  
Unit of sale:

Dip moulded caps for twisted and soldered connection cables or individual wires with larger cross section.  
PVC flexible black, inner diameter 3,2x13mm  
50 pieces

#### WA-Endcap:

Material, dimensions:  
Unit of sale:

Dip moulded caps for all wires of LED chain modules except ED-LED chains > 1.32W  
Silicone flexibel neutral, inner diameter 1.6x6.4mm  
50 pieces

### IDC Connectors

Cable connector for connecting LED power supplies to the LED or connecting extension wires.

These connectors are easy to use, no stripping of the cable is required. Just cut the wire and push it into the connector and squeeze. The gel filling creates a reliable corrosion barrier.

#### 3M Scotchlok IDC Connector U1R - QCONNECTOR-2P2

Extension connector with gel filling for 2-vein wire.

Outer wire diameter: max. 3.18mm  
Wire diameter: 0.9 up to 1.3mm  
Dielectric strength: max. 100V  
Unit of Sale: 100 pieces

#### 3M Scotchlok IDC Connector UR2 - QConnector-3P

3-Wire connector

Outer wire diameter: max. 2.08mm  
Wire diameter: 0.4 up to 0.9mm  
Dielectric strength: > 500V  
Unit of Sale: 100 pieces

#### 3M Scotchlok IDC Connector UB2A - SPLICER-IP

Cable connector for splicing the wire to create a parallel connection.

Outer wire diameter: max. 2.08mm  
Wire diameter: 0.4 up to 0.9mm  
Dielectric strength: > 500V  
Unit of Sale: 100 pieces

#### Parallel Pliers (Platypus Pliers)

To induce parallel pressure on the connectors when creating a connection.

### Connection Terminals for Flexible Conductors

WAGO Series 221 connection terminals have a 40% smaller housing when compared to the more common Series 222 series. They also come in a transparent housing, a very easy to use, and work in a maximum ambient temperature of 185 °F.

Outer wire diameter: max. 2.08mm  
Wire diameter: 0.2 bis 4mm<sup>2</sup>  
Dielectric strength: 32 A / 450 V

**WAGOVKLEMME-2**, 2-Pol, 100 Pieces  
**WAGOVKLEMME-3**, 3-Pol, 50 Pieces  
**WAGOVKLEMME-5**, 5-Pol, Pieces

### Connector and Extension Wires

#### LED Connector Cable PK-CABLE-IP2P, 82-ft / UNIT

2 Wire - flat-wire 0,82<sup>2</sup>, for positive/negative connection  
Color coding red(+)/white(-)

#### RGB LED Connector Cable PK-CABLE-IP4P, 82-ft / UNIT

4 Wire - flat-wire 0,82<sup>2</sup>, for positive and 3 for RGB  
Color Coding White (+)/Red(-)/Green(-)/Blue(-)

All technical data subject to change without notice.



# LED Power Supplies

LED Power Supplies for 12 V / 24 V DC

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## LED Power Supplies 12V and 24V DC for dry and wet locations

The type of LEDs available from Eurocom typically require a constant voltage type power supply providing either 12VDC or 24VDC. For many years now the NP Lighting Group (of which Eurocom is a member) has relied on Meanwell to provide us with highly reliable and cost effective power supplies.

