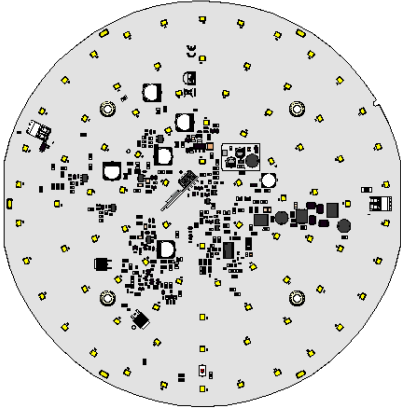


# PrevaLED® Flat AC – PL-FLAT-AC-BL 230V

## Technical information



PL-FLAT-AC-BL  
(pictures for reference only)



### Benefits

- LED- engine for diffuse wall- / ceiling-mounted luminaires
- Qualified Bluetooth Mesh wireless communication
- Works with OSRAM HubSense
- Dimmable 1...100%
- Power on-board through integrated driver electronics
- Emergency lighting (local and central battery systems)
- Low height luminaires with high uniformity realizable
- High system efficacy for simple thermal management
- Overheating protection through thermal derating
- Touch protect accessory for safe installation in existing luminaires

### Applications

For general illumination in:

- Corridors, Stairways, Entrance ways
- Hospitality: Hotels, Restaurants
- Public, Commercial & Office buildings
- Secondary rooms: garages, storage, ...
- Luminaires for emergency lighting with central battery according to IEC 60598-2-22
- Emergency lighting for single battery systems

### Technical operating data:

Product	Power [W]	Input Voltage [Vac]	Input Current [A]	Power factor λ	THD [%]
PL-FLAT-AC-BL-G3 1500-830 230V	13.0	230	0.056	>0.98	<15
PL-FLAT-AC-BL-G3 1500-840 230V	12.0	230	0.054	>0.98	<15
PL-FLAT-AC-BL-G3 2500-830 230V	20.0	230	0.087	>0.98	<15
PL-FLAT-AC-BL-G3 2500-840 230V	20.0	230	0.087	>0.98	<15

Product	Luminous flux [lm]	Beam angle [°]	Color Temp. [K]	CRI	efficacy [lm/W]
PL-FLAT-AC-BL-G3 1500-830 230V	1450	115	3000	>80	112
PL-FLAT-AC-BL-G3 1500-840 230V	1450	115	4000	>80	121
PL-FLAT-AC-BL-G3 2500-830 230V	2350	115	3000	>80	118
PL-FLAT-AC-BL-G3 2500-840 230V	2450	115	4000	>80	123

Note: Due to the special conditions of 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.

## Technical features

INPUT	Nominal voltage	220 – 240	V	
	Nominal frequency	0 / 50 / 60	Hz	
	AC voltage range	198 – 264	V	
	DC voltage range	176 – 276	V	DC or RAC
	Maximum voltage	320	Vac	2h max. The unit will not operate in this abnormal condition
	Networked stand-by power (declared value)	<0.4	W	PL-FLAT-AC-BLxxx
	Inrush current	1.5 (th=10µs) 2.0 (th=10µs)	A pk	PL-FLAT-AC-xxx 1500 xxx PL-FLAT-AC-xxx 2500 xxx
	Max. units per circuit breaker	B16: 156 B10: 220 B16: 100 B10: 140		PL-FLAT-AC-xxx 1500 xxx  PL-FLAT-AC-xxx 2500 xxx
OUTPUT	P <sub>stLM</sub>	<1		
	SVM	<0.4		
	Energy efficiency index	E		
OUTPUT	Dimming control	QBM		
	Dimming method	Analog dimming		
	Dimmin range	1 – 100%		
	Radio frequency	2.4	GHz	
	Max TX power	+4	dB	
	Wireless protocol			Qualified Bluetooth Mesh
	Wireless range	10	M	Line of sight

- L70B50 @ 50,000 hours at  $t_p=75^{\circ}\text{C}$  (see IEC/PAS 62717)
- Lifespan 50,000 hours at  $t_c=75^{\circ}\text{C}$
- L0C10 @ 50,000 hours at  $t_p=75^{\circ}\text{C}$  (see IEC/PAS 62717)
- Specialized touch safe accessory (PL-FLTP) to cover line-voltage carrying parts and enable easy and safe installation in existing luminaires.
- Luminaires for emergency lighting with central battery according to IEC 60598-2-22. When DC voltage is applied the luminous flux is on ~25%of rated value.

