

# LINEARLight POWER Flex - LF06P2

## Data Sheet



### Benefits

- High-intensity LED light source
- Linear separable LED strip on flexible printed circuit board with self-adhesive back
- Dimmable

### Applications

- General lighting
- Cove-Lighting
- Signage and illuminated advertising

## Technical Operating Data

Product	Color	Number of LEDs	Voltage [V DC]*	Power [W]*	Current [A]*	Radiance Angle [°]*	Wavelength [nm] Color Temp [K]*	Lum. Flux [lm]*
LF06P2-W5F-865	white	120	24	68,0	2,8	120	6500 K	5544
LF06P2-W5F-850	white	120	24	68,0	2,8	120	5000 K	5544
LF06P2-W5F-840	white	120	24	68,0	2,8	120	4000 K	5544
LF06P2-W5F-830	white	120	24	68,0	2,8	120	3000 K	5168
LF06P2-W5F-827	white	120	24	68,0	2,8	120	2700 K	4792

\*) All Data are related to the entire module

Due to the special conditions of the manufacturing processes of LED the typical data of technical parameters can only reflect statistical figures and do not necessarily correspond to the actual parameters of each single product which could differ from the typical data.

+) Preliminary Data

\*\*) Discontinued

## Technical Features

- Size of printed circuit board (L x W x H): 3000 mm x 8 mm x 3mm
- Size of smallest unit (L x W): 150 mm x 8 mm
- Entire Module consists of 120 LEDs
- Smallest unit of 6 LEDs can be cut out at regular intervals without damaging the rest of the module
- Connection possible at the reel end or at the cut points
- Linear LED strip on flexible printed circuit board with self-adhesive back
- Easy connection with optional CONNECTsystem LF-xx Flex: Feeder LF-2PIN Flex, connector LF-CONN-10 Flex and LF-CONN-150 Flex.
- Up to 50,000 h lifetime for  $T_a < 40^\circ\text{C}$
- Additional cutting possibilities by using the termination LF-2TERM

## Minimum and Maximum Ratings

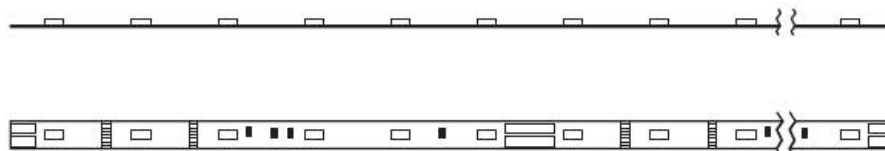
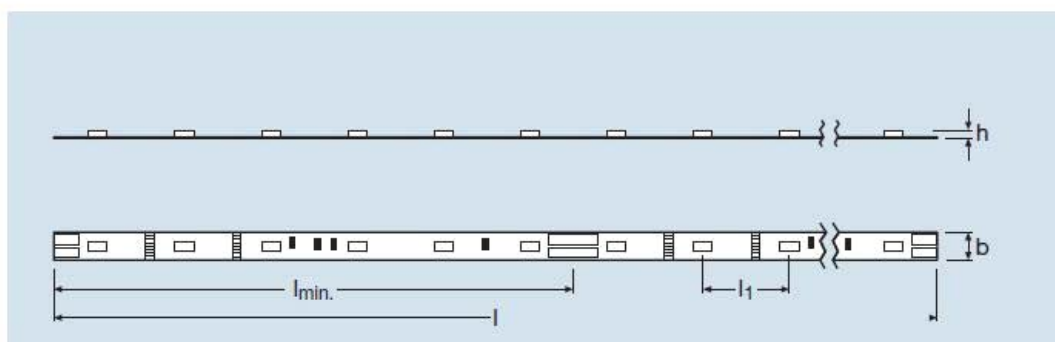
Product	Operating Temperature at Tc-Point [ °C ] *	Storage Temperature [ °C ] *	Voltage Range [ V dc ] *	Reverse Voltage [ V dc ] *
LF06P2-W5F-865	-20 ... 75	-20 ... 75	23 ... 25	25
LF06P2-W5F-850	-20 ... 75	-20 ... 75	23 ... 25	25
LF06P2-W5F-840	-20 ... 75	-20 ... 75	23 ... 25	25
LF06P2-W5F-830	-20 ... 75	-20 ... 75	23 ... 25	25
LF06P2-W5F-827	-20 ... 75	-20 ... 75	23 ... 25	25

\*) Exceeding maximum ratings for operating and storage temperature will reduce expected life time or destroy the LED Module.

Exceeding maximum ratings for operating voltage will cause hazardous overload and will likely destroy the LED Module.

The temperature of the LED module must be measured at the Tc-point according to EN60598-1 in a thermally constant status with a temperature sensor or a temperature sensitive label. For exact location of the Tc-point see drawing below.

## Drawings



## Safety Information

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

**In order to drive OSRAM LED-Modules safely, it is absolutely necessary to operate them with an electronically stabilised power supply protecting against short circuits, overload and overheating.**

To also ease the luminaire/installation approval, electronic control gear for LED or LED modules should carry the CE mark and be EN60598 certified. In Europe the declarations of conformity must include the following standards:

CE: EC 61374-2-13, EN 55015, IEC 61547 and IEC 61000-3-2 - ENEC: 61374-2-13 and IEC/EN 62384.