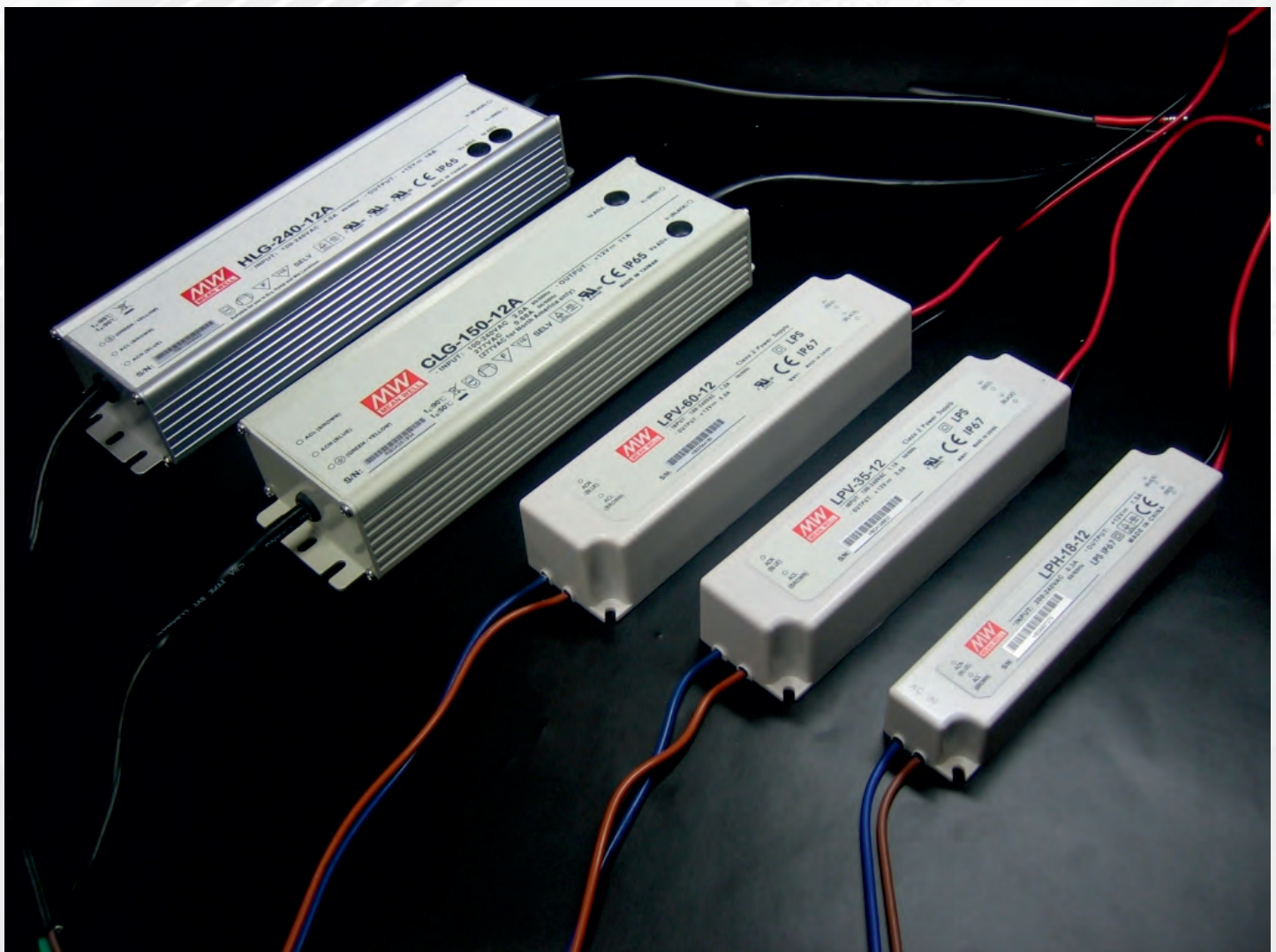
The LED power supplies described here are only a fraction of what is actually available from Meanwell. Should you require special power supplies for more complex applications (for example furniture lighting) we will be glad to help and advise you.

All Meanwell LED power supplies described herein have UL, RoHS, and CE and thus qualify for sale in both the U.S. as well as Europe.

Of the LED power supplies listed here we generally advise our clients to use either the LPF, CLG, and HLG line as they contain an active power factor controller (PFC) making them especially energy efficient and reliable.

Signage installations can sometimes be difficult to access (barisol cloth). We therefore recommend the positioning of the power supplies in an easily accessible space slightly removed from the actual sign.

Please note that switching power supplies have a high input current for a short moment in order to charge up the capacitors. In larger installations that require the use of several devices make sure that the power supply actiation is spread accross multiple phases. Current limiters can be used alternatively.



# LED Power Supplies

UL Class 2 LED Power Supplies



Series LPH / LPV



## LPV Series

Compact, low cost design in a fully insulated plastic housing

Ingress Protection: **IP67**, for both dry and wet location. Keep out of direct sunlight!  
UL Class: 2  
Protection: Short circuit / overload / over voltage  
Warranty: 2 Years  
PFC: **NoPFC!**

According to recent EU guidelines these devices should not be permanently connected to the primary grid and require a power switch to prevent electrical standby losses.  
For further technical data, standards and use of this switching power supplies, please refer to the data sheet of MEAN WELL.