## Minimum and maximum ratings

Product	Performance temperature $t_p$ at $t_c$ -point [ $^{\circ}\text{C}$ ]	Operating temperature at $t_c$ -point [ $^{\circ}\text{C}$ ] <sup>1</sup>	Storage temperature [ $^{\circ}\text{C}$ ] <sup>1</sup>	Operating Voltage range [Vac] <sup>2</sup>
PL- FLAT-AC-BL-G3 xxx	45	-20 ... 85	-20 ... 85	220 ... 240

The  $t_c$ -point is at the top of the LED light engine and it is marked as “ $t_c$ ”.

The  $t_c$  and  $t_p$  temperature of FLAT-AC-G3 module are measured at the same reference point.

The LED light engine is designed to work on 230Vac mains voltage. Reverse wiring on the mains voltage wiring will not impede the operation of the LED light engine. The thermal derating starts at a  $t_c$  point temperature of  $> 100^{\circ}\text{C}$ .

<sup>1</sup> Exceeding maximum ratings for operating and storage temperature will reduce expected life time or destroy the LED light engine. The temperature of the LED light engine must be measured at the  $t_c$ -point according to EN60598-1 in a thermally stable state with a temperature sensor or a temperature sensitive label. The  $t_c$ -point is clearly marked at on the product.

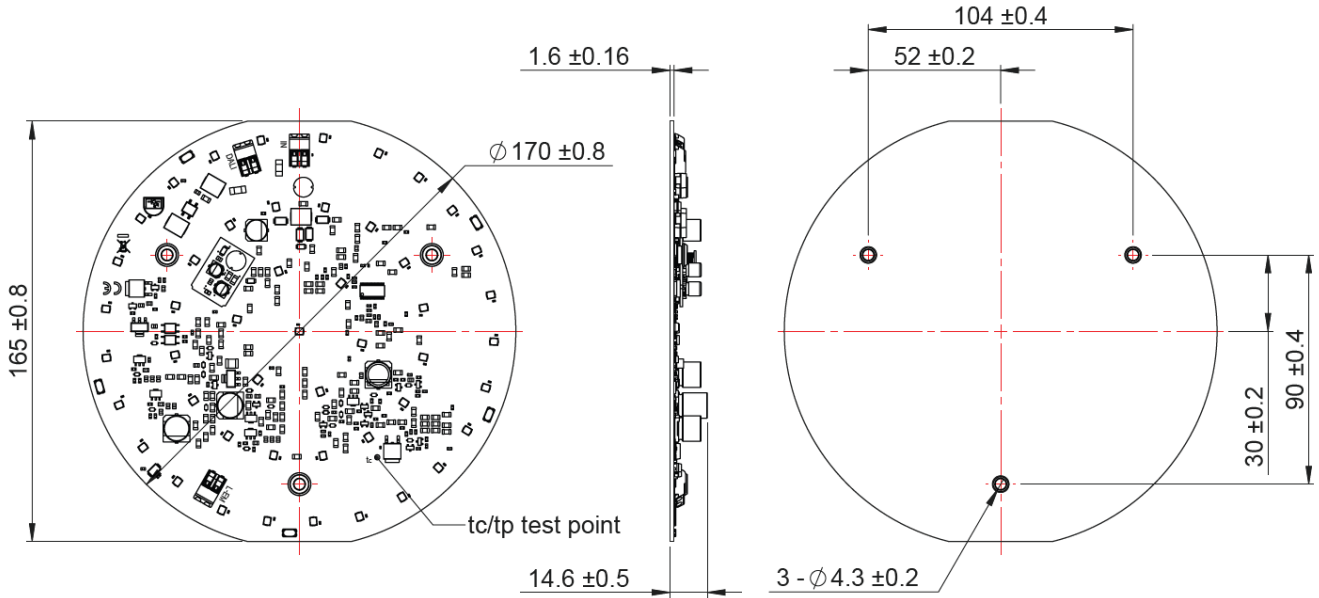
<sup>2</sup> Exceeding maximum ratings for operating voltage range will lead to a change in performance and lifetime and could damage the LED light engine.

