

## LINEARlight FLEX Protect POWER 2000

– LED modules for professional and industrial applications



### Product family features

- Flexible and cuttable LED strip
- Luminous flux: up to 2,000 lm/m
- Type of protection: IP67
- Dimmable with PWM technology

### Product family benefits

- Color uniformity better than 2 SDCM on the entire LED strip and between strips
- High luminous flux
- Great design freedom thanks to flexibility and cuttability of module
- High-performance silicone for extremely long life and flexibility
- Simple connection thanks to premounted connectors
- Extraordinary design and high quality materials
- Toolless connection only if using the optional CONNECTsystem
- Easy mounting on many smooth surfaces thanks to self-adhesive tape at the back
- Outdoor use possible: UV and salt mist resistant (UV acc. to ISO 4892-2 - Method A, salt mist acc. to IEC 60068-2-52 severity 1)



## Product family datasheet

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### Areas of application

- Facade accent lighting
- Ceiling integration
- Wall integration
- Cove lighting
- Machine lighting
- Path lighting
- Suitable for outdoor use

## Product family datasheet

### Technical data

Product description	Electrical data						Photometrical data
	Nominal voltage	Type of current	Nominal wattage per meter	Rated wattage	Input voltage range	Accidental reverse input voltage protection up to	Light color LED
LFP2000 -G3-824-04 <sup>1)</sup>	24.0 V	DC	17.9 W	80.55 W	23...24 V	25 V	White
LFP2000 -G3-827-04 <sup>1)</sup>	24.0 V	DC	17.9 W	80.60 W	23...24 V	25 V	White
LFP2000 -G3-830-04 <sup>1)</sup>	24.0 V	DC	17.9 W	80.60 W	23...24 V	25 V	White
LFP2000 -G3-840-04 <sup>1)</sup>	24.0 V	DC	15.0 W	67.50 W	23...24 V	25 V	White
LFP2000 -G3-860-04 <sup>1)</sup>	24.0 V	DC	13.6 W	61.20 W	23...24 V	25 V	White
LFP2000 -G3-935-04	24.0 V	DC	17.9 W	80.60 W	23...25 V	25 V	White
LFP2000 -G3-940-04 <sup>1)</sup>	24.0 V	DC	17.9 W	80.55 W	23...24 V	25 V	White
LFP2000 -G3-960-04 <sup>1)</sup>	24.0 V	DC	16.3 W	73.35 W	23...24 V	25 V	White
LFP2000 -G3-SW40 <sup>1)</sup>	24.0 V	DC	17.9 W	80.60 W	23...24 V	25 V	White

Product description	Color temperature	Color rendering index Ra	Luminous flux per meter	Total useful luminous flux	Luminous efficacy	Standard deviation of color matching	Light color (designation)
LFP2000 -G3-824-04 <sup>1)</sup>	2400 K	>80	1800 lm	8100 lm	101 lm/W	≤3,5 sdc	2400 K
LFP2000 -G3-827-04 <sup>1)</sup>	2700 K	>80	1900 lm		106 lm/W		2700 K
LFP2000 -G3-830-04 <sup>1)</sup>	3000 K	>80	1900 lm		106 lm/W		3000 K
LFP2000 -G3-840-04 <sup>1)</sup>	4000 K	>80	1900 lm		127 lm/W		4000 K
LFP2000 -G3-860-04 <sup>1)</sup>	6000 K	>80	1800 lm		132 lm/W		6000 K
LFP2000 -G3-935-04	3500 K	>90	1800 lm		101 lm/W		3500 K
LFP2000 -G3-940-04 <sup>1)</sup>	4000 K	>90	1900 lm	8550 lm	106 lm/W	≤3,5 sdc	4000 K
LFP2000 -G3-960-04 <sup>1)</sup>	6000 K	>90	1900 lm	8550 lm	117 lm/W	≤3,5 sdc	6000 K
LFP2000 -G3-SW40 <sup>1)</sup>	4300 K	>90	1900 lm	8550 lm	106 lm/W	≤3,5 sdc	4000 K

