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PCB RGB 160-240

The liniLED® PCB RGB LED strip (IP00) is a high quality, flexible LED strip equipped with 3M double sided tape. Thanks to its small dimensions the PCB LED strip is ideal for usage in small (indoor) spaces.

It is possible to request the liniLED® PCB RGB Deco LED strip with a soldered cable.

In order to power liniLED® products safely, it is absolutely necessary to operate them with an electronically stabilized power supply protected against short circuits, overload and overheating.

To ease the luminaire/ installation approval, electronic control gear for liniLED® products should carry the CE mark. Preferably a controller from the liniLED® Control Range. In Europe, the declarations of conformity must include the following standards: CE: EN 55015, IEC 61547 and IEC 61000-3-2.

For the latest version of this datasheet, visit our website: www.liniLED.com

USPs

- Made in Europe
- Very flexible (bend radius > 20 mm)
- Ideal for small indoor spaces
- Dimmable with PWM technology
- Effective heat dissipation
- Excellent lumen/ Watt ratio
- Available in long lengths
- Available in various colours
- Extensive range of accessories
- Plug & Play

Available colours

Colour	Description
RGB	liniLED® PCB RGB 160
RGB	liniLED® PCB RGB 240

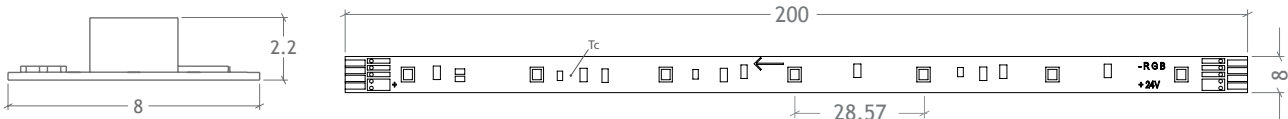


Technical specifications

	RGB 160	RGB 240
Product code [m]	12187	12139
Power (24 V DC)	4.8 W/m	7.4 W/m
Power (25 V DC)	5 W/m	7.7 W/m
Luminous flux	160 lm/m (R 49, G 107, B 12 lm/m)	235 lm/m (R 81, G 148, B 24 lm/m)
Luminous efficiency	33 lm/W	32 lm/W
Max. connection length	10 m	5 m
Expected lifetime	B50/L50 > 50,000 hours @ $T_c = 40\text{ °C}$	B50/L70 > 50,000 hours @ $T_c = 40\text{ °C}$
Spool length	Max. 50 m	
Section length	20 cm	
LED	MULTILED	
Number of LEDs	7 per section/35 per metre	
Operating voltage	24 V DC	
Max. operating voltage	25 V DC	
Beam angle	120°	
Dimensions	8 x 2.2 mm	
Dimmable	PWM dimming, 24 V DC Common Anode	
Weight	9 gram per metre	
Expected lifetime	B50/L70 > 50,000 hours @ $T_c = 40\text{ °C}$	
Degree of protection (IP)	IP00	
Storage temperature	-30 °C .. 85 °C	
Operating temperature	-20 °C .. 55 °C	
Minimal bending radius	20 mm	

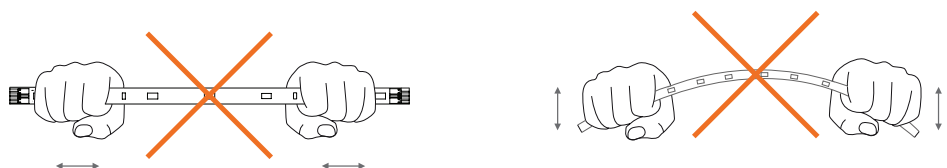
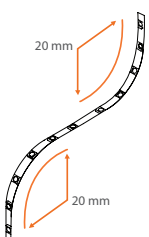
	RGB 160	RGB 240
Red Power (24 V DC)	2.0 W/m	2.7 W/m
Green Power (24 V DC)	2.0 W/m	2.9 W/m
Blue Power (24 V DC)	0.8 W/m	2.0 W/m

¹ Max. connection length between -30 °C and -20 °C is 7 metres (RGB 160) and 3,5 metres (RGB 240).



