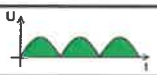
Technical requirements for electronic control gears for LED and fluorescent lumninaires (dimmable or non-dimmable) for operation on INOTEC central battery systems (CPS 220 / CPS FUSION) and emergency power supply systems (NEA)

- General requirements -

Manufacturer:	Type / Description: Luminaire EVG: OT 40/170-240/1A0 4DIMLT2 G2 CE (AM35337) LED:
Project / Place / Project ID:	Specified by: Name: G.Ruggieri Company: OSRAM GmbH Date: 12.03.2020

	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 change-over 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	Yes
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	Yes
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 DALI-standards:	**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

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- Technical specifications -

INOTEC Sicherheitstechnik GmbH

Manufacturer:	**Type / Description:** Luminaire
	EVG: OT 40/170-240/1A0 4DIMLT2 G2 CE (AM35337)
	LED:
Project / Place / Project ID:	**Specified by:**
	Name: G.Ruggieri
	Company OSRAM GmbH
	Date: 12.03.2020

	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	Table 1 mA
15	Nominal current of the control gear with connected illuminant in DC- operation (185V / 215V / 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.	Table 1 mA (185V) Table 1 mA (215V) Table 1 mA (240V)
16	Nominal current of the control gear with connected illuminant at set dimming level in DC-operation (185V / 215V / 240V) (for dimmable control gear)	Selection guide for determination of the monitoring module to recognise a normal working lamp correctly.	Table 1 mA (185V) Table 1 mA (215V) Table 1 mA (240V)
17	Current consumption of the control gear without or with defective illuminant in DC- operation (185V and 240V)	Selection guide for determination of the monitoring module to recognise a lamp failure correctly.	Table 1 mA (185V) Table 1 mA (240V)
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.	Table 1 mA
19	Dimming level in emergency mode (DC or "Joker") (for dimmable control gear, if activated)	Important for the safety lighting design	100 (*1) %
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.	Yes
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.	28 / 172 A / 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:
*1) The DC-Output Level is locked in DC Mode to 100% as preset factory setting
*2) Not to be used in high risk areas, special release required

For the correctness:

Treviso, 12.03.2020
Place, Date

Signature MICHELE MENEGATTI

DS QM LAB&SOM Bernhard Schemmel

Technical requirements for dimmable DALI control gears for fluorescent lamps and LED

INOTEC Sicherheitstechnik GmbH

Manufacturer: OSRAM GmbH Marcel-Breuer Str. 6 D-80807 München	Product: OT 40/170-240/1A0 4DIMLT2 G2 CE	OSRAM GmbH

Table 1

LED controller type	Values for load range		IN in AC-operation (230V) / mA (trms)	IN in AC-operation (240V) / mA (trms)	IN in DC-operation (186V) / mA (trms)	IN in DC-operation (216V) / mA (trms)	IN in DC-operation (240V) / mA (trms)	IN in DC-operation (260V) / mA (trms)
OT 40/170-240/1A0 4DIMLT2 G2 CE	Minimum Load /mA	Uout= 15 V Iout= 200 mA	34	38	29	25	23	22
	Medium Load /mA	Uout= 38 V Iout= 525 mA	107	103	129	110	100	92
	Maximum Load /mA	Uout= 38V Iout= 1050 mA	202	193	207	178	160	147
	No Load		21	22	7	6	6	5
	Short Load		20	20	3	3	3	3

Maximum inrush current for ECG in AC Operation: Ipeak = 26 A TH = 172 µs