Product description	Light technical data					LED module information
	LED pitch	Beam angle	Rated beam angle (half peak value)	Starting time	Warm-up time (60 %)	Number of LEDs per meter
LFP2000 -G3-824-04 <sup>1)</sup>	14.3 mm	120 °	120.00 °	< 0.5 s	0.00 s	70
LFP2000 -G3-827-04 <sup>1)</sup>	14.3 mm	120 °				70
LFP2000 -G3-830-04 <sup>1)</sup>	14.3 mm	120 °				70
LFP2000 -G3-840-04 <sup>1)</sup>	14.3 mm	120 °				70
LFP2000 -G3-860-04 <sup>1)</sup>	14.3 mm	120 °				70
LFP2000 -G3-935-04	14.29 mm	120 °				70
LFP2000 -G3-940-04 <sup>1)</sup>	14.3 mm	120 °	120.00 °	< 0.5 s	0.00 s	70
LFP2000 -G3-960-04 <sup>1)</sup>	14.3 mm	120 °	120.00 °	< 0.5 s	0.00 s	70
LFP2000 -G3-SW40 <sup>1)</sup>	14.3 mm	120 °	120.00 °	< 0.5 s	0.00 s	70

## Product family datasheet

Product description	Number of LEDs per smallest unit	Maximum operable length	Dimensions & weight			
			Length	Length – smallest unit	Width	Height
LFP2000 -G3-824-04 <sup>1)</sup>	7	4500 mm <sup>2)</sup>	4500 mm	100.0 mm	11.1 mm	4.5 mm
LFP2000 -G3-827-04 <sup>1)</sup>	7	4500 mm <sup>2)</sup>	4500 mm	100.0 mm	11.1 mm	4.5 mm
LFP2000 -G3-830-04 <sup>1)</sup>	7	4500 mm <sup>2)</sup>	4500 mm	100.0 mm	11.1 mm	4.5 mm
LFP2000 -G3-840-04 <sup>1)</sup>	7	4500 mm <sup>2)</sup>	4500 mm	100.0 mm	11.1 mm	4.5 mm
LFP2000 -G3-860-04 <sup>1)</sup>	7	4500 mm <sup>2)</sup>	4500 mm	100.0 mm	11.1 mm	4.5 mm
LFP2000 -G3-935-04	7		4500 mm	100.0 mm	11.1 mm	4.50 mm
LFP2000 -G3-940-04 <sup>1)</sup>	7	4500 mm <sup>2)</sup>	4500 mm	100.0 mm	11.1 mm	4.5 mm
LFP2000 -G3-960-04 <sup>1)</sup>	7	4500 mm <sup>2)</sup>	4500 mm	100.0 mm	11.1 mm	4.5 mm
LFP2000 -G3-SW40 <sup>1)</sup>	7	4500 mm <sup>2)</sup>	4500 mm	100.0 mm	11.1 mm	4.5 mm

Product description	Cable length	Product weight	Colors & materials		Temperatures & operating conditions
			Cover material	Body material	Performance temp. acc. to IEC 62717
LFP2000 -G3-824-04 <sup>1)</sup>	500.0	282.00 g	Silicone	Silicone	55 °C
LFP2000 -G3-827-04 <sup>1)</sup>	500.0	282.00 g	Silicone	Silicone	55 °C
LFP2000 -G3-830-04 <sup>1)</sup>	500.0	282.00 g	Silicone	Silicone	55 °C
LFP2000 -G3-840-04 <sup>1)</sup>	500.0	282.00 g	Silicone	Silicone	50 °C
LFP2000 -G3-860-04 <sup>1)</sup>	500.0	282.00 g	Silicone	Silicone	50 °C
LFP2000 -G3-935-04	500.0	282.00 g	Silicone	Silicone	55 °C
LFP2000 -G3-940-04 <sup>1)</sup>	500.0	282.00 g	Silicone	Silicone	55 °C
LFP2000 -G3-960-04 <sup>1)</sup>	500.0	282.00 g	Silicone	Silicone	55 °C
LFP2000 -G3-SW40 <sup>1)</sup>	500.0	282.00 g	Silicone	Silicone	55 °C

