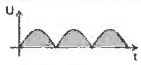
Technical requirements for electronic control gears for LED and fluorescent lumninaires (dimmable or non-dimmable) for operation on INOTEC central battery systems (CPS 220 / CPS FUSION) and emergency power supply systems (NEA)

INOTEC Sicherheitstechnik GmbH

- General requirements -

Manufacturer: OSRAM GmbH Marcel-Breuer-Str. 6 D-80807 München	Type / Description: Luminaire: EVG: PL-FLAT-AC-DA-G3 5000-830 230V(4052899605664） PL-FLAT-AC-DA-G3 5000-840 230V(4052899605688） LED:
Project / Place / Project ID:	Specified by: Name: Danny Zhu Company: OSRAM GmbH Date: 04.02.2021

	Features	Techn. data / INOTEC requirements	Explanation	Fullfilled (Yes / No)
1	Voltage range AC	**230V ± 10%**	Voltage range in normal mains operation	**YES**
2	Voltage range DC	**186V - 260V**	Possible voltage range in emergency operation	**YES**
3	Control gear suitable for "Joker-Voltage" ?	**B2-rectification of the AC voltage (without smoothing)**	Pulsating DC voltage 	**YES**
4	Control gear compatible with changeover time of the system?	**Change-over time: 150 - 1000ms**	Typical change-over time of INOTEC systems between mains- and battery operation	**YES**
5	Starting behavior of the control gear **in AC and DC operation**	**Stable current consumption within 1.6s**	Necessary for individual lamp monitoring (SV). The nominal current of the control gear must be reached within this time if the lamp is intact or defective.	**YES**
6	Control gear complies with the standard: (only for fluorescent lamps)	**DIN EN 60929**	AC and/or DC-supplied electronic control gear for tubular fluorescent lamps - Performance requirements	Not relevant
7	Control gear complies with the standard: (only for fluorescent lamps)	**DIN EN 61347-2-3 (incl. Attachment J)**	Particular requirements for AC and/or DC supplied electronic control gear for fluorescent lamps	Not relevant
8	Control gear complies with the standard: (only for LED)	**DIN EN 62384**	DC or AC supplied electronic control gear for LED modules - Performance requirements	Not relevant
9	Control gear complies with the standard: (only for LED)	**DIN EN 61347-2-13**	Lamp control gear - Part 2-13: Particular requirements for DC or AC supplied electronic control gear for LED modules	**NO(DIN EN 62031)**
10	Control gear complies with the standard:	**DIN EN 55015 (Measurement on AC and DC)**	Limits and methods of measurement of radio interference	**YES**
11	Control gear complies with the standard:	**DIN EN 61000-3-2**	Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)	**YES**
12	Control gear complies with the standard:	**DIN EN 61547**	Equipment for general lighting purposes — EMC immunity requirements	**YES**
13	Control gear complies with the DALIstandards:	**DIN EN 62386-101 /-102 / -207**	The control and status information for monitoring the luminaire is provided via DALI commands. The DALI commands must be 100% compatible.	**YES**

Note: VDE 0108 is not a standard for ECG, marking is not applicable

Technical requirements for electronic control gears for LED and fluorescent lumninaires (dimmable or non-dimmable) for operation on INOTEC central battery systems (CPS 220 / CPS FUSION) and emergency power supply systems (NEA)

- Technical specifications -

Manufacturer: OSRAM GmbH Marcel-Breuer-Str. 6 D-80807 München	Type / Description: Luminaire: EVG: PL-FLAT-AC-DA-G3 5000-830 230V(4052899605664） PL-FLAT-AC-DA-G3 5000-840 230V(4052899605688） LED:
Project / Place / Project ID:	Specified by: Name: Danny Zhu Company: OSRAM GmbH Date: 04.02.2021

	Features	Explanation	Manufacturer spec.
14	Nominal current of the control gear with connected illuminant in **AC- operation (230V)**	Selection guide for the calculation of the max. number of luminairs per circuit	See table1
15	Nominal current of the control gear with connected illuminant in **DC- operation (186V / 216V / 240V)**	Selection guide for the calculation of the necessary battery capacity and selection guide for determination of the monitoring module to recognise a normal working lamp correctly.	See table1
16	Nominal current of the control gear with connected illuminant **at set dimming level** in **DC-operation (186V / 216V / 240V)** (for dimmable control gear)	Selection guide for determination of the monitoring module to recognise a normal working lamp correctly.	See table1
17	Current consumption of the control gear **without** or with **defective** illuminant in **DC- operation (186V and 240V)**	Selection guide for determination of the monitoring module to recognise a lamp failure correctly.	See table1
18	Current consumption of the control gear **without** or with **defective** illuminant in **AC- operation (230V)**	Selection guide for determination of the monitoring module to recognise a lamp failure correctly.	See table1
19	Dimming level in emergency mode (DC or "Joker") (for dimmable control gear, if activated)	Important for the safety lighting design	**)25%
20	DC detection **completely** deactivalable ? (for dimmable control gear)	To ensure correct operation, the control gear should not react to a change of the input voltage (DC or "Joker"). In this case, the INOTEC DALI module (DALI-SV module or FMD 230/DALI) controls the control gear.	**NO**
21	Max. inrush current of the control gear with connected illuminant in **AC- operation (230V)**	Important for determining the maximum permissible number of luminaires per circuit in order to take account of the maximum contact load capacity of the circuit changeover circuit or monitoring module.	1.8A /5.25 µs
22	Use of DALI commands according to IEC 62386 part 102: - DPAC (level) - RECALL MAX LEVEL 0x05 - RECALL MIN LEVEL 0x06 - QUERY STATUS 0x90 - QUERY ACTUAL LEVEL 0xA0 - QUERY LAMP FAILURE 0x92	Control and status information for monitoring the luminaires: - Direct setting of a dimming value - Set maximum level - Set minimum level - Requests status telegram - Requests current dimming value - Requests lamp failure status (**after 2 / 2.5 / 3 seconds!**)	**YES**

Luminaires, which should work as emergency lighting, have to be in accordance with DIN EN 60598-2-22. (Particular requirements - Luminaires for emergency lighting).

Notes:

**) The light input level is locked in DC-operation. Factory setting is 25% of the maximum level. It is not possible to change the behavior of the controlgear in DC-operation.

For the correctness:

04.02.2021 Shenzhen

Place, Date

Signature Danny Zhu

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Manufacturer: OSRAM GmbH Marcel-Breuer Str. 6 D-80807 München	Product: PL-FLAT-AC-DA-G3 5000-830 230V (4052899605664） PL-FLAT-AC-DA-G3 5000-840 230V （4052899605688）	OSRAM GmbH

		AC-operation		DC-operation			
LED controller type	Values for load range	In in ACoperation (230V)/mA (trms)	In in ACoperation (240V)/mA (trms)	In in DCoperation (186V)/mA (trms)	In in DCoperation (216V)/mA (trms)	In in DCoperation (240V)/mA (trms)	In in DCoperation (260V)/mA (trms)
PL-FLAT-AC-DA-G3 5000 230V	Maximum Load Pout=22.6	133	132.3	38	38.1	38.2	38.3
	Medium Load Pout = 11.3	68	68	38	38.1	38.2	38.3
	Minimum Load Pout = 0.3	3.6	3.6	38	38.1	38.2	38.3
	Standby Pout = 0	1.7	1.7	38	38.1	38.2	38.3
	Short	not applica					
	Open	not applica					

Remarks:
This table shows the currents consumption of the driver at three different operating points (Pmax, Pmid, Pmin) for AC and DC operation.
AC flat -> ECG and LE in one housing, no short/open load