

Requirements for dimmable DALI control gears for fluorescent lamps and LED			Version 5
Manufacturer: LEDVANCE GmbH Parking 1-5, 85748 Garching, Germany	Type / description: ECG-type: <u>DR EXTERNAL DALI-P -1X7-37W 220-240 4099854295157</u>		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. (Not for AT-S ⁺ Systems required)	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
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 <input checked="" type="checkbox"/> NO <input type="checkbox"/>
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 <input checked="" type="checkbox"/> NO <input type="checkbox"/>
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 <input checked="" type="checkbox"/> NO <input type="checkbox"/>
<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	YES <input type="checkbox"/> NO <input type="checkbox"/>
<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	YES <input type="checkbox"/> NO <input type="checkbox"/>
<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 <input checked="" type="checkbox"/> NO <input type="checkbox"/>
<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 <input checked="" type="checkbox"/> NO <input type="checkbox"/>
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 <input checked="" type="checkbox"/> NO <input type="checkbox"/>
Fullfilled the standard:	DIN EN 61547	Equipment for general lighting purposes — EMC immunity requirements	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
Fullfilled the DALI standards:	DIN EN 62386-101 /-102 / -207*	Control gear must have the DALI Logo*	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
Note: VDE 0108 is not a standard for ECG, marking is not applicable			
Features:	CEAG-Data:	Explanation:	Manufacturer information:
Important for function test! 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 <input checked="" type="checkbox"/> NO <input type="checkbox"/>
Important for DC operation: 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.	Unlocked <input checked="" type="checkbox"/> Locked <input type="checkbox"/>
Important for lighting design: 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)	<u>100</u> %
Note: Important for the planning - Max. no. Of luminaires per circuit			
Important for the contact load SKU: 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	<u>20</u> A / pcs.	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.
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			
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.			

Current consumption with specified tubes/lamps

Table 1

Voltage for load range			AC - operation		DC - operation (current measured at driver's default DC level of 100%)			
			AC-operation @230V (mA)	AC-operation @240V (mA)	186V (mA)	216V (mA)	240V (mA)	260V (mA)
LED TUBE T5 EXTERNAL HE family		Driver output						
LEDTUBE T5 EXT P HE14 549 7,3W 8xx	Uout: 21 V Iout: 350mA Pout: 7,3W		45	44	52	46	40	35
2x LEDTUBE T5 EXT P HE14 549 7,3W 8xx in series	Uout: 42 V Iout: 350mA Pout: 14,6W		76	74	91	78	70	65
LEDTUBE T5 EXT P HE21 849 10,5W 8xx	Uout: 21 V Iout: 500mA Pout: 10,5W		61	59	67	58	52	48
2x LEDTUBE T5 EXT P HE21 849 10,5W 8xx in series	Uout: 42 V Iout: 500mA Pout: 21W		112	107	129	111	102	93
LEDTUBE T5 EXT P HE28 1149 16W 8xx	Uout: 41 V Iout: 400mA Pout: 16W		83	80	100	85	77	70
LEDTUBE T5 EXT P HE35 1449 18W 8xx	Uout: 41 V Iout: 450mA Pout: 18W		93	86	114	98	89	82
LED TUBE T5 EXTERNAL HO family		Driver output						
LEDTUBE T5 EXT P HO24 549 10,5W 8xx	Uout: 21 V Iout: 500mA Pout: 10,5W		61	59	67	58	52	48
2x LEDTUBE T5 EXT P HO24 549 10,5W 8xx in series	Uout: 42 V Iout: 500mA Pout: 21W		112	107	129	111	102	93
LEDTUBE T5 EXT P HO39 849 17W 8xx	Uout: 43 V Iout: 400mA Pout: 17W		88	84	99	85	77	75
LEDTUBE T5 EXT P HO49 1449 26W 8xx	Uout: 42 V Iout: 600mA Pout: 26W		128	121	149	128	115	110
LEDTUBE T5 EXT P HO54 1149 26W 8xx	Uout: 42 V Iout: 600mA Pout: 26W		128	121	149	128	115	110
LEDTUBE T5 EXT P HO80 1449 37W 8xx	Uout: 42 V Iout: 860mA Pout: 37W		184	71	221	190	175	169
LED TUBE T8 EXTERNAL family		Driver output						
LEDTUBE T8 EXT P 600 7,3W 8xx	Uout: 21 V Iout: 350mA Pout: 7,3W		45	44	52	46	40	35
2x LEDTUBE T8 EXT P 600 7,3W 8xx in series	Uout: 42 V Iout: 350mA Pout: 14,6W		76	74	91	78	70	65
LEDTUBE T8 EXT P 1200 15W 8xx	Uout: 42 V Iout: 350mA Pout: 15W		78	77	95	82	74	69
LEDTUBE T8 EXT P 1500 23W 8xx	Uout: 42 V Iout: 550mA Pout: 23W		116	109	135	116	105	99
Current consumption with defective or disconnected lamps								
No lamp / defective lamp	-	-	15	15	7	6	6	6