

Requirements for dimmable DALI control gears for fluorescent lamps and LED			Version 5
<b>Manufacturer:</b> <b>OSRAM GmbH</b> <b>Marcel-Breuer-Str. 6</b> <b>D-80807 München</b>	<b>Type / description:</b> <b>ECG-type: OT DALI 100/220...240/750 D NFC L (4062172125116)</b> <b>Date: 15.03.2022</b>		<b>Manufacturer information</b> <b>Complies: YES/NO</b>
<b>Features:</b>	<b>CEAG data:</b>	<b>Explanation:</b>	
Control gear suitable for a DC voltage range:	<b>186V - 260V DC (for Lead-Battery)</b>	Possible voltage range of the battery in emergency mode. (Not for AT-S <sup>+</sup> Systems required)	<b>Yes</b>
Control gear compatible with the switch-over time of the system?	<b>Switch-over time:</b> <b>180 ms - 450 ms</b>	Typical switch-over time of CEAG systems between mains supply and emergency power supply	<b>Yes</b>
Starting behavior of the control gear:	<b>Stable current consumption after less than 1.6 sec. maximum.</b>	A stable operation of the control gear after 1.6 seconds of start up is required for the right functionality of the individual monitoring. With max. 20 luminaires for one current circuit: $\Delta I$ in sum < 250 mA are allowed	<b>Yes</b>
Control gear compatible with CEAG STAR-Technology:	<b>Phase-cut telegram (PAT):</b> <b>max. 30 phases (half waves) with max. 60° phase-cuts</b>	During the CEAG STAR switching process, up to 30 half-waves are cut at a maximum of 60°. The control gear must not exhibit any malfunctions such as switching off, flickering	<b>Yes</b>
<u>only for fluorescent lamps:</u> Control gear complies with the standard:	<b>DIN EN 60929</b>	AC and/or DC-supplied electronic control gear for tubular fluorescent lamps - Performance requirements	<b>Not relevant</b>
<u>only for fluorescent lamps:</u> Control gear complies with the standard:	<b>DIN EN 61347-2-3 (incl. Attachment J)</b>	Particular requirements for AC and/or DC supplied electronic control gear for fluorescent lamps	<b>Not relevant</b>
<u>only for LED:</u> Control gear complies with the standard:	<b>DIN EN 62384</b>	DC. Or AC supplied electronic control gear for LED modules - Performance requirements	<b>Yes</b>
<u>only for LED:</u> Control gear complies with the standard:	<b>DIN EN 61347-2-13</b>	Lamp controlgear — Part 2-13: Particular requirements for d. c. or a. c. supplied electronic controlgear for LED modules	<b>Yes</b>
Fullfilled the standard:	<b>DIN EN 55015 (Measurement on AC And DC)</b>	Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment	<b>Yes</b>
Fullfilled the standard:	<b>DIN EN 61547</b>	Equipment for general lighting purposes — EMC immunity requirements	<b>Yes</b>
Fullfilled the DALI standards:	<b>DIN EN 62386-101 /-102 / -207*</b>	<b>Control gear must have the DALI Logo*</b>	<b>Yes</b>
Note: VDE 0108 is not a standard for ECG, marking is not applicable			
<b>Features:</b>	<b>CEAG-Data:</b>	<b>Explanation:</b>	<b>Manufacturer information:</b>
<u>Important for function test!</u> According to IEC 62386 Part 102 Support of : <b>DALI command 145</b> (Query Control Gear) <b>DALI command 146</b> (Query Lamp Failure)	<b>According to IEC 62386 Part 102</b>	To detect a lamp failure, the V-CG-SB.1 module send DALI command queries (145/146) to the DALI LED driver. These DALI commands are necessary to ensure the lamp failure detection, and must be support by the control gear.	<b>Yes</b>
<u>Important for DC operation:</u> DALI light level	<b>In case of locked DALI light level in DC operation (EOF=Emergency Output Level), the V-CG-SB.1 can not change the light level !</b>	In DC-emergency case the DALI-Light Level is locked to prevent unwanted changes of the luminous flux.	<b>Locked</b>
<u>Important for lighting design:</u> If DALI-Light level is locked, the value of the preset DC-Lightlevel ( in %) is required		Pre-set DC-Light Level e.g. 15% (DALI-value 185 for logarithmic dimming curve)	<b>15%</b>
<b>Note: Important for the planning - Max. no. Of luminaires per circuit</b>			
<u>Important for the contact load SKU:</u> Max. inrush current each converter/luminaire in AC-operation:	<b>Max. permitted inrush current per circuit:</b> 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 <sup>+</sup> => 250 A SU S <sup>+</sup> => 250 A	<b>36A/147us per pcs.</b>  The declaration of the inrush current of the luminaire is important, to calculate the max. possible luminaires on one circuit, to consider the max. contact load limitation of the circuit.	
<b>Luminaires, which are used for emergency lighting, must be according to the standard DIN EN 60598-2-22 (particular requirements - Luminaires for emergency lighting)</b>			
*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			
<b>Max. 1 DALI- Driver to wire with 1 V-CG-SB.1</b> 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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Table 1

Values for load range	AC-operation				DC-Operation (For DALI Devices @ default DC Dim level e.g. 15%)			
	189VAC/50Hz Itrms_in ( mA )	230VAC/50Hz Itrms_in ( mA )	240VAC/50Hz Itrms_in ( mA )	264VAC/50Hz Itrms_in ( mA )	186VDC Itrms_in ( mA )	216VDC Itrms_in ( mA )	240VDC Itrms_in ( mA )	260VDC Itrms_in ( mA )
Min. Load /mA P_out= 15 W	not supported (87)	82	82	82	23	18	15	14
Mid. Load /mA P_out= 50 W	not supported (282)	242	232	214	49	43	40	35
Max. Load /mA P_out= 100 W	not supported (557)	474	454	413	86	74	67	61
Short/Open Load	not supported (26)	33	33	37	1	1	1	1

**Remarks:**

- 1.) This table shows the currents consumption of the driver at three different operating points (Pmax, Pmid, Pmin) for AC and DC operation.
- 2.) This table is intended for rough design desicions . It is not a replacement for individual functional measurments!