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PCB Tunable White 1200

The liniLED® PCB Tunable White 1200 LED strip (IP00) is a high quality, flexible LED strip, which can be adjusted to a colour temperature range between 2700K-6500K. The LED strip is equipped with 3M double sided tape. Thanks to its small dimensions the PCB LED strip is ideal for usage in small (indoor) spaces.

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

Tunable white 2700K – 6500K for dynamic white applications
Extra-long lifetime – 60,000 h (L80/B10)
Dimmable with PWM technology
Single piece reel-to-reel technology
Very flexible & cuttable (bend radius > 20 mm)
Excellent lumen/Watt ratio
Available in long lengths
Made in Europe

Available colours

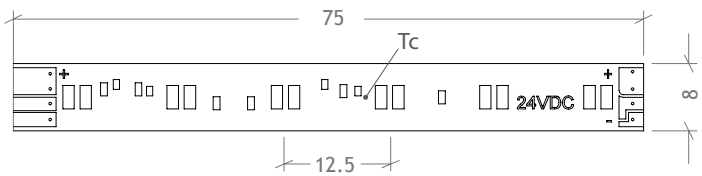
Colour	Description
White 2700K - 6500K	liniLED® PCB Tunable White 1200

Technical specifications

	2700 - 6500K TW 1200
Product code [m]	12173
Power (24V DC)	10.3 W/m
Power (25V DC)	10.7 W/m
CCT[13]	2700 - 6500K
CRI	>80
Luminous flux[1]	1210 lm/m
Luminous efficiency[1]	117 lm/W
Spool length	Max. 9 m
Section length	75 mm
LED type	3014
Number of LEDs	12 per section/160 per metre
Max. connection length	9 m
Min. operating voltage	23V DC
Max. operating voltage	25V DC
Beam angle	120°
Dimensions	8 x 1.45 mm
Dimmable	PWM dimming, 24V DC Common Anode
MacAdam Steps	3 MacAdam ellipse per single channel, resulting in combined values of up to 3.8
Weight	9 gram per metre
Expected lifetime	L80/B10 > 60,000 hrs @ Tc = 40°C
Ingress protection	IP00
Storage temperature	-40°C … 85°C
Operating temperature[2]	-30°C … 85°C
Minimum bending radius	20 mm
CCT Warm White	2700 K
Power 2700 K	5.3 W/m
Flux 2700 K	610 lm/m
CCT Cold White	6500 K
Power 6500 K	5.0 W/m
Flux 6500 K	600 lm/m

[1] Typical measured values are given, which due to tolerances in components and production process can vary up to 10%.
[2] Max. connection length between -30°C and -20°C is 6.3 m.
[3] Both channels @ 100% = 4000K.

Product drawings

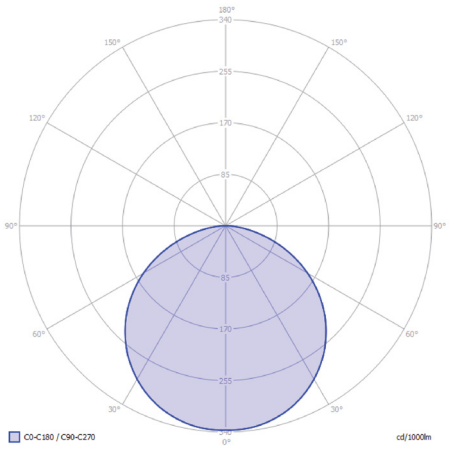


Photometric information

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)



Power consumption

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.

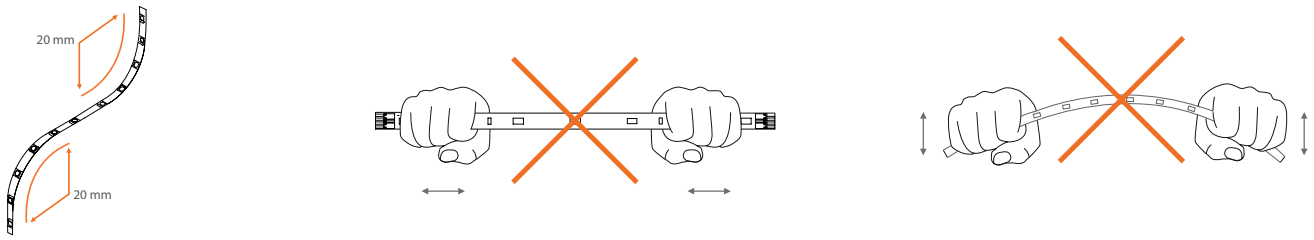
The total power consumption can be calculated by summing the requested power of all connected products. To calculate the power consumption of a single length of LED strip, use the equation below. The typical equation is valid if the product is supplied by a 24 V DC constant voltage power supply. If the 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.