Bending radius

Maximum bending radius is 20 mm. Solely bend up or downward. Do not compress, stretch or bend the LED strip sideways.



Photometric information

To power the liniLED® LED strips and lighting fixtures, a power supply from the liniLED® Power assortment can be selected. Selection of the correct power supply must be done by taking the total requested power and the environment into account.

The total power consumption can be calculated by summing the requested power of all connected products. To calculate the power consumption of a single length of LED strip, use the equation below. The typical equation is valid if the product is supplied by a 24 V DC constant voltage power supply. If the output voltage of a power supply is increased, the power consumption will increase with the same ratio and needs to be corrected by using the optional part of the equation found between brackets.

$$P_{\text{STRIP}} = P_{\text{PRODUCT}} \times X_{\text{LENGTH}} \times 110\% \left[\times \frac{U_{\text{SUPPLY}}}{24} \right]$$

- P_{STRIP}** Calculated power consumption of one LED strip in Watt
 P_{PRODUCT} Typical power consumption in Watt per metre of the selected LED strip
 This value can be found under 'Product characteristics' on page 2
 X_{LENGTH} Length of the connected LED strip in metres
 110% Safety margin to buffer differences over all production batches

Optional:

- U_{SUPPLY}** Set supply voltage of the power supply in Volt
24 Nominal supply voltage of liniLED® in Volt

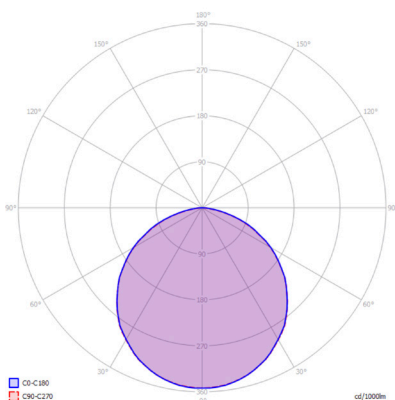
Power consumption

In the process of lighting design and calculations, the luminous flux and beam angle alone are not enough information to create a representative and realistic calculation or render. There is one set of photometric files for a one metre length of LED strip and one for a segment length, that corresponds to the cutting length of each LED strip type. Using the one metre data, quick calculations and long lengths can be simulated with photometric software. The segment data allows very detailed simulations, even curved lines can be approached in high detail.

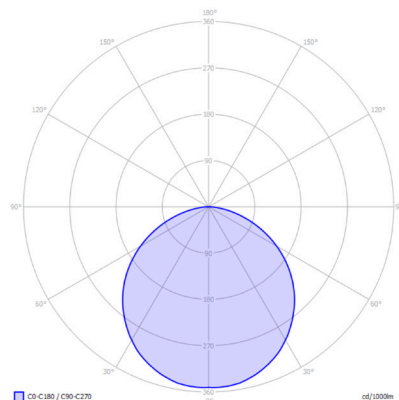
The information on the website is available in two different file formats:

- Eulumdat (*.ldt)
- IES LM-63-1995 (*.ies)

