

LINEARlight Flex Protect - LF05E-P

Data Sheet



Benefits

- For outdoor use IP67
- High performance silicone for extreme long life time and flexibility
- Premounted feeder for easy connection
- Attractive Design

Applications

- Ships and boats, wall integration
- Machine lighting
- Path illumination, illuminated signs
- Spa and wellness lighting

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]*
LF05E-W2F-860-P	white	200	24	24,5	1	120	6000 K	765
LF05E-W2F-840-P	white	200	24	24,5	1	120	4000 K	940
LF05E-W2F-830-P	white	200	24	24,5	1	120	3000 K	765
LF05E-R1-P	red	200	24	36,0	1,5	120	625 nm	840
LF05E-Y1-P	yellow	200	24	36,0	1,5	120	587 nm	840
LF05E-T2-P	green	200	24	24,5	1	120	522 nm	940
LF05E-B2-P	blue	200	24	24,5	1	120	467 nm	296

*) 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

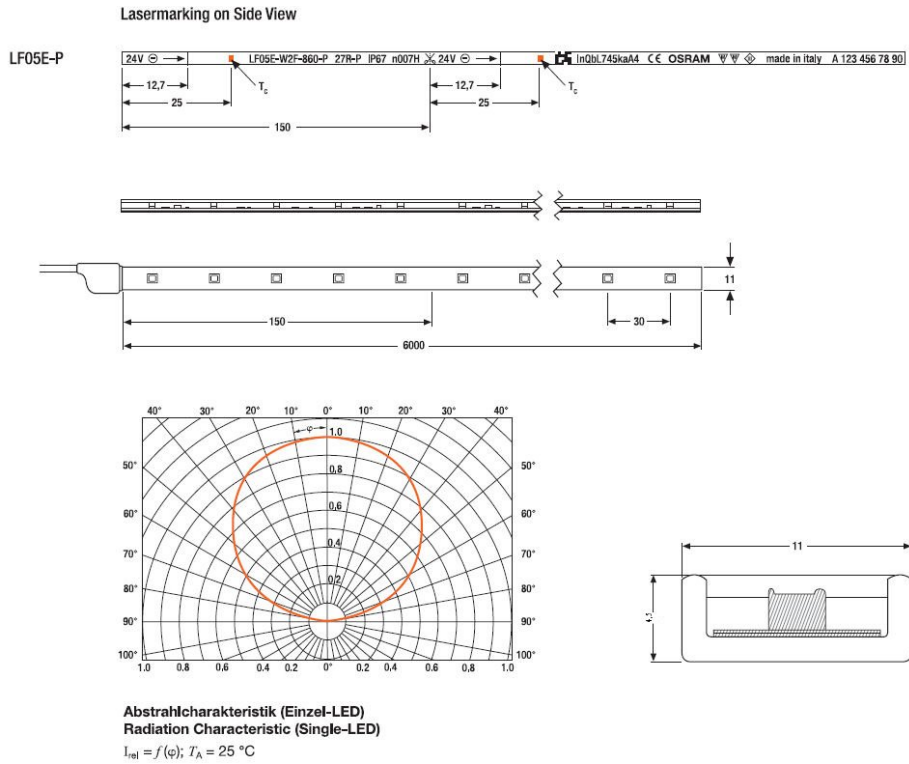
- For outdoor use IP67
- Highly UV-resistant
- Flammability according to glow-wire test with 850° according to EN60598-1
- Easy mounting by adhesive Tape on backside
- Connection of sub units by optional CONNECTsystem Protect
- Saltmist proof
- Size of smallest unit with 5 LED (L x W): 150 x 11 mm
- Size of printed circuit board (L x W x H): 6000 mm x 11 mm x 4,5 mm
- Dimmable by pulse width modulation (PWM)
- Only parallel connection allowed
- Up to 50,000 h lifetime

Minimum and Maximum Ratings

Product	Operating Temperature at Tc-Point [°C] *	Storage Temperature [°C] *	Voltage Range [V dc] *	Reverse Voltage [V dc] *
LF05E-W2F-860-P	-30 ... 75	-40 ... 85	23 ... 25	25
LF05E-W2F-840-P	-30 ... 75	-40 ... 85	23 ... 25	25
LF05E-W2F-830-P	-30 ... 75	-40 ... 85	23 ... 25	25
LF05E-R1-P	-30 ... 75	-40 ... 85	23 ... 25	25
LF05E-Y1-P	-30 ... 75	-40 ... 85	23 ... 25	25
LF05E-T2-P	-30 ... 75	-40 ... 85	23 ... 25	25
LF05E-B2-P	-30 ... 75	-40 ... 85	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 ENEC 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 LED module must not be operated under water.
- Please ensure that the power supply is of adequate power to operate the total load.

Assembly Information

- The smallest unit (150 mm- 5 LEDs) can be removed by cutting at the printed marks at the side.
- After cutting connect the module via CONNECTsystem LF-xx Protect. Insert module into connector and apply pressure on a hard surface until locked.
- The mounting of the single LED coupons 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 adhesive backing. Once the module is appropriately positioned, press on the module with about 20N/cm² (refer to application techniques of 3M adhesive transfer tapes).
- The minimum bending radius is 5 cm.
- The thermal length expansion coefficient of the modul is 17*10⁻⁶cm/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.
- If temperatur exceeds 40°C, additional mounting brackets are needed.

Ordering Guide

Productgroup	Productname	EAN *	S-Unit *
LINEARlight Flex Protect	LF05E-W2F-860-P	4008321616777	8
LINEARlight Flex Protect	LF05E-W2F-840-P	4008321621184	8
LINEARlight Flex Protect	LF05E-W2F-830-P	4008321616432	8
LINEARlight Flex Protect	LF05E-R1-P	4008321616937	8
LINEARlight Flex Protect	LF05E-Y1-P	4008321616975	8
LINEARlight Flex Protect	LF05E-T2-P	4008321616951	8
LINEARlight Flex Protect	LF05E-B2-P	4008321616913	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

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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

- A new approach to light [1EZW001GB
www.osram.com/led-systems-downloads](http://www.osram.com/led-systems-downloads)
- OPTOTRONIC® Technical Guide [130 T008 GB www.osram.com/ecg-downloads](http://www.osram.com/ecg-downloads)
- OPTOTRONIC® Data Sheets <http://catalog.myosram.com>
- OSRAM LED systems www.osram.com/led-systems
- New standards for LED control gear [130 W011 GB
www.osram.com/ecg-download](http://www.osram.com/ecg-download)