Product description	Temperature range in operation at Tc point	Ambient temperature range	Temperature range at storage	Lifespan	
				Rated lamp life time	Nominal lamp life time
LFP2000 -G3-824-04 <sup>1)</sup>	-20...70 °C <sup>3)</sup>	-20...+50 °C <sup>4)</sup>	-40...+85 °C	60000 h <sup>5)</sup>	60000 h
LFP2000 -G3-827-04 <sup>1)</sup>	-20...70 °C <sup>3)</sup>	-20...+50 °C <sup>4)</sup>	-40...+85 °C	60000 h <sup>5)</sup>	60000 h
LFP2000 -G3-830-04 <sup>1)</sup>	-20...70 °C <sup>3)</sup>	-20...+50 °C <sup>4)</sup>	-40...+85 °C	60000 h <sup>5)</sup>	60000 h
LFP2000 -G3-840-04 <sup>1)</sup>	-20...70 °C <sup>3)</sup>	-20...+50 °C <sup>4)</sup>	-40...+85 °C	60000 h <sup>5)</sup>	60000 h
LFP2000 -G3-860-04 <sup>1)</sup>	-20...70 °C <sup>3)</sup>	-20...+50 °C <sup>4)</sup>	-40...+85 °C	60000 h <sup>5)</sup>	60000 h
LFP2000 -G3-935-04	-20...70 °C <sup>3)</sup>	-20...+50 °C <sup>4)</sup>	-40...80 °C	60000 h <sup>5)</sup>	60000 h
LFP2000 -G3-940-04 <sup>1)</sup>	-20...70 °C <sup>3)</sup>	-20...+50 °C <sup>4)</sup>	-40...+85 °C	60000 h <sup>5)</sup>	60000 h
LFP2000 -G3-960-04 <sup>1)</sup>	-20...70 °C <sup>3)</sup>	-20...+50 °C <sup>4)</sup>	-40...+85 °C	60000 h <sup>5)</sup>	60000 h
LFP2000 -G3-SW40 <sup>1)</sup>	-20...70 °C <sup>3)</sup>	-20...+50 °C <sup>4)</sup>	-40...+85 °C	60000 h <sup>5)</sup>	60000 h

## Product family datasheet

Product description	Lumen main. fact. at end of nom. life time	Number of switching cycles	Additional product data	
			ID of contained light source	Predecessor EAN
LFP2000 -G3-824-04 <sup>1)</sup>	0.70	15000	LS_TRV_249942	
LFP2000 -G3-827-04 <sup>1)</sup>			LS_TRV_250026	
LFP2000 -G3-830-04 <sup>1)</sup>			LS_TRV_251370	
LFP2000 -G3-840-04 <sup>1)</sup>			LS_TRV_251538	
LFP2000 -G3-860-04 <sup>1)</sup>			LS_TRV_251706	
LFP2000 -G3-935-04			LS_TRV_251454	4052899481237
LFP2000 -G3-940-04 <sup>1)</sup>	0.70	15000	LS_TRV_251622	
LFP2000 -G3-960-04 <sup>1)</sup>	0.70	15000	LS_TRV_251790	
LFP2000 -G3-SW40 <sup>1)</sup>	0.70	15000	LS_TRV_250110	

Product description	Capabilities	Certificates & standards		
	Lowest bending radius	Energy consumption	Standards	Type of protection
LFP2000 -G3-824-04 <sup>1)</sup>	50 mm	89 kWh/1000h	CE; ENEC 10 VDE/EAC/UL Recognized component according UL 8750	IP67
LFP2000 -G3-827-04 <sup>1)</sup>	50 mm	89 kWh/1000h	CE; ENEC 10 VDE/EAC/UL Recognized component according UL 8750	IP67
LFP2000 -G3-830-04 <sup>1)</sup>	50 mm	89 kWh/1000h	CE; ENEC 10 VDE/EAC/UL Recognized component according UL 8750	IP67
LFP2000 -G3-840-04 <sup>1)</sup>	50 mm		CE; ENEC 10 VDE/EAC/UL Recognized component according UL 8750	IP67
LFP2000 -G3-860-04 <sup>1)</sup>	50 mm		CE; ENEC 10 VDE/EAC/UL Recognized component according UL 8750	IP67
LFP2000 -G3-935-04	50 mm		CE; ENEC 10 VDE/EAC/UL Recognized Component	IP67
LFP2000 -G3-940-04 <sup>1)</sup>	50 mm	89 kWh/1000h	CE; ENEC 10 VDE/EAC/UL Recognized component according UL 8750	IP67
LFP2000 -G3-960-04 <sup>1)</sup>	50 mm	81 kWh/1000h	CE; ENEC 10 VDE/EAC/UL Recognized component according UL 8750	IP67
LFP2000 -G3-SW40 <sup>1)</sup>	50 mm	87 kWh/1000h	CE; ENEC 10 VDE/EAC/UL Recognized component according UL 8750	IP67

