Technical requirements for electronic control gears for LED- / fluorescent- luminaires for connection at INOTEC central battery systems

INOTEC Sicherheitstechnik GmbH

Manufacturer:	Type / Description:
OSRAM GmbH Marcel-Breuer-Str. 6 D-80807 München	Luminaire: EVG: OT FIT 40 220-240 1A0 LT2 LP (ident code: AM05120) LED:
Project / Place / Project ID:	Specified by: Name: D. Graser Company: OSRAM GmbH Date: 09.08.2017

	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 DC operation	Stable current consumption within 3s	Necessary for individual lamp monitoring (SV)	**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**
/	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	**(*2)Yes**

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

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	Features	Techn. data / INOTEC requirements	Explanation	Manufacturer information
13	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
14	Nominal current of the control gear with connected illuminant in DC- operation (216V)		Selection guide for the calculation of the necessary battery capacity	See Table1
15	Nominal current of the control gear with connected illuminant in DC- operation (186V und 260V) and pre-set luminous flux	J-SV-Modul/S (5-120W): > 20mA = OK J-SV-Modul.2/S (20-300W): > 70mA = OK J-SV-Modul.3/S (2-30W): > 12mA = OK J-SV-Modul.4/S (18-120W): > 70mA = OK J-SV-Modul.L/S (20-120W): > 20mA = OK J-SV-Modul T/S (20-100W): > 60mA = OK	Selection guide for determination of the monitoring module: The values are not to be undercut within the voltage range 186VDC - 260VDC to recognise a normal working lamp correctly.	See Table1 See Table1
16	Luminous flux in DC- operation (186V)		Important for the safety lighting design	100%
17	Standby current of the control gear with no illuminant connected or with defective illuminant in DC-operation (186V and 260V)	J-SV-Modul/S (5-120W): < 10mA = n.OK J-SV-Modul.2/S (20-300W): < 45mA = n.OK J-SV-Modul.3/S (2-30W): < 8mA = n.OK J-SV-Modul.4/S (18-120W): < 45mA = n.OK J-SV-Modul.L/S (20-120W): < 10mA = n.OK J-SV-Modul T/S (20-100W): < 50mA = n.OK	Selection guide for determination of the monitoring module: The values are not to be exceeded within the voltage range 186VDC - 260VDC to recognise a lamp failure correctly.	See Table1 (*1)
18	Max. inrush current of the control gear with connected lamp in AC operation (230V)	Max. permitted inrush current per circuit / monitoring module: SK 4x2A: 250A / 500µs SK 2x4A: 250A / 500µs SK 2x3A: 250A / 500µs SK 1x6A: 250A / 500µs J-SV-Modul T/S: 40A / 500µs all other J-SV-modules: 80A / 500µs	Describes the max. inrush current of all ballasts in a circuit, to calculate the maximum contact rating of the circuit	Ipeak=16A TH=195 µs (*3)
	Luminaires, which should work as emergency lighting, have to be in accordance with DIN EN 60598-2-22. (Particular requirements - Luminaires for emergency lighting).			

(*1): The J-SV-monitoring modules monitor the current consumption on the primary side of the control gear for LED modules within the specified limits. Failures of individual LEDs (low-impedance) on the secondary side do not inevitably lead to a modification of current consumption on the primary side, and in such cases cannot be detected as a failure.

(*2): Not to be used in high risk areas, special release required

(*3): For calculation the inrush current of the monitoring module must be taken into consideration!

Notes:

For the correctness:

Freiburg, 29.08.2017

Place, Date

DS D SST
Dr. Kay Schmidtmann
DS QM LAB&SQM
Bernhard Schemmer

Signature

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Table1:

Manufacturer: OSRAM GmbH Marcel-Breuer Str. 6 D-80807 München	Product: **OT FIT 40/220-240 700 LT2 LP**	OSRAM

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 FIT 40/220-240 700 LT2 LP	Maximum Load /m Uout/V= 50 Iout/mA= 1050	214,11	205,65	263,27	224,30	201,08	184,78
	Minimum Load /m. Uout/V= 15 Iout/mA= 500		57,96			44,30	
	No Load		26,39	0,06		0,06	1,24
	Short Load		26,38	6,08		5,07	1,84

Maximum inrush current for ECG in AC Operation: I_{peak}= 16A T_H= 195µs