Also check for the mark of an independent authorized certification institute.

Please see the relevant brochure for more detailed information (see "Related and Further Information")

**OSRAM OPTOTRONIC® electronic control gear complies to all relevant standards and guarantees safe operation.**

- Installation of LED modules (with power supplies) needs to be made with regard to all applicable electrical and safety standards. Only qualified personnel should be allowed to perform installations.
- Observe correct polarity!  
Depending on the product incorrect polarity will lead to emission of red or no light. The module can be destroyed! Correct polarity immediately! (see "reverse voltage", page 2)
- Parallel connection is highly recommended as safe electrical operation mode.  
Serial connection is not recommended. Unbalanced voltage drop can cause hazardous overload and damage the LED module.
- The maximum length of LF06P2 is 3m (68 W version) with power feed at one end.
- When mounting on metallic or otherwise conductive surfaces, there needs to be a electrical isolation at soldering points between module and the mounting surface.
- Pay attention to standard ESD precautions when installing the module.
- Please ensure that the power supply is of adequate power to operate the total load.
- If the module is supposed to be cut at X1 or X2 (see techn. drawing) the following has to be respected:
  - Take care for the correct orientation of the module: The power feed must come from the side indicated in the techn drawing.
- The module, as manufactured, has no conformal coating and therefore offers no inherent protection against corrosion. The ability to customize the length of the module by cutting at specifically marked points is a key feature of the product and hence the reason for no factory installed conformal coating. For these reasons, it is recommended that the user complete all module modifications first (cutting wiring) and then apply a conformal coating in the final stages of installation.
- Damage by corrosion will not be honored as a materials defect claim. It is the user's responsibility to provide suitable protection against corrosive agents such as moisture and condensation and other harmful elements.
- For applications involving exposure to humidity and dust the module must be protected by a fixture or housing with a suitable protection class. The module can be protected against condensation water by treatment with an appropriate circuit board grade conformal coating. The conformal coating should have the following features:
  - Optical transparency
  - UV-resistance
  - thermal expansion matching the thermal expansion of the module  $15-30 \cdot 10^{-6} \text{ cm/cm/K}$
  - low permeability of steam for all climatic conditions
  - resistance against corrosive environment

## Assembly Information

- Connection with soldering wires on unmounted module: Do not pre-tin the solderpads but pre-tin the wires and solder for max 4 s at 30 °C. Allow solderpoints to completely cool down before the next soldering. Prevent shear- or peel forces.
- Soldering of wires with the module mounted on a heatsink: Pre-tin solderpads and wires and solder for max 3 s at 350 °C. Allow solderpoints to completely cool down before the next soldering. Prevent shear- or peel forces.
- The smallest unit (150 mm- 6 LEDs) can be removed by cutting with scissors between the designated solder pads.
- The mounting of the module is facilitated by means of the double-sided adhesive on the back-surface of the module. Care must be taken to provide a clean and dry mounting surface, free of oils or silicone coatings as well as dirt particle. The mounting substrate must have sufficient structural integrity. Take care to completely remove the protective backing. Once the module is appropriately positioned, pressure on the module with about 20N/cm<sup>2</sup> (refer to application techniques of 3M adhesive transfer tapes). In difficult cases the use of a primer may help.
- The minimum bending radius is 2 cm. The module has to be mounted on a metal heat sink!
- The thermal length expansion coefficient of the module is 17\*10<sup>-6</sup>cm/cm/K. When installing in environments with large variations in temperature (e.g. outdoor applications) and operating length of more than 2 m, the use of metallic mounting surfaces is necessary. Otherwise it is advisable to use an additional thicker adhesive tape to absorb the stress of any mismatch in expansion coefficients.

## Ordering Guide

Productgroup	Productname	EAN *	S-Unit *
LINEARLight POWER Flex	LF06P2-W5F-865	4008321971333	8
LINEARLight POWER Flex	LF06P2-W5F-850	4008321971791	8
LINEARLight POWER Flex	LF06P2-W5F-840	4008321971319	8
LINEARLight POWER Flex	LF06P2-W5F-830	4008321971296	8
LINEARLight POWER Flex	LF06P2-W5F-827	4008321971272	8

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

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

## Sales and Technical Support

### OSRAM GmbH

Hellabrunner Strasse 1  
D - 81536 München  
Germany  
[www.osram.com](http://www.osram.com)  
+49 (0)89 6213-0

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

## Related and Further Information

- OSRAM LED systems [www.osram.com/led-systems](http://www.osram.com/led-systems)
- New creativity in lighting design [138 W002 GB](http://www.osram.com/led-systems)
- LED Modules for illuminated signs
- OPTOTRONIC® Data Sheets <http://catalog.myosram.com>
- OPTOTRONIC® Technical Guide [130 T008 GB www.osram.com/ecg-downloads](http://www.osram.com/ecg-downloads)
- New standards for LED control gear [130 W011 GB www.osram.com/ecg-download](http://www.osram.com/ecg-download)