Product description	Energy efficiency class of the contained light source	Logistical data
		Commodity code
LFP2000 -G3-824-04 <sup>1)</sup>	F	940540399000
LFP2000 -G3-827-04 <sup>1)</sup>	F	940540399000
LFP2000 -G3-830-04 <sup>1)</sup>	F	940540399000
LFP2000 -G3-840-04 <sup>1)</sup>	E	940540399000

## Product family datasheet

Product description	Energy efficiency class of the contained light source	Logistical data
		Commodity code
LFP2000 -G3-860-04 <sup>1)</sup>	E	940540399000
LFP2000 -G3-935-04	F	940540399000
LFP2000 -G3-940-04 <sup>1)</sup>	F	940540399000
LFP2000 -G3-960-04 <sup>1)</sup>	F	940540399000
LFP2000 -G3-SW40 <sup>1)</sup>	F	940540399000

<sup>1)</sup> Modules perfectly matched to OSRAM OPTOTRONIC LED drivers (see relevant table)/For current photometric data and important safety, installation and application information (see [www.osram.com/led-systems](http://www.osram.com/led-systems)),/All the technical parameters apply to the entire module. In view of the complex manufacturing process for light emitting diodes, the typical values given above for the technical LED parameters are merely statistical values that do not necessarily correspond to the actual technical parameters of an individual product; individual products may vary from the typical values

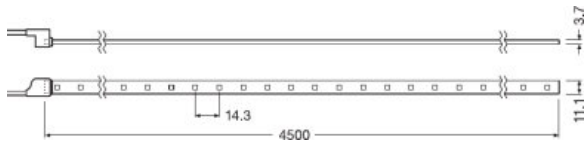
<sup>2)</sup> Max. cumulative product length powering it from a single end

<sup>3)</sup> Exceeding the maximum ratings will reduce expected life time or destroy the LED strip.

<sup>4)</sup> Rated ambient temp. 25°C/Providing that temperature at T<sub>c</sub> point is below max value during operation/Temperature ramping for environmental testing acc. to IEC 62717, 1K/min

<sup>5)</sup> L70/B50 at T<sub>c</sub> 40 °C

## Product family datasheet



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LF Protect Power 2000

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### Equipment / Accessories

- Simplified connection with optional matching CONNECTsystem
- Quick installation with optional SLIM TRACK System
- Perfectly matched to OPTOTRONIC 24 V electronic control gears

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### Application advice

For more detailed application information and graphics please see product datasheet.

## Product family datasheet

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### Additional product information