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

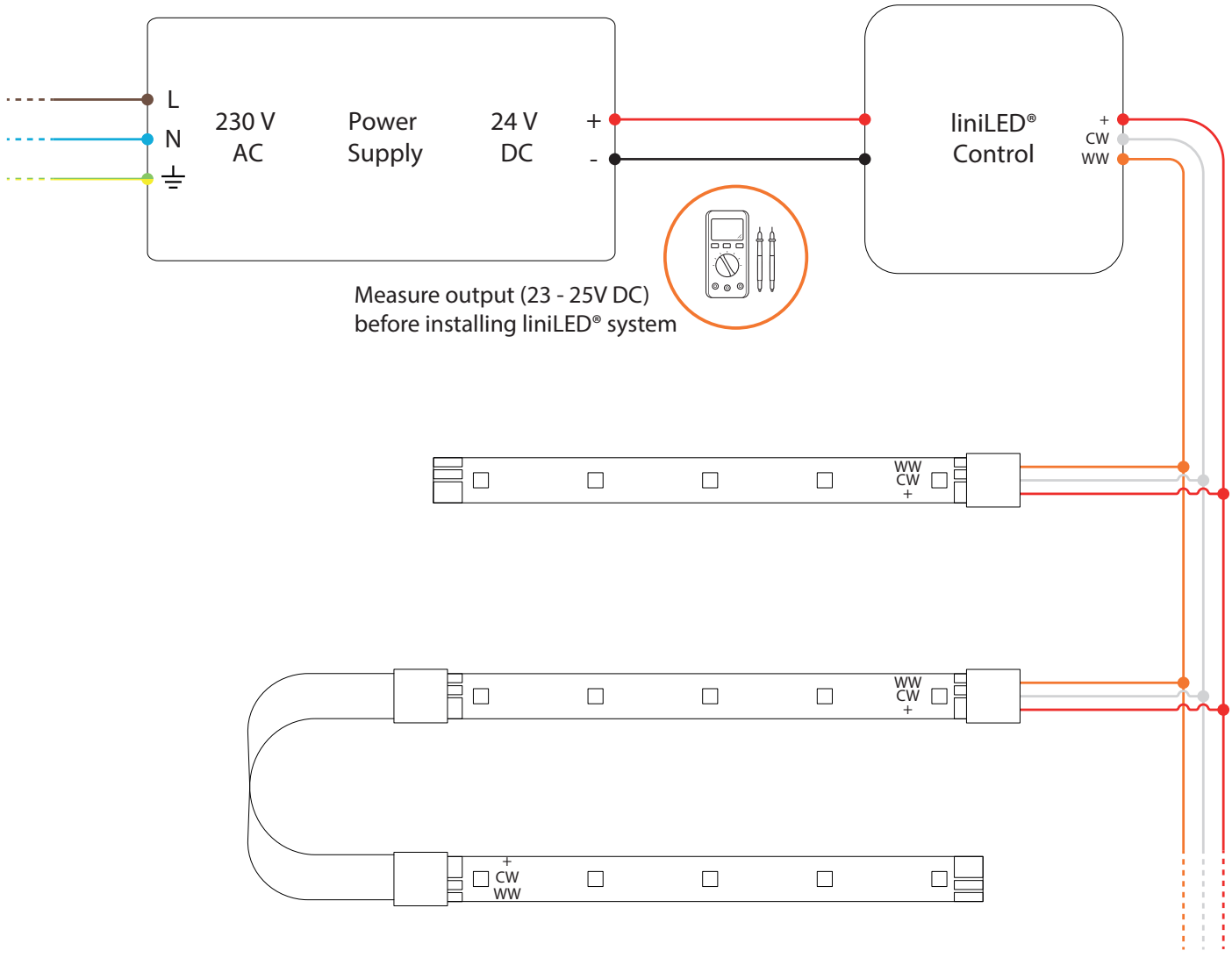
P_{STRIP}	Calculated power consumption of one LED strip in Watt
$P_{PRODUCT}$	Typical power consumption in Watt per metre of the selected LED strip This value can be found under 'Product characteristics' on page 2
X_{LENGTH}	Length of the connected LED strip in metres
110%	Safety margin to buffer differences over all production batches
	Optional:
U_{SUPPLY}	Set supply voltage of the power supply in Volt
24	Nominal supply voltage of liniLED® in Volt

Bending radius

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

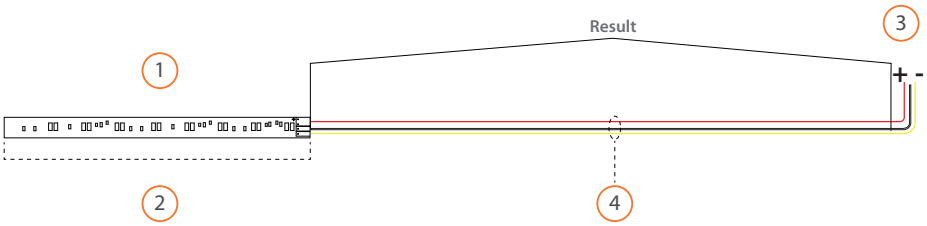


Power and connection diagram



Maximum cable length

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		2700K-6500K TW 1200							
2. LED strip length		1 m		2 m		5 m		9 m	
3. Voltage		*24 V DC*	*25 V DC*	*24 V DC*	*25 V DC*	*24 V DC*	*25 V DC*	*24 V DC*	*25 V DC*
4. Cable cross section	**0.50 mm²** - 0.035 Ω/m	37.5 m	73.2 m	18.1 m	36.0 m	6.5 m	13.6 m	3.0 m	7.0 m
	0.75 mm² - 0.023 Ω/m	56.3 m	110.0 m	27.2 m	54.0 m	9.7 m	20.4 m	4.5 m	10.5 m
	1.00 mm² - 0.018 Ω/m	74.9 m	146.2 m	36.2 m	71.8 m	12.9 m	27.2 m	6.0 m	14.0 m
	1.50 mm² - 0.012 Ω/m	112.7 m	219.9 m	54.4 m	108.0 m	19.5 m	40.9 m	9.1 m	21.0 m
	2.50 mm² - 0.007 Ω/m	187.6 m	366.0 m	90.6 m	179.8 m	32.4 m	68.1 m	15.1 m	35.0 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.

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.

The binning tolerance of this product is 3 MacAdam.

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