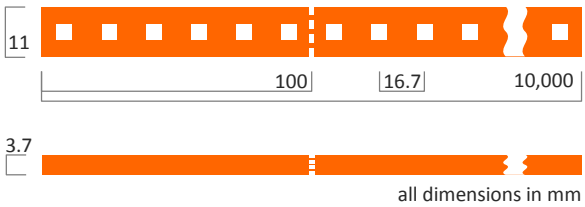
LINEARlight Flex Protect ADVANCED – LF06A-P

Technical Datasheet











Benefits

For outdoor use → IP67
High performance silicone:
- extreme long life time: 50.000 h
- high flexibility

Premounted feeder for easy connection
NEW: Slimmer Design
- Reduced height: 3.7 mm
- Elegant white appearance
- Electronic components hidden

NEW: Shorter pitch compared to prior generation

Applications

Ships and boats, wall integration
Machine lighting
Path illumination, illuminated signs
Architectural lighting

Quick reference

Product	Order Code	Color	K	W/m	lm/m	lm/W	Shipping Units
LF06A-W3F-830-P	4008321789983	White	3000 K	5	350	70	1 / 8
LF06A-W3F-840-P	4008321790125	White	4000 K	5	390	78	1 / 8
LF06A-W3F-870-P	4008321790149	White	7000 K	5	390	78	1 / 8

Technical features

Protection Type	IP 67 (outdoor use)
High performance Silicone	High UV-resistancy Saltmist proof
Dimmable	Pulse width modulation (PWM)
Binning	Fine white
Lifetime	50,000 h
Adhesive tape on backside	Tesa (High Performance Tape)
Fulfilled standards/tests	Flammability: Glow-wire test with 850° – EN60598-1 Mixed gas corrosion test – IEC60068-2-60
Complementary systems	CONNECTsystem IP67 LP, SLIMCONNECTsystem (IP54), SLIM TRACK, OPTOTRONIC

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Technical operating data (for overall module)

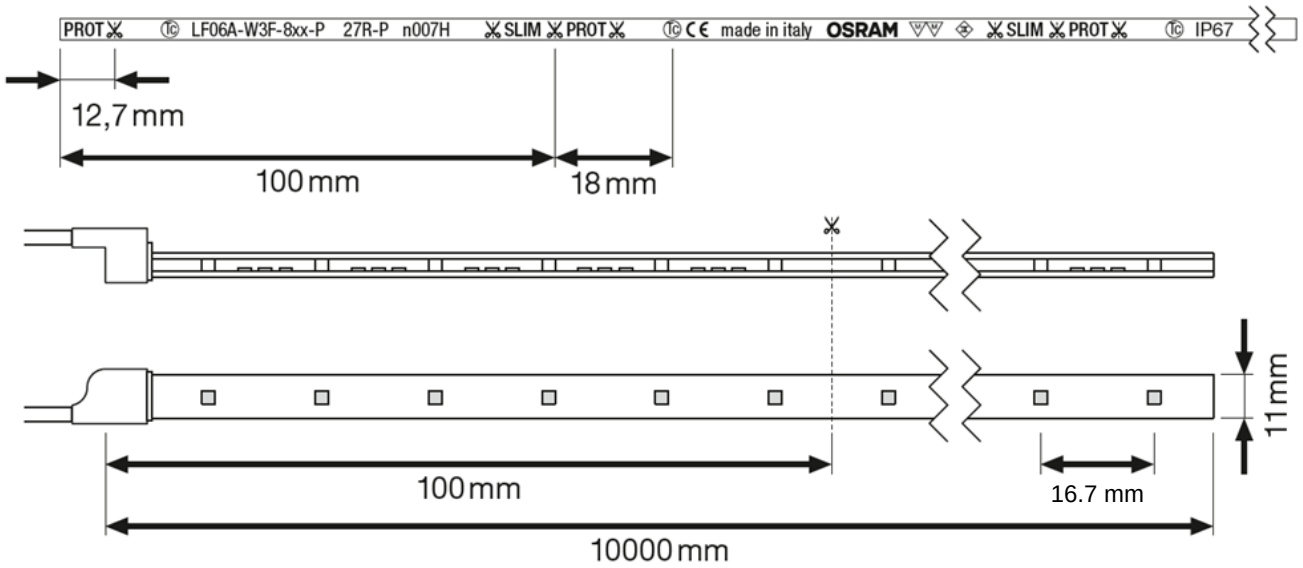
Product	Order Code	Voltage [V]	Power [W]	Current [A]	Luminous Flux [lm]	Radiance Angle [°]	Overall Length
LF06A-W3F-830-P	4008321789983	24	50	2	3500	120	10 m
LF06A-W3F-840-P	4008321790125	24	50	2	3900	120	10 m
LF06A-W3F-870-P	4008321790149	24	50	2	3900	120	10 m

