

Requirements for dimmable DALI control gears for fluorescent lamps and LED			Version 4
<b>Manufacturer:</b> OSRAM GmbH Marcel-Breuer-Str. 6 D-80807 München	ECG-type: OTi_DALI_10_220-240_700_NFC Date: 6.14.2022	<b>Manufacturer information</b> Complies: YES/NO	
<b>Features:</b>	<b>CEAG data:</b>		
Control gear suitable for a DC voltage range:	186V - 260V DC (for Lead-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.	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	YES
Control gear compatible with CEAG STAR-Technology:	Phase-cut telegram (PAT): max. 30 phases (half waves) with max. 60° phase-cuts	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	YES
only for fluorescent lamps: 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
only for fluorescent lamps: 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
only for LED: Control gear complies with the standard:	DIN EN 62384	DC. Or AC supplied electronic control gear for LED modules - Performance requirements	YES
only for LED: 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
Fulfilled 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
Fulfilled the standard:	DIN EN 61000-3-2	Electromagnetic compatibility (EMC) — Part 3-2: Limits — Limits for harmonic current emissions (equipment input current $\leq 16$ A per phase)	YES
Fulfilled the standard:	DIN EN 61547	Equipment for general lighting purposes — EMC immunity requirements	YES
Fulfilled the DALI standards:	DIN EN 62386-101 /-102 / -207*	Control gear must have the DALI Logo*	YES
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)	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. These DALI commands are necessary to ensure the lamp failure detection, and must be support by the control gear.	
<u>Important for DC operation:</u> DALI light level	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 !	In DC-emergency case the DALI-Light Level is locked to prevent unwanted changes of the luminous flux.	
<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>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:	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	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.			

Manufacturer: OSRAM GmbH Marcel-Breuer Str. 6 D-80807 München	Product:  <b>OTi DALI 10_220-240_700 D NFC</b> <b>( 4062172250269 )</b>	<b>OSRAM GmbH</b>
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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 Idc_in ( mA )	216VDC Idc_in ( mA )	240VDC Idc_in ( mA )	260VDC Idc_in ( mA )
Min. Load /mA	Uout= 2.75 V	not supported (14.7)	14,8	15,0	15,4	2,1	1,8	1,7	1,6	
	lout= 151.9 mA									
	P= 0.42 W	PF: 0.366	PF: 0.314	PF:0.3	PF: 0.274	PF: NA	PF: NA	PF: NA	PF: NA	
Mid. Load /mA	Uout= 8.9 V	not supported (48.8)	40,9	40,0	38,0	8,8	7,8	7,1	6,7	
	lout= 700 mA									
	P= 6.24 W	PF:0.944	PF: 0.935	PF:0.925	PF:0.894	PF: NA	PF: NA	PF: NA	PF: NA	
Max. Load /mA	Uout= 14.7 V	not supported (72)	59,7	57,4	53,3	13,0	11,4	10,4	9,8	
	lout= 700 mA									
	P= 10.32 W	PF:0.981	PF: 0.973	PF:0.969	PF:0.952	PF: NA	PF: NA	PF: NA	PF: NA	
Short/Open Load		not supported (11.2)	11,9	12,2	12,9	0,3	0,3	0,3	0,3	
		PF:0.032	PF: 0.034	PF:0.033	PF:0.032	PF: NA	PF: NA	PF: NA	PF: NA	

**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 decisions . It is not a replacement for individual functional measurements!