**Note:** Due to the special conditions of 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.

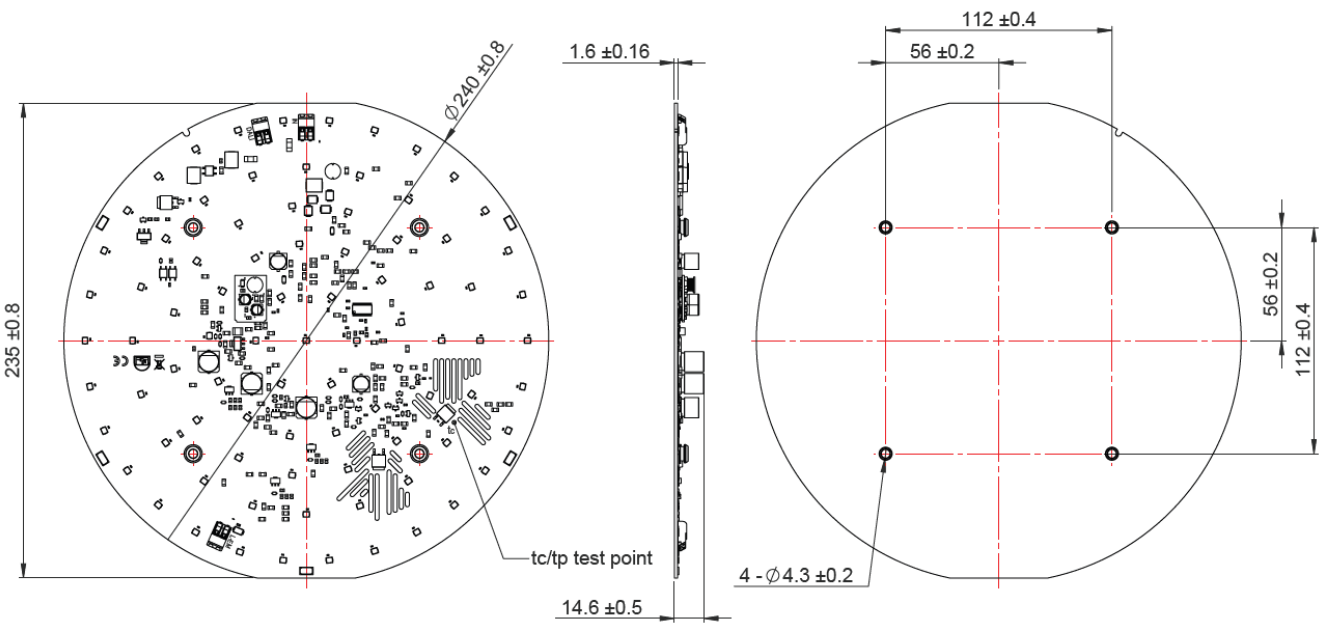
**Dimensions & mechanical data**

Product	Diameter [mm]	Weight [g]	Solid wire cross-section [mm <sup>2</sup> ]	Stranded wire cross-section [mm <sup>2</sup> , no ferrule to be used]
PL- FLAT-AC-BL-G3 1500 xxx	170	98	0.5 – 0.75	0.5 – 0.75
PL- FLAT-AC-BL-G3 2500 xxx	240	172	0.5 – 0.75	0.5 – 0.75