Minimum & maximum ratings

	Operating temperature at Tc-Point [°C]	Storage temperature [°C]	Voltage range [V dc]	Reverse Voltage [V dc]
LF06A	-20 … +70°C	-40 … +100°C	23 … 25 V	25 V

- 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.

Technical drawing



Safety information

- The module has to be protected from mechanical loads
- Assembly must not damage or destroy conducting paths on the circuit board.
- Installation of LED modules (with power supplies) needs to be made with regard to all applicable 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 no light. The module can be damaged after a few seconds. To prevent this, 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 the LED module.
- ESD protection methods have to be observed when cutting and connecting the module. on ESD handling in the application note ESD protection for LED modules.
- The LED Module must not be operated under water
- Please ensure that the power supply is of adequate power to operate the total load.

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In order to drive OSRAM LED-Modules safely, it is absolutely necessary to operate them with an electronically stabilized 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 61347-2-13, EN 55015, IEC 61547 and IEC 61000-3-2 - ENEC: 61347-2-13 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® control gear complies to all relevant standards and guarantees safe operation.

Assembly Information

- The smallest electrical unit (SEU) (100 mm- 6 LEDs) can be removed by cutting at the printed marks at the side.
- After cutting connect the module via CONNECTsystem IP67 LP. 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 Tesa adhesive transfer tapes).
  To support adhesion at higher temperatures, use additional mounting brackets if temperature exceeds Tc = 40°C.
- The minimum bending radius is 5 cm.
- When installing in environments with large variations in temperature (e.g. outdoor applications) and operating length of more than 2 m, the use of adequate mounting surfaces is necessary . Otherwise it is advisable to use an additional thicker adhesive tape to absorb the stress of any mismatch in expansion.
- If temperature exceeds Tc = 40°C, additional mounting brackets are needed.
- Pay attention to avoid highly corrosive atmospheres, e.g. permanent high humidity or Hydrogen Sulfide (H2S).
  With current LED technology, H2S is causing accelerated corrosion which will lead to shortened timelife or premature failure.
  Sources for H2S may be rubber, foamed rubber, soft-foam-tapes, sealings on rubber basis, natural sources (e.g. sulfur springs), etc.
  To avoid H2S from sulfur-vulcanized rubber it is necessary to switch to silicon based materials or rubber that is Peroxid-crosslinked.
  Indication may be found in the material datasheet of the rubber supplier.

Complementary systems and accessories

Accessories

Type	Product	EAN	Shipping units
CONNECTsystem IP67			
Endcap for module	LF-ENDCAP IP67 LP	4052899902565	10
2pin Feeder	LF-2PIN IP67 LP	4052899125711	5
2pin Jumper	LF-2CONN IP67 LP	4052899125735	5
SLIMCONNECTsystem IP54			
2pin Feeder	LF-2PIN Flex IP SC	4008321841902	10
Jumper (board-to-board) *(also add: 4008321841926)*	LF-CONN Flex SC	4008321832467	25
IP54 Protection *for Jumper (4008321832467)*	LF-CONN Flex IP SC	4008321841926	25
SLIM TRACK System			
SLIM TRACK	LF-LTS-2100 SLIM TRACK	4008321978981	40
Mounting Bracket for SLIM TRACK	LF-LTS-MB	4008321979025	35 / 280
Clear SLIM TRACK Cover	LF-LTS COVER C	4008321790187	40
Diffuse SLIM TRACK Cover	LF-LTS-COVER-DIFFUSE	4008321979001	40
Endcap for Diffuse Cover	LF-LTS-ENDCAP	4008321979049	20 / 160
Semi-Diffuse SLIM TRACK Cover	LF-LTS COVER S	4008321790200	40