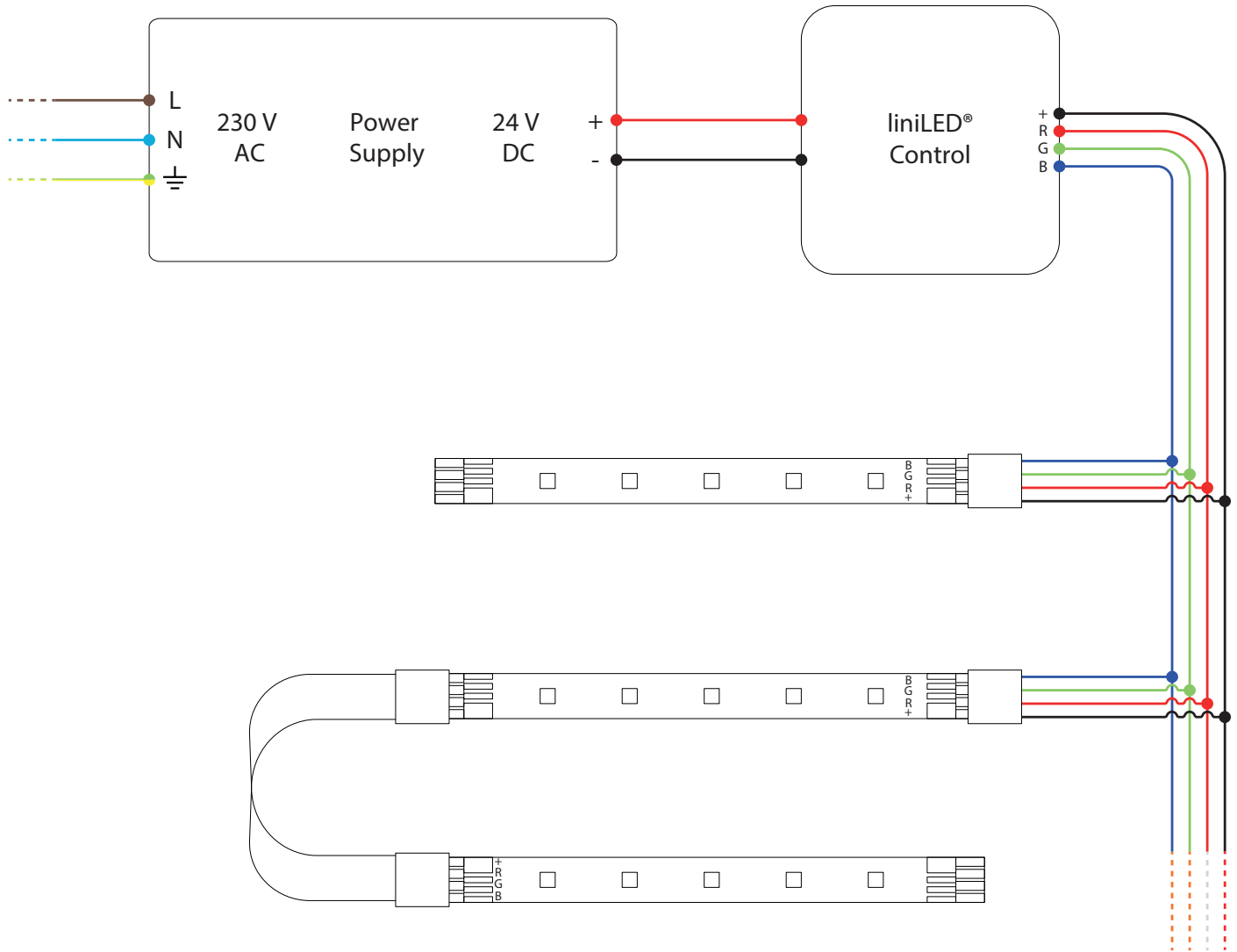
RGB 160



RGB 240



Power and connection diagram



Maximum cable length RGB 160

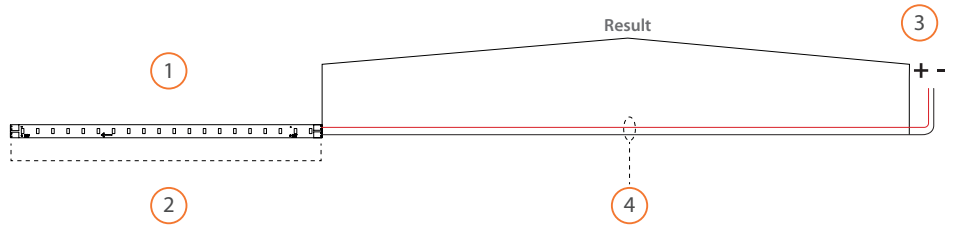
1 = Select colour temperature.

2 = Select LED strip length.

3 = Select output voltage.

4 = Select cable cross section.

Result = Maximum cable length based on the cable thickness and power supply voltage.