- Some LED modules are equipped with a self-adhesive tape for attaching the LED module to suitable materials, such as aluminum profiles, which must be clean and free of oil or silicone coatings, as well as other dirt/dust particles. The adhesive tape is intended for single use and if removed may damage the material to which it is stuck and the LED module itself, which must then be scrapped. Use the adhesive tape when the installation material temperature is in the 18 °C...35 °C range. Complete adhesion takes up to 72 h.
- LED modules are designed for static installations in accordance with IPC 6013C – Use A. Take material vibrations, repetitive torsion, and elongation/compression into account.
- If the operating environment covers a broad temperature range (e.g. outdoor applications) and the operating length is longer than 2 m, the use of adequate mounting surfaces is required. The use of an additional thicker adhesive tape between LED module and mounting surface is also recommended in order to absorb the stress of any mismatch in expansion. Assure enough space for module expansion with increasing temperature.
- The manufacturer is not responsible for damage due to chemical corrosion. The user must provide suitable protection against corrosive agents such as moisture and condensation and any other harmful elements/compounds. Make certain to avoid corrosive atmospheres. According to the current state of LED technology, hydrogen sulfide (H<sub>2</sub>S) causes accelerated corrosion which leads to shortened lifetime or premature failure. Sources of H<sub>2</sub>S may be rubber, foam rubber, soft-foam tapes, rubber-based sealing, natural sources (e.g. sulfur springs), etc. To avoid H<sub>2</sub>S from sulfur-vulcanized rubber use silicon-based materials or peroxide-crosslinked rubber instead. Follow the recommendations in the material datasheet of the rubber supplier.
- IP00 LED modules, as manufactured, have no conformal coating and therefore offer no inherent protection against corrosion. Conformal coating treatment is possible, however materials must be selected properly in order to avoid product damage or impaired performance; the user must also completely seal the cut parts (ends/edges).
- For applications involving exposure to humidity and dust the module must be protected by a fixture or housing with a suitable IP protection class.
- Consult OSRAM Technical Service for further advice.
- Only a qualified electrician may install the module.
- Handle with care and ensure that there is no mechanical product damage, including damage to invisible internal electronics parts.
- Exceeding maximum operating and storage temperature ratings can reduce the expected lifetime or even destroy the LED module. The temperature of the LED module must be measured at the T<sub>c</sub>-point in accordance with EN 60598-1 under steady-state conditions, considering the worst case; drive all channels at 100 % power. Refer to the product drawing for the exact location of the T<sub>c</sub>-point.
- Exceeding the maximum ratings for the operating voltage causes hazardous overload and will likely destroy the LED module.
- Installation of LED modules and connection to the power supply must comply with all applicable electrical and safety standards.
- Observe correct polarity and wiring diagrams! Incorrect polarity or wrong wiring can cause unpredictable permanent damage or even failure of the product.
- Never exceed the maximum operable length, including daisy-chaining connections.
- Always ensure electrical isolation between the LED module and the mounting surface, especially in the vicinity of connections or cut ends.
- IP00 LED modules are ESD-sensitive; take adequate precautions during installation and operation of the products.
- Use only SELV LED drivers in accordance with applicable lighting standards and LED module ratings. In order to safely operate OSRAM LED modules it is necessary to supply them with an electronically stabilized power supply providing protection against short circuits, overload and overheating. To simplify the approval process of the luminaire/installation, the electronic power supplies control gear for LED modules must bear the CE and ENEC marking. In Europe the Declarations of Conformity must include at least the following standards: EN 61347-2-13, EN 55015, EN 61547 and EN 61000-3-2. ENEC certification will be based on EN 61347-2-13 and EN 62384. OSRAM OPTOTRONIC LED drivers comply with all relevant standards and guarantee safe operation; see the relevant brochure for more detailed information about OSRAM OPTOTRONIC.
- Avoid installations in rural and urban areas with high industrial activity and heavy traffic (higher than class than 4C1 according IEC 60721-3) and as well as installation in spa, areas with chlorine atmosphere, direct exposure to blown sand.

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### Sales and Technical Support






## Product family datasheet

Sales and Technical Support [www.osram.com](http://www.osram.com)

### Download Data

File	
	User instruction LINEARlight FLEX Protect POWER
	Product Datasheet LINEARlight FLEX Protect Power Specification Sheet
	Brochures Light is freedom of design (EN)
	Certificates EAC Certificate
	Certificates ENEC10_VDE Certificate
	Certificates UL Certificate
	Declarations of conformity Declaration of conformity
	Declarations of conformity Manufacturer declaration
	Eulumdat Eulumdat LFP2000-G3-824
	IES data IES LFP2000-G3-824
	Eulumdat Eulumdat LFP2000-G3-827
	IES data IES LFP2000-G3-827
	Eulumdat Eulumdat LFP2000-G3-830
	IES data IES LFP2000-G3-830
	Eulumdat Eulumdat LFP2000-G3-840
	IES data IES LFP2000-G3-840
	Eulumdat Eulumdat LFP2000-G3-860
	IES data IES LFP2000-G3-860
	Eulumdat Eulumdat LFP2000-G3-940