**LPS IP67**

Description	Secondary Voltage	max. Power Output	max. Current	Primary Voltage	Dimensions Length / Width / Hight
LPV-60-12	12V DC	60W	5A	90-264V AC 47-63Hz	162.5 / 42.5 / 32 mm
LPV-60-24	24V DC	60W	2.5A	90-264V AC 47-63Hz	162.5 / 42.5 / 32 mm
LPV-100-24	24V DC	100W	4.2A	90-264V AC 47-63Hz	190 / 52 / 37 mm



Serie CLG / HLG



## CLG Series

Highly efficient, energy saving LED power supplies in a metal housing

Ingress Protection: **IP65**, for interior and exterior locations  
UL Class: II  
Safety: Short circuit / overload / over voltage / over heating  
Efficiency CLG: > 88%  
Efficiency HLG: > 90%  
Warranty CLG: 3 years  
Warranty HLG: 5 years  
PFC: **activePFC!**

Adjustable secondary voltage to compensate for voltage drop over the length of the cable.

For further technical data, standards and use of this switching power supplies, please refer to the data sheet of MEAN WELL.

**IP65** **PFC**

Product No.	Secondary Voltage	max. Output	max. Current	Primary Voltage	Dimensions Length / Width / Hight
CLG-150-12A	12V DC	132W	11A	90-295V AC 47-63Hz	223 / 68 / 39 mm
CLG-150-24A	24V DC	150W	6.3A	90-295V AC 47-63Hz	223 / 68 / 39 mm

All technical data subject to change without notice.



## LED Connection Chart

### LED Module Connection Chart

Maximal number of LED modules/feet per power LED power supply, @ 12V D < 90% der max zulässigen Last.

LED Modules Standard	Leistung je Einheit	HLG-320	HLG-240	HLG-150	HLG-120	LPV 100	LPF 90	HLG-80 LPF 60 LPV 60 SNP 60	LPF 40	LPV 35	SNP 30	LPF 25	LPH 18	LPF 16
1er LED	0,24 W/pc	990	720	562	450	375	337	225	150	93	97	93	43	43
2er LED	0,48 W/pc	495	360	281	225	187	168	112	75	46	48	46	21	21
3er LED	0,72 W/pc	330	240	187	150	125	112	75	50	31	32	31	14	14
4er LED	0,96 W/pc	247	180	140	112	93	84	56	37	23	24	23	10	10
2er RGB LED	0,8 W/pc	297	216	168	135	112	101	67	45	28	29	28	13	13
3er RGB LED	1,1 W/pc	216	157	122	98	81	73	49	32	20	21	20	9	9
4er RGB LED	1,5 W/pc	158	115	90	72	60	54	36	24	15	15	15	6	6
2er Mini	0,3 W/pc	792	576	450	360	300	270	180	120	75	78	75	34	34

LED Modules WA														
EAGLE 1	0,36 W/pc	660	480	375	300	250	225	150	100	62	65	62	28	28
EAGLE 2	0,72 W/pc	330	240	187	150	125	112	75	50	31	32	31	14	14
EAGLE 3	1,2 W/pc	198	144	112	90	75	67	45	30	18	19	18	8	8
GIGANT	9,5 W/pc	25	18	14	11	9	8	5	3	2	2	2	1	1

LED Modules ED														
HP1	1,32 W/pc	180	130	102	81	68	61	40	27	17	17	17	7	7
HP3	2,7 W/pc	88	64	50	40	33	30	20	13	8	8	8	3	3

LED Leisten														
CL 840mm	6,8 W/pc	34	25	19	15	13	11	7	5	3	3	3	1	1
HI 1200mm	17,3 W/pc	14	12	7	6	5	5	3	2	1	1	1	0	0
HI 1000mm RGB	14,4 W/St.	16	12	9	7	6	5	3	2	1	1	1	0	0

