

Requirements for dimmable DALI control gears for fluorescent lamps and LED			Version 3
Manufacturer: OSRAM GmbH Marcel-Breuer-Str. 6 D-80807 München	Type / description: ECG-type: OTi DALI 35/220-240/400 D NFC TW L (ident code AM28017)		Manufacturer information Complies: YES/NO
Features:	CEAG data:	Explanation:	
Control gear suitable for a DC voltage range:	186V - 260V DC (for Lead-Battery)	Possible voltage range of the battery in emergency mode. <i>(Not for AT-S* Systems required)</i>	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: ΔI in sum < 250 mA are allowed	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 ≤ 16 A per phase)	YES
Fullfilled the standard:	DIN EN 61547	Equipment for general lighting purposes — EMC immunity requirements	YES
Fullfilled 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			
Features:	CEAG-Data:	Explanation:	Manufacturer information:
<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. These DALI commands are necessary to ensure the lamp failure detection, and must be support by the control gear.	YES
<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.	LOCKED
<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)	15%
Note: Important for the planning - Max. no. Of luminaires per circuit			
<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	Ipeak = 17 A, TH = 174 μs Describes the max. inrush current of all ballasts in a circuit, to calculate the maximum contact rating of the circuit.	
Luminaires, which are used for emergency lighting, must be according to the standard DIN EN 60598-2-22 (particular requirements - Luminaires for emergency lighting)			
*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			
** The DC-Light Level preset value ex factory (luminous flux in case of DC-voltage) can be adjusted project depending via DALI Magic and T4 Tronic in AC-operation To enable the adjustment of the luminous flux via the DALI - Module V-CG-SB.1, the DC detection has to be deactivated via T4T. Not to be used in high risk areas, special release required.			
Only 1 DALI- Driver (DT8(1 address/2 channels) or DT6 (1 address/1 channel) to wire with one V-CG-SB.1 , only 1 address possible with one 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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Table 1 (DT6 - 1 DALI address/1 channel)

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)
OTi DALI 35/220-240/400 D NFC TW L	Maximum Load /mA Uout= 140V Iout= 250mA	177	174	31	31	28	26
	Medium Load /mA Uout= 80V Iout= 250mA	111	108	20	20	18	17
	Minimum Load /mA Uout= 60V Iout= 250mA	91	90	16	16	14	13
	No Load	32	34	3	2	2	1
	Short Load	32	34	2	2	2	1

Maximum inrush current for ECG in AC Operation: I_{peak} = 17 A TH = 174 μs

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Table 2 (DT8 - 1 DALI address/2 channels; the two channels with identical current)

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)
OTi DALI 35/220-240/400 D NFC TW L	Maximum Load /mA Uout= 150V Iout= 500mA	190	186	37	37	34	32
	Medium Load /mA Uout= 90V Iout= 500mA	121	118	26	26	24	23
	Minimum Load /mA Uout= 60V Iout= 500mA	92	91	21	21	20	19
	No Load CH1	104	102	22	22	21	20
	No Load CH2	102	101	23	23	21	20
	Short Load CH1	105	102	22	22	21	20
	Short Load CH2	103	101	22	23	21	20
	No Load CH1&CH2	32	33	13	13	13	13

Maximum inrush current for ECG in AC Operation: I_{peak} = 17 A TH = 174 μs