## Product family datasheet

	IES data IES LFP2000-G3-940
	Eulumdat Eulumdat LFP2000-G3-960
	IES data IES LFP2000-G3-960
	Eulumdat Eulumdat LFP2000-G3-SW40
	IES data IES LFP2000-G3-SW40

### Ecodesign regulation information:

ul>This product is considered to be a "containing product" in the sense of Regulations (EU) 2019/2020 and (EU) 2019/2015. Tolerances of the reported values, are according to LED Modules Performance standard IEC/EN 62717.

In general, the replacement of the contained light sources without permanent damage to the product with the use of common available tools is possible in the final application when they can be dismantled from the installation environment and substituted for the necessary number of light sources restoring its full electrical/mechanical/thermal/optical functionality by means of a professional installer.

In the contrary, and limited to the LINEARlight Flex Diffuse, LINEARlight Rigid Finesse, GINO LED Flex Diffuse and LUMINENT Milky product families, the contained light source is an integrated part of the containing product and its removal can only be done by causing a permanent damage to the containing product due to its tight mechanical, electrical, optical, thermal interaction and/or environmental protection with or from the containing product. Therefore, a replacement of the light source with the use of common available tools is not justified.

Dismantling of light sources from containing products at end of life: Containing products with light sources which are scalable in length can be cut to the length of the contained light source and if applicable mechanically detached from protective and/or optical covers. Containing products shall be separated from building material and/or from other additional mounting accessories by means of a professional installer.

Separate control gear and light sources must be disposed of at certified disposal companies in accordance with Directive 2012/19/EU (WEEE) in the EU and with Waste Electrical and Electronic Equipment (WEEE) Regulations 2013 in the UK. For this purpose, collection points for recycling centres and take-back systems (CRSO) are available from retailers or private disposal companies, which accept separate control gear and light sources free of charge. In this way, raw materials are conserved and materials are recycled.

### Logistical Data

Product code	Product description	Packaging unit (Pieces/Unit)	Dimensions (length x width x height)	Volume	Gross weight
4052899481138	LFP2000 -G3-824-04	Shipping carton box 8	365 mm x 286 mm x 366 mm	38.21 dm <sup>3</sup>	6474.00 g
4052899481152	LFP2000 -G3-827-04	Shipping carton box 8	365 mm x 286 mm x 366 mm	38.21 dm <sup>3</sup>	6474.00 g
4052899481176	LFP2000 -G3-830-04	Shipping carton box 8	365 mm x 286 mm x 366 mm	38.21 dm <sup>3</sup>	6474.00 g
4052899481190	LFP2000 -G3-840-04	Shipping carton box 8	365 mm x 286 mm x 366 mm	38.21 dm <sup>3</sup>	6474.00 g

## Product family datasheet

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### Logistical Data

4052899481213	LFP2000 -G3-860-04	Shipping carton box 8	365 mm x 286 mm x 366 mm	38.21 dm <sup>3</sup>	6474.00 g
4062172091909	LFP2000 -G3-935-04	Shipping carton box 8	365 mm x 286 mm x 366 mm	38.21 dm <sup>3</sup>	6474.00 g
4052899481251	LFP2000 -G3-940-04	Shipping carton box 8	365 mm x 286 mm x 366 mm	38.21 dm <sup>3</sup>	6474.00 g
4052899481275	LFP2000 -G3-960-04	Shipping carton box 8	365 mm x 286 mm x 366 mm	38.21 dm <sup>3</sup>	6474.00 g
4052899501911	LFP2000 -G3-SW40	Shipping carton box 8	365 mm x 286 mm x 366 mm	38.21 dm <sup>3</sup>	6474.00 g

The mentioned product code describes the smallest quantity unit which can be ordered. One shipping unit can contain one or more single products. When placing an order, for the quantity please enter single or multiples of a shipping unit.

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### Disclaimer

Subject to change without notice. Errors and omission excepted. Always make sure to use the most recent release.