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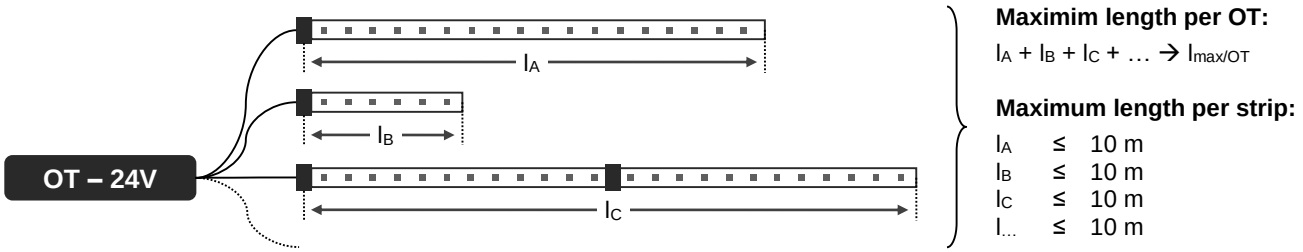
OPTOTRONIC

► Please consider that lengths may differ if further controls are installed.

Recommended OPTOTRONIC® drivers	EAN	Recommended max. length per driver
Non-dimmable		
OPTOTRONIC OT 6/200-240/24 CE	4008321113269	0,1 m - 1,2 m
OPTOTRONIC OT 8/200-240/24	4008321040169	0 m - 1,6 m
OPTOTRONIC OT 20/220-240/24	4050300618111	0,1 m - 4 m
OPTOTRONIC OT 20/120-240/24 S	4050300662626	0,2 m (*) - 4 m
OPTOTRONIC OT 75/220-240/24	4050300817477	0 m - 15 m (**)
OPTOTRONIC OT 75/220-240/24 E	4008321362476	0 m - 15 m (**)
OPTOTRONIC OT 80/220-240/24 P	4008321981684	5 m (*) - 16 m (**)
OPTOTRONIC OT 120/220-240/24 P	4008321981707	12 m (*) (**) - 24 m (**)
OPTOTRONIC OT 240/220-240/24 P	4008321981721	24 m (*) (**) - 48 m (**)
Dimmable		
OPTOTRONIC OT EASY 60 II	4008321187796	0 m - 12 m (**)
OPTOTRONIC OT EASY 80	4008321808363	0 m - 16 m (**)
OPTOTRONIC OT 65/220-240/24 3DIM E	4008321964403	0 m - 13 m (**)
OPTOTRONIC OTi DALI 75/220-240/24 1-4 CH	4008321371560	0 m - 15 m (**)
OPTOTRONIC OT 80/220-240/24 DIM P	4008321981677	5 m (*) - 16 m (**)
OPTOTRONIC OT 120/220-240/24 DIM P	4008321981691	12 m (*) (**) - 24 m (**)
OPTOTRONIC OT 240/220-240/24 DIM P	4008321981714	24 m (*) (**) - 48 m (**)

(*) Operation with shorter length possible. Recommended minimum length to achieve optimum operating conditions.

(**) Total lengths per driver. Length of single strip must not exceed 10 m.



Maximim length per OT:

$l_A + l_B + l_C + \ldots \rightarrow l_{max/OT}$

Maximum length per strip:

$l_A \leq 10$ m
$l_B \leq 10$ m
$l_C \leq 10$ m
$l_{...} \leq 10$ m

Contacts & information

German engineering meets Italian elegance – **creating a European product**
All LINEARlight Flex® Protect ADVANCED are Made in Italy by OSRAM, with over 100 years of experience in light solutions.

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Sales and technical support is given by the local OSRAM subsidiaries.

On the OSRAM website all subsidiaries are listed with complete address and phone numbers.

OSRAM LED Systems
OSRAM: FLEXIBLE LED MODULES
OSRAM catalogue
General information

www.osram.com/led-systems
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