1. Colour temperature

RGB 160

2. LED strip length		1 m		2 m		5 m		10 m	
3. Output voltage		24 VDC	25 VDC	24 VDC	25 VDC	24 VDC	25 VDC	24 VDC	25 VDC
4. Cable cross section	0.50 mm ² - 0.035 Ω/m	62.8 m	121.7 m	30.8 m	60.2 m	11.6 m	23.3 m	5.2 m	11.0 m
	0.75 mm ² - 0.023 Ω/m	134.5 m	260.6 m	43.1 m	85.1 m	24.8 m	50.0 m	11.1 m	23.7 m
	1.00 mm ² - 0.018 Ω/m	178.8 m	346.6 m	87.7 m	171.5 m	33.0 m	66.5 m	14.8 m	31.5 m
	1.50 mm ² - 0.012 Ω/m	269.0 m	521.3 m	131.9 m	258.1 m	49.7 m	100.1 m	22.2 m	47.5 m
	2.50 mm ² - 0.007 Ω/m	447.8 m	867.7 m	219.6 m	429.6 m	82.7 m	166.7 m	37.0 m	79.0 m

⚠ **Note:** Calculations are based on a standard connector with 1 metre cable (0.5 mm²).

Maximum cable length RGB 240

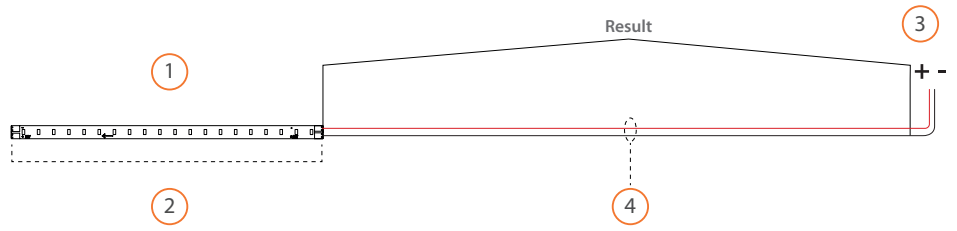
1 = Select colour temperature.

2 = Select LED strip length.

3 = Select output voltage.

4 = Select cable cross section.

Result = Maximum cable length based on the cable thickness and power supply voltage.



1. Colour temperature

RGB 240

2. LED strip length		1 m		2 m		5 m			
		24 VDC	25 VDC	24 VDC	25 VDC	24 VDC	25 VDC		
3. Output voltage									
4. Cable cross section	0.50 mm ² - 0.035 Ω/m	62.8 m	121.7 m	30.8 m	60.2 m	11.6 m	23.3 m		
	0.75 mm ² - 0.023 Ω/m	134.5 m	260.6 m	43.1 m	85.1 m	24.8 m	50.0 m		
	1.00 mm ² - 0.018 Ω/m	178.8 m	346.6 m	87.7 m	171.5 m	33.0 m	66.5 m		
	1.50 mm ² - 0.012 Ω/m	269.0 m	521.3 m	131.9 m	258.1 m	49.7 m	100.1 m		
	2.50 mm ² - 0.007 Ω/m	447.8 m	867.7 m	219.6 m	429.6 m	82.7 m	166.7 m		

⚠ **Note:** Calculations are based on a standard connector with 1 metre cable (0.5 mm²).

Symbols



Electro Static Discharge (ESD) sensitive device, apply standard ESD precautions when handling the product.



Manufacturer's declaration that the product meets the applicable EC directives.



Suitable for mounting on all surfaces and suitable to cover with insulating material.



Restriction of Hazardous Substances (RoHS): product complies with the RoHS directive and each homogeneous material does not exceed the limits for the materials mentioned under the RoHS directive (Pb, Hg, Cd, Cr6+, PBB and PBDE).



Not protected against ingress of solid foreign objects. Not-protected against ingress of water.



Bending of the LED strip is possible with a radius of ≥ 20 millimetres in the specified direction.



Electrical appliance class III: this product is designed to be supplied from an extra-low voltage (≤ 60.0 V DC or ≤ 42.4 V AC).



System guarantee of 5 years when the complete system consist of liniLED® products with the 5 years system warranty logo. Terms & conditions apply.



Operating voltage of 24 V DC.

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