LED Flexible Strips														
CL 30 LED/m	3 W/m	79	58	45	36	30	27	18	12	8	8	8	3	3
CL 60 LED/m	6 W/m	40	29	23	18	15	14	9	6	4	4	4	2	2
CL 120 LED/m	12 W/m	20	14	11	9	8	7	5	3	2	2	2	1	1
HI 30 LED/m	7,2 W/m	33	24	19	15	13	11	8	5	3	3	3	1	1
HI 60 LED/m	14,4 W/m	17	12	9	8	6	6	4	3	2	2	2	1	1
RGB 30 LED/m	7,2 W/m	33	24	19	15	13	11	8	5	3	3	3	1	1
RGB 60 LED/m	14,4 W/m	17	12	9	8	6	6	4	3	2	2	2	1	1

## Technical Explanation

### PFC (Power Factor Correction)

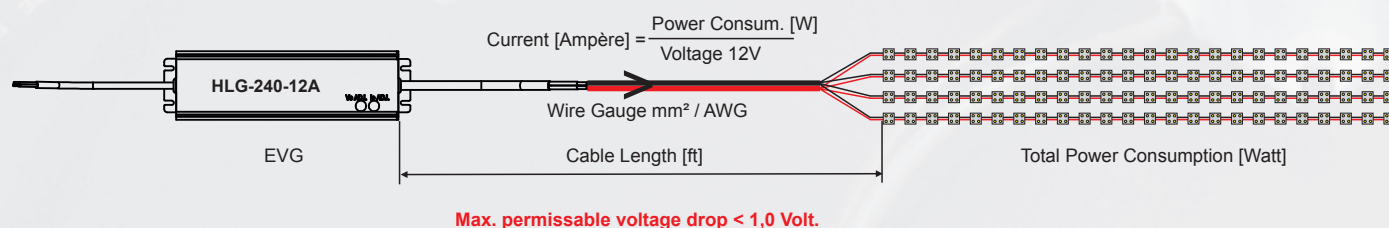
An active or passive power factor correction filter is a special filter, which is used primarily in high performance switching power supplies to minimize the amount of unwanted harmonics and to bring the power factor  $\lambda$  as close to 1 as possible.

The power factor correction fixes the non-linear power demand of consumers (power supplies) while in case of an active power correction providing a compensation for the reactive power

An active PFC has another advantage; it compensates for fluctuations in mains voltage. Often this means that the active PFC permits the power supplies to be installable all around the world (primary voltage range from 100V...240V).

### Voltage Drop and Wire Length

In 12V and 24V secondary wires it is not uncommon to experience voltage drop as the cables themselves create a resistive load. The voltage drop itself is determined by the cable diameter as well as the voltage. This needs to be considered when designing a lighting system in order to guarantee that sufficient voltage is available for the system to operate reliably. The CLG and HLG Series of Meanwell LED Power Supplies can compensate for this loss within limits. Another option is to increase the secondary voltage to the next level (12V to 15V) in case the compensation power of the CLG and HLG line are not sufficient. Please note that increasing the voltage above the rated voltage of the LEDs used can permanently damage the LEDs.