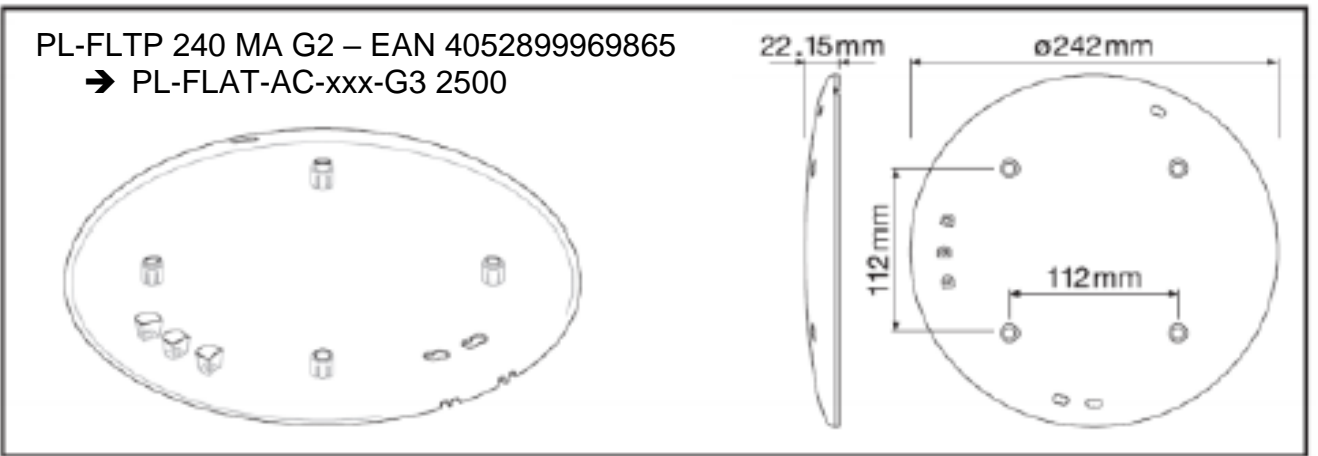
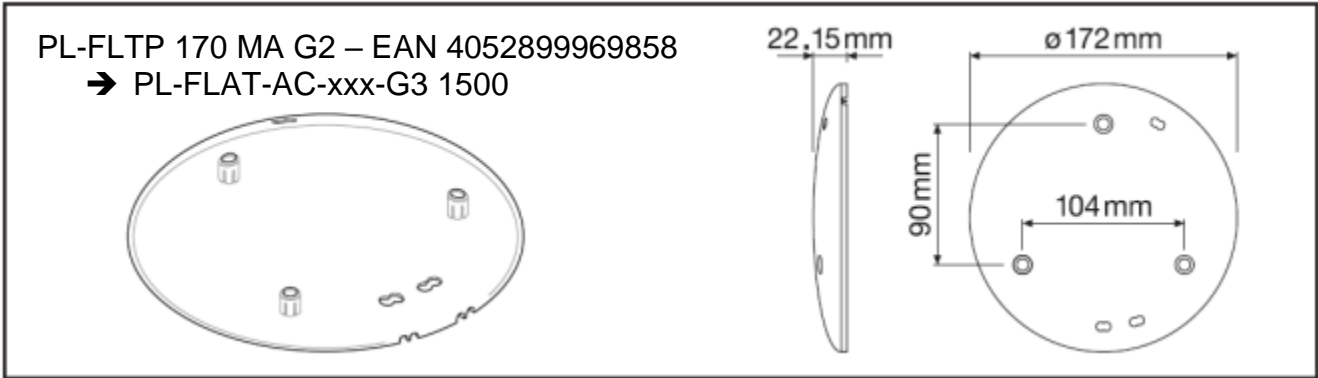
PL- FLAT-AC-BL-G3 1500 xxx



