

Requirements for dimmable DALI control gears for fluorescent lamps and LED

Version 0

Manufacturer: Osram GmbH Marcel-Breuer-Straße 6 D-80807 München	Type / description: ECG-type: Ot 20/170-240/1A0 4DIMLT2 G2 CE (ident code: AM04626)		
Features:	CEAG data:	Comment:	Complies: (Yes/No)
Control gear suitable for a DC voltage range:	186V - 260V DC (for Lead-Battery) 186V - 275V DC (for NiCD-Battery)	Possible voltage range of the battery in emergency mode. (Not for AT-S* Systems required)	Yes
Control gear compatible with the switch-over time of the system?	Switch-over time: 180 ms - 450 ms	Typical switch-over time of CEAG systems between mains supply and emergency power supply	Yes
Starting behavior of the control gear:	Stable current consumption after less than 1.6 sec. maximum.	Necessary for an individual monitoring. $\Delta I < 12,5 \text{ mA}$ per luminaire, with max. 20 luminaires per circuit $\Delta I \text{ sum} < 250 \text{ mA}$	Yes
<u>only for fluorescent lamps:</u> Control gear complies with the standard:	DIN EN 60929	AC and/or DC-supplied electronic control gear for tubular fluorescent lamps - Performance requirements	not relevant
<u>only for fluorescent lamps:</u> Control gear complies with the standard:	DIN EN 61347-2-3 (incl. Attachment J)	Particular requirements for AC and/or DC supplied electronic control gear for fluorescent lamps	not relevant
<u>only for LED:</u> Control gear complies with the standard:	DIN EN 62384	DC. Or AC supplied electronic control gear for LED modules - Performance requirements	Yes
<u>only for LED:</u> Control gear complies with the standard:	DIN EN 61347-2-13	Lamp controlgear — Part 2-13: Particular requirements for d. c. or a. c. supplied electronic controlgear for LED modules	Yes
Fullfilled the standard:	DIN EN 55015 (Measurement on AC And DC)	Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment	Yes
Fullfilled the standard:	DIN EN 61000-3-2	Electromagnetic compatibility (EMC) — Part 3-2: Limits — Limits for harmonic current emissions (equipment input current $\leq 16 \text{ A}$ per phase)	Yes
Fullfilled the standard:	DIN EN 61547	Equipment for general lighting purposes — EMC immunity requirements	(*3) Yes
Fullfilled the DALI standards:	DIN EN 62386-101 /-102 / -207	Control gear must have the DALI Logo	(*1) Yes
<small>Note: VDE 0108 is not a standard for ECG, marking is not applicable</small>			
Features:	CEAG-Data:	Comment:	Manufacturer's instructions:
<u>Important for function test!</u> According to IEC 62386 Part 102 Support of : DALI command 145 (Query Control Gear) DALI command 146 (Query Lamp Failure)	According to IEC 62386 Part 102	To detect a lamp failure, the V-CG-SB.1 module send DALI command queries (145/146) to the DALI LED driver	Yes
<u>Important for DC light output:</u> Behavior in DC operation: - Unlocked DC light output level - Locked DC light output level	DC light output settings on V-CG-SB.1 only active if control gear is unlocked!	In case of locked DC light output level, the DC level of V-CG-SB.1 is not active !	Unlocked DC [x] Locked DC []
<u>Important for lighting design:</u> If locked DC light output the lightout level in % is required	No control of light output level from V-CG-SB.1 in DC operation possible!	Locked light output level in %, e.g. 15%	(*2)100%
<u>Important for the contact load SKU:</u> Max. inrush current each converter/luminaire in AC-operation:	Max. permitted inrush current per circuit: SKU 2 x 3A (CG) => 120 A SKU 1 x 6A (CG) => 180 A SKU 4 x 1,5A CG-S => 60 A SKU 2 x 3A CG-S => 250 A SKU 1 x 6A CG-S => 250 A SOU CG-S // S* => 250 A SU S* => 250 A	Describes the max. inrush current of all ballasts in a circuit, to calculate the maximum contact rating of the circuit.	Ip=22,5A / Th=142µs
<u>Important for lighting design:</u> Luminous flux ratio: DC-operation at 186 V in comparison to 230 V AC operation	-	Light output In battery operation of the ballast, for the light calculation	(*2) 100%
Luminaires, which are used for emergency lighting, must be according to the standard DIN EN 60598-2-22 (particular requirements - Luminaires for emergency lighting)			
*1: Control of V-CG-SB.1 to the DALI LED driver is 100% done via DALI-commands according to IEC 62386-101 /-102 so the DALI LED driver must sign with the DALI logo			
*2: The DC Output Level is not locked in DC Mode to 100% of current Light Level , it is possible to lock with DALI magic and Tuner 4 Tronic			
*3: Not to be used in high risk areas, special release required			
Max. 1 DALI- Driver to wire with 1 V-CG-SB.1			
In use of manifold ballasts, the different lamp failure detection of the manufacturer must be consider! Some devices don't detect a failure if one lamp is defect.			
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Requirements for electronic non-dimmable control gears for fluorescent lamps and LED



Manufacturer:
OSRAM GmbH
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D-80807 München

Product:
Ot 20/170-240/1A0 4DIMLT2 G2 CE



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 20/170-240/1A0 4DIMLT2 G2 CE	Umin, Imin	25,08	25,07	20,87	18,10	16,37	15,35
	Umin, Imax	50,11	47,08	57,46	49,84	44,55	41,14
	Umax, Imin	49,56	48,31	56,30	48,53	43,61	40,33
	Umax, Imax	127,70	120,69	119,73	102,90	92,08	85,17
	Open Load	12,95	15,50	2,25	2,22	2,25	2,26
	Short Load	14,25	17,58	6,03	4,80	4,83	7,78

Maximum inrush current for ECG in AC Operation

I_{peak}= 22,5 A
T_H= 142 μs