Voltage Drop Calculator - <http://www.eurocom-inc.com/nptoolbox/index.php>



# Terms and Conditions

## The Fine Print

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*Light years ahead!*

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IN NO EVENT WILL EUROCOM BE LIABLE FOR ANY LOST PROFITS OR REVENUE, SPECIAL, INCIDENTAL, CONSEQUENTIAL, INDIRECT, OR PUNITIVE DAMAGES, EVEN IF EUROCOM HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. EUROCOM'S TOTAL LIABILITY ARISING FROM OR RELATED TO ITS PRODUCTS IS LIMITED TO THE REFUND OF THE AMOUNT OF THE PURCHASE PRICE PAID BY PURCHASER. THESE TERMS AND CONDITIONS DEFINE THE SOLE AND EXCLUSIVE REMEDIES OF PURCHASER. 6. Waiver of Breach. Failure of Eurocom to protest a breach by Purchaser shall not operate as or be construed as a waiver of rights or remedies as to that breach, and a waiver by Eurocom of a breach shall not operate as or be construed as a waiver of rights or remedies as to that breach and a waiver by Eurocom of a breach shall not operate as or be construed as a waiver of rights or remedies as to any subsequent breach by Purchaser. 7. Successors and Assigns. The rights and obligations of Purchaser hereunder shall inure to the benefit of and shall be binding upon the successors and assigns of Purchaser. Purchaser may not assign any of its rights or obligations hereunder to any person, firm or entity without the express written consent of Eurocom. 8. Entire Agreement. The front and back of this invoice contains the entire agreement between the parties, and supersedes any prior understanding or written or oral agreements between the parties. These Terms and Conditions may not be amended orally, but only by an agreement in writing, signed by the party against whom enforcement of any waiver, change, modification, extension, or discharge is sought. Purchaser agrees that any terms and conditions proposed by Purchaser in any Purchase Order, Confirmation, Notice of Acceptance or other document that are in addition to or in conflict with these terms and conditions are hereby deemed to be null and void regardless of whether Purchaser makes such proposal before or after delivery or before or after receipt of this invoice. 9. Notice. Any notice required or permitted shall be made in writing, and shall be effective when mailed, by registered or certified mail to the party's last known address. 10. Section Headings. The section headings contained herein are for convenience only, and do not purport to accurately summarize the contents of the paragraph they head, and shall not modify, or in any way affect the provisions herein or be of any relevance in the construction thereof. 11. Mutual Preparation. Purchaser has read the foregoing Terms and Conditions, fully understands the contents thereof and is under no duress or pressure of any sort to accept those terms and conditions. 12. Applicable Law. THESE TERMS AND CONDITIONS SHALL BE CONSTRUED IN ACCORDANCE WITH AND GOVERNED FOR ALL PURPOSES BY THE LAW OF THE STATE OF TEXAS. THE PROPER VENUE FOR ANY DISPUTE ARISING FROM OR RELATED TO THIS INVOICE OR THE SALE OF GOODS OR SERVICES EVIDENCED BY THIS INVOICE SHALL BE DALLAS COUNTY, TEXAS. 13. Severability. In the event that any one or more of the provisions contained in these Terms and Conditions shall, for any reason, be held to be invalid, illegal, or unenforceable in any respect, such invalidity, illegality, or unenforceability shall not affect any other provisions of these Terms and Conditions, but these Terms and Conditions shall be construed as if such invalid, illegal, or unenforceable provisions had never been contained herein. 14. Force Majeure. Eurocom shall not be liable for any damages caused by any delay at any time in the delivery or provision of products or services caused in whole or in part by changes ordered in the work by labor disputes, fire, unusual delays in deliveries, abnormal or adverse weather conditions, unavoidable casualties, any causes beyond Eurocom's control, or by other causes which justify delay. Any such delay shall not be a breach of these Terms and Conditions. 15. Security Interest. By accepting delivery of these products, Purchaser hereby conveys to Eurocom a purchase money security interest in those products that continues until such time as Purchaser tenders payment to Eurocom. If Purchaser defaults in the payment owed to Eurocom, Eurocom may exercise any of the remedies available pursuant to chapter 9 of the Texas Business and Commerce Code.

# Last Page of Catalogue

A Place to Take Notes and Doodle...

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*Light years ahead!*

WA-Endcaps

Parallel Pliers

# NP Lighting Gruppe



NP Lighting Holding GmbH, Germany

Production:  
Germany: NP Lichttechnik GmbH  
Brazil: HVM Do Brasil LTDA.

Coordination & Distribution:  
Global: NP Vertriebs GmbH, Germany  
North America: EUROCOM Inc., Texas

Offices & Partners:  
Germany: NP Lighting Vertriebs GmbH  
France/Belgium: NP France  
Greece: ELECTROFON ATHENS  
United Kingdom: SIGN TEC SERVICES  
Denmark: LÖVSCHAL & RANDERS A/S  
Finland: NEVAX OY  
Holland: Neon Products NEDERLAND BV  
Italy: MARECO S.R.L.  
Austria: NP Lighting Vertriebs GmbH  
Poland: NEON SERVICE POLAND  
Sweden/Norway: ITAB NEON AB  
Switzerland: HVM Neon Products AG  
Czech Republic: DENKOP  
Turkey: ATES Neon

Russia: Helvetica  
Australia: NPA Lighting  
Saudi Arabia: M.M. TALAQI INT. TRADING  
UAE: MASONLITE DUBAI  
Lebanon: BALTRADE GROUP CO.SAL  
Korea: NP KOREA  
South America: NP do BRASIL

Nord Amerika  
USA: EUROCOM IRVING  
Mexiko: SignLIGHT MEXICO

Afrika:  
South Africa: ROHSIGNS



**NP Lighting Gruppe**

*Light years ahead!*



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