PL- FLAT-AC-BL-G3 2500 xxx

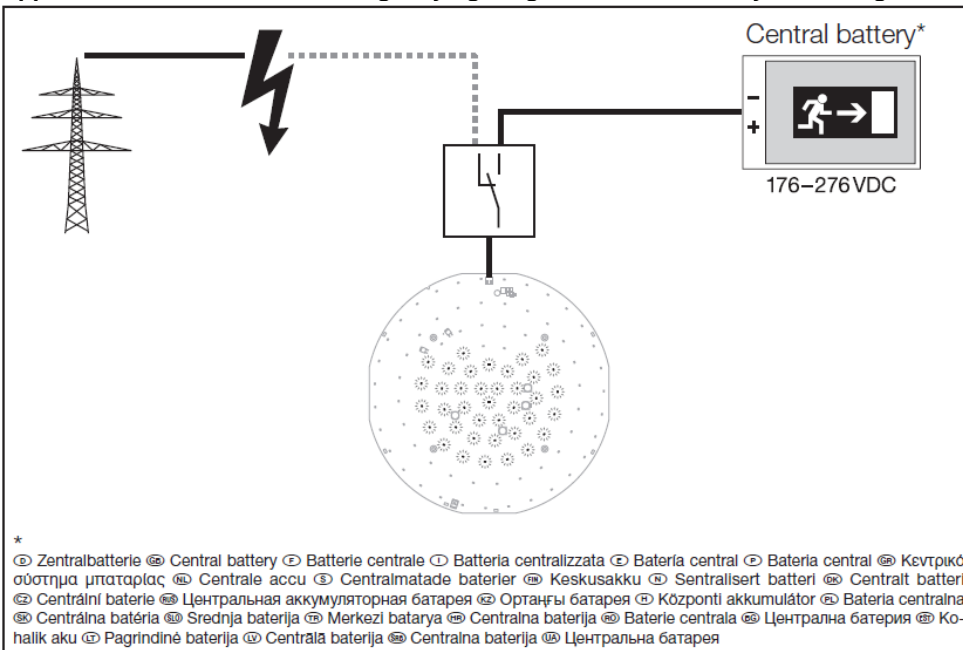


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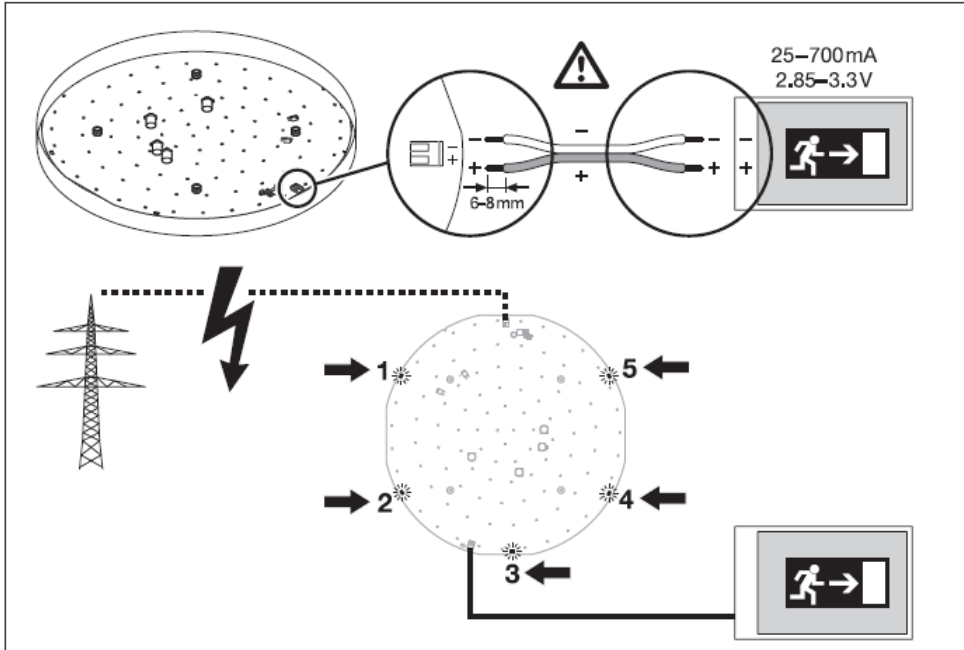
### Emergency Lighting operations

Application: Luminaires for emergency lighting with central battery according to IEC 60598-2-22



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**Application: Emergency lighting for single battery systems**



**Standard Compliance**

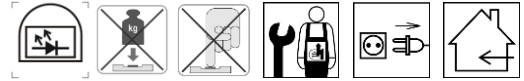
CE	EN 62031, EN 55015, EN 61547, EN 61000-3-2, EN 61000-3-3
Electromagnetic compatibility and Radio spectrum Matters (ERM)	EN 300440-1/-2
Flammability	IEC 60598-1
Eye Security	IEC/TR 62778, RG1 (prior to mounting in a diffuse luminaire)
Ingress Protection	Dry Location, IP 20 (with PL-FLTP applied)
Environment	RoHS

**Safety information**

- The LED light engine itself and all its components may not be mechanically stressed.
- The LED light engine provides reinforced insulation to the mounting surface.
- The EL circuit provides double / reinforced insulation to mains.
- EL circuit shall be connected to SELV control gears only.
- It is recommended to mount the LED light engine on a heat sink (e.g. sheet metal) providing adequate thermal dissipation.
- Do not damage or destroy conducting paths on the circuit board.
- The LED light engine is mains voltage operated. All related safety precautions need to be observed.
- The LED light engine cannot be operated safely when the touch protection accessory is mechanically damaged, unless the luminaire provides independent touch protection.
- Installation of LED light engine needs to be made with regard to all applicable electrical and safety standards. Only qualified personnel should be allowed to perform installation.
- Serial connection of the LED light engines is not permitted. Only parallel connection of the LED light engines is allowed.
- These light engines are based on 100Hz technology and modulate the light amplitude at this frequency. Therefore the LE must not be applied in rooms with fast moving parts such as rotating machines, if there is a risk of frequency interference. Fast moving parts might appear to stand still although being in motion. Possible interference with camera/display systems should be checked.
- Damage by corrosion will not be accepted as materials defect claim. It is the user's responsibility to provide suitable protection against corrosive agents, such as moisture, condensation and other harmful elements.
- Pay attention not to exceed the maximum operation temperature 90°C at the  $t_c$  point when the modules are used in an enclosed environment.
- The design of the housing/luminaire should be according to the IP standards applicable for the intended application.

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- See also the related application note (available on the OSRAM Web Pages) for further details.



**Reset**

Bluetooth Network Reset per push button (keep pressed >5sec).

**Remarks**

- Emergency lighting: this LED power supply is suitable for emergency lighting fixtures acc. to EN 60598-2-22., with emergency output factor EOFI=0.40 (default value, can be programmed up to EOFI=1) and related duration time of 1h at least. Function in emergency is ensured up to ta=80°C.
- By integrating the device into a casing the wireless range could be affected, in particular by metal surfaces. Therefore, the wireless range needs to be verified after integration.
- The device can be put into operation using the Inventronics HubSense Commissioning Tool (<https://platform.hubsense.eu>), subject to prior acceptance of the Terms of Use and the Privacy Policy.
- Inventronics may terminate or suspend the use of the HubSense Commissioning Tool at any time and for any or no reason in its sole discretion, even if access and use is continued to be allowed to others.
- The device complies with Bluetooth Mesh Standard v1.0. It can also be used in 3rd party Bluetooth Mesh network that complies with this standard and that supports the mesh models of this device. In order to ensure correct interoperability a verification with the 3rd party network components is necessary in advance. Please contact Inentronics ([support@hubsense.eu](mailto:support@hubsense.eu)) to receive the actual list of supported mesh models for this device.
- Inentronics shall have no liability for any 3rd party commissioning tool and does not make any representations, express or implied, about the availability and/or performance of such commissioning tool.

**Ordering guide**

Product	order code EAN-010
PL-FLAT-AC-BL-G3 1500-830 230V	4062172342438
PL-FLAT-AC-BL-G3 1500-840 230V	4062172342452
PL-FLAT-AC-BL-G3 2500-830 230V	4062172342476
PL-FLAT-AC-BL-G3 2500-840 230V	4062172342490
Accessory	order code EAN-010
PL-FLTP 170 MA G2	4052899969858
PL-FLTP 240 MA G2	4052899969865

